

A. E. Hodsdon
CONSULTING ENGINEERS
10 COMMON ST., WATERVILLE, ME
04901 (207) 873-5164

December 22, 2015
29-15

Mr. Matt Nazar
City of Augusta Planning Board
16 Cony Street
Augusta, ME 04330

RE: *Revisions to the North Augusta Market – Dunkin' Donuts, Augusta, Maine*

Dear Mr. Nazar:

Please note the following changes to the application due to the revised parking layout:

1. Proposed buildings (sq. ft.): 6,114 sq. ft. (Page 3 of 5 of the application)
2. Soil types and boring log information. Item No. 7 – Alterations to land cover: The total additional square footage of impervious area shall be 6,044 sq. ft. not 8,125 sq. ft. as listed in the application.
3. The prior plan called for two (2) proposed catch basins for storm water management. The revised plan will require only one (1) catch basin.
4. Section U. Traffic Pattern, Flow and Volume Analysis. The required number of parking spaces is 36.
5. See cut sheets attached for type of lighting to be incorporated into the design. Lights shall be mounted on the building to light pedestrian areas around the building.

Please let us know if you require any additional information. Thank you.
Sincerely,

Mark E. McCluskey
Project Manager

Enclosure

RAB LIGHTING WPLED10S



JOB NAME: _____
 DATE: _____
 TYPE: _____

DESCRIPTION

LED 10 Watt Wallpacks

SPECIFICATIONS

Color Uniformity:

RAB's range of CCT (Correlated color temperature) follows the guidelines of the American National Standard for Specifications for the Chromaticity of Solid State Lighting (SSL) Products, ANSI C78.377-2008.

Chip and fade resistant polyester powder coat finish.

Ambient Temperature:

Suitable for use in 40C (104F) ambient temperatures

California Title 24:

LPACK complies with California Title 24 building and electrical codes.

Cold Weather Starting:

The minimum starting temperature is -40°C

Color Accuracy:

92 CRI

Dark Sky Approved:

The International Dark Sky Association has approved this product as a full cutoff, fully shielded luminaire.

Fixture Efficacy:

41 Lumens per Watt

For use on LEED Buildings:

IDA Dark Sky Approval means that this fixture can be used to achieve LEED Credits for Light Pollution Reduction.

Gaskets:

High Temperature Silicone

Green Technology:

RAB LEDs are Mercury and UV free.

Housing:

Precision die cast aluminum housing, lens frame.

Light Color:

5250 K (Daylight)

Heatsink:

Cast aluminum thermal management system for optimal heat sinking. The LPACK is designed for cool operation, most efficient output and maximum LED life by minimizing LED junction temperature.

IESNA LM-79 & IESNA LM-80 Testing:

RAB LED luminaires have been tested by an independent laboratory in accordance with IESNA LM-79 and 80, and have received the Department of Energy "Lighting Facts" label.

LED Light Engine:

Multi-chip 10W high output long life LED Driver: Constant Current, Class II, 120V-240V, 50/60 Hz, 350mA

Lumen Maintenance:

The LED will deliver 70% of its initial lumens at 50,000 hours of operation.

Mounting:

Junction box and surface mount.

Patents:

The LPACK design is protected under patents pending in the U.S., Canada, China, Taiwan and Mexico.

UL Listing:

Suitable for wet locations. Suitable for mounting within 4' of the ground.

Warranty:

RAB LED fixtures give you peace of mind because both the fixture and light engine components are backed by RAB's 5 Year Warranty. For more information,

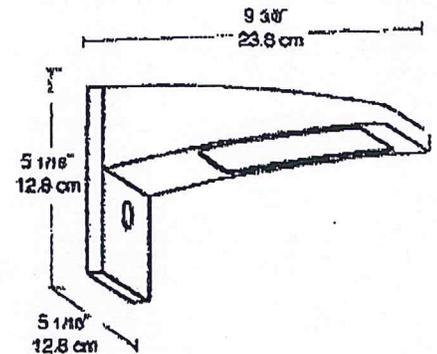
Color:

Bronze

Weight:

3.5

DIMENSIONS



ORDERING INFORMATION

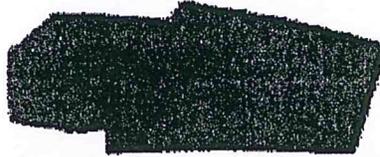
LED Lamp supplied with fixture	Total Watts	Lamp Type	Lamp Base	Ballast	Starting Amps/ Operating Amps				Input Watts	LAMP ANSI	Initial Lumens	Lamp Hours
					120V	208V	240V	277V				
	10	L.E.D.	Thermal	Constant Current	.43 A/.43 A/.43 A/.43 A	.43 A/.43 A/.43 A/.43 A	.43 A/.43 A/.43 A/.43 A	.43 A/.43 A/.43 A/.43 A	13	N/A	547	50000
Factory Installed Options Add suffix to Catalog Number				Photocontrol for 277V (P/2) nk				Photocontrol for 120V (P/C)				

Note: Specifications may change without notice

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RAB LIGHTING

WPLED20



JOB NAME: _____
 DATE: _____
 TYPE: _____

DESCRIPTION

LED 20 Watt Wallpacks

SPECIFICATIONS

Color Uniformity:

RAB's range of CCT (Correlated color temperature) follows the guidelines of the American National Standard for Specifications for the Chromaticity of Solid State Lighting (SSL) Products, ANSI F7.37-2008.
 Chip and fade resistant polyester powder coat finish.

Ambient Temperature:

Suitable for use in 50C (122F) ambient temperatures

Cold Weather Starting:

The minimum starting temperature is -30°C

Color Accuracy:

70 CRI

Dark Sky Approved:

The International Dark Sky Association has approved this product as a full cutoff, fully shielded luminaire.

Driver:

Automatic Voltage Sensing Driver for 120 - 277 volts

Fixture Efficacy:

64 Lumens per Watt

For use on LEED Buildings:

IDA Dark Sky Approval means that this fixture can be used to achieve LEED Credits for Light Pollution Reduction.

Gaskets:

High Temperature Silicone

Green Technology:

RAB LEDs are Mercury and UV free.

Heatsink:

Integral cast aluminum mounting pad and external fins for optimal heat sinking to ensure cool operation with maximum LED life and light output.

Housing:

Precision die cast aluminum housing, lens frame and mounting plate.

IESNA LM-79 & IESNA LM-80 Testing:

RAB LED luminaires have been tested by an independent laboratory in accordance with IESNA LM-79 and 80, and have received the Department of Energy "Lighting Facts" label.

LED Light Engine:

Two Multi-chip 10W high output long life LED Driver: Constant Current, Class 2

Light Color:

5584 K (Daylight)

Patents:

The LPACK design is protected under patents pending in the U.S., Canada, China, Taiwan and Mexico.

Total Harmonic Distortion:

THD = 8.4%

Two Mounting Options:

Junction Box with 5 Conduit Entry Points and Threaded Plugs for surface mounting plus Cover Plate for mounting over 4" recessed junction box included with WPLED20

UL Listing:

Suitable for wet locations. Suitable for mounting within 4' of the ground.

Warranty:

RAB LED fixtures give you peace of mind because both the fixture and light engine components are backed by RAB's 5 Year Warranty. For more information,

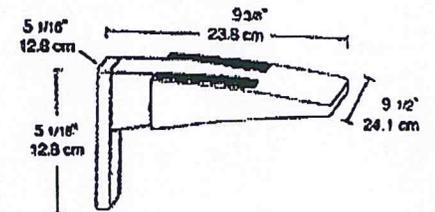
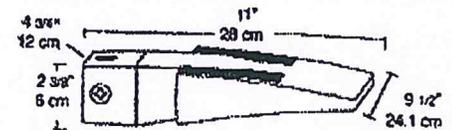
Color:

Bronze

Weight:

6.1

DIMENSIONS



ORDERING INFORMATION

LED	Total Watts	Lamp Type	Lamp Base	Ballast	Starting Amps/ Operating Amps				Input Watts	LAMP ANSI	Initial Lumens	Lamp Hours
					120V	208V	240V	277V				
Lamp supplied with fixture	20	L.E.D.	Thermal	Constant Current	0.5	0.5	0.5	0.125	22	N/A	1401	50000
Factory Installed Options	Photocontrol for 277V (P/C2)				Photocontrol for 120V (P/C)							
Add suffix to Catalog Number	nk											

Note: Specifications may change without notice

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HALO®

HALO LED NON-IC NEW CONSTRUCTION HOUSING with 0-10V DC DIMMING CONTROL WIRING

DESCRIPTION: H750TD010 Housing

The H750TD010 is a dedicated LED new construction housing to be used with HALO LED ML712x 1200 Series of LED modules with 0-10V DC dimming capability. The H750TD010 is designed for 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 the housing. The H750TD010 LED connector system provides high efficacy code compliance as a non-screw base, for connection with Cooper Lighting's HALO LED modules and designated trims, Halo LED luminaire system (housings, modules and trims) carry a three year limited warranty.

Catalog #		Type
Project		
Comments		Date
Prepared by		

DESIGN FEATURES

Housing

Aluminum with white semi-gloss paint finish.

Plaster Frame

Galvanized steel 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

- Separate compartment for 0-10V DC low voltage dimming connections.
- Positioned to accommodate straight conduit runs.
- 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.
- 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 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.

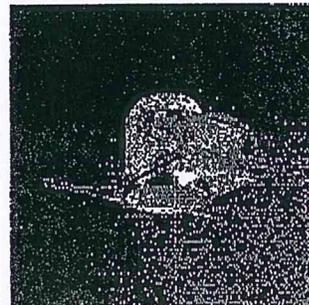
Dimming: The housing is pre-wired with two low voltage DC control wires - color coded violet and gray - for connection to 0-10V DC low voltage dimming controls. The Halo LED module's 0-10V DC dimming connector simply plugs into the pre-wired connector provided in the housing.

Labels

- UL/cUL 1598 Listed Luminaire
- UL/cUL Listed for Feed Through
- 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



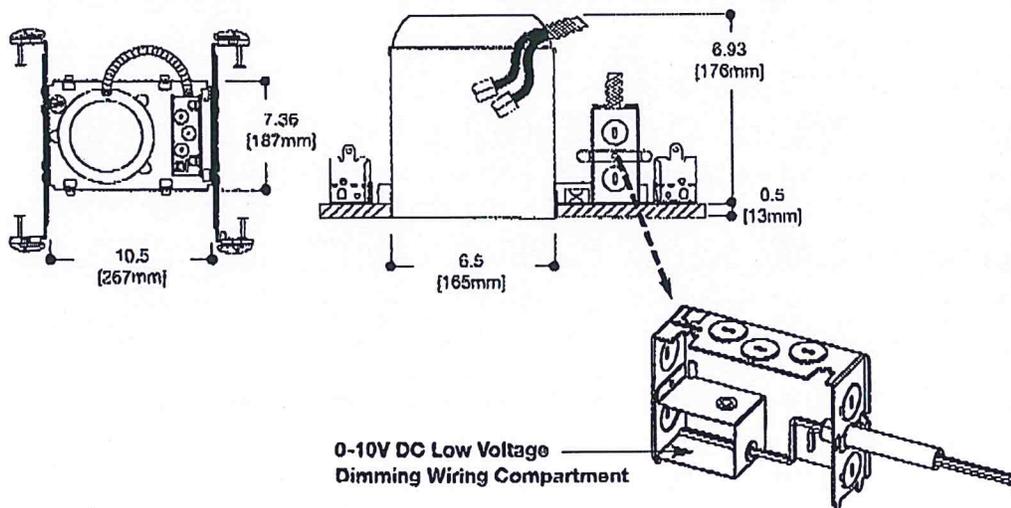
H750TD010
6" New Construction Non-IC Housing with 0-10V DC Dimming Control Wiring For Halo 1200 Series LED Modules ML712x Series and 49x Halo LED Series Trims

6" New Construction Non-IC Housing

High Efficacy LED Housing

FOR USE IN NON-INSULATED CEILINGS

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

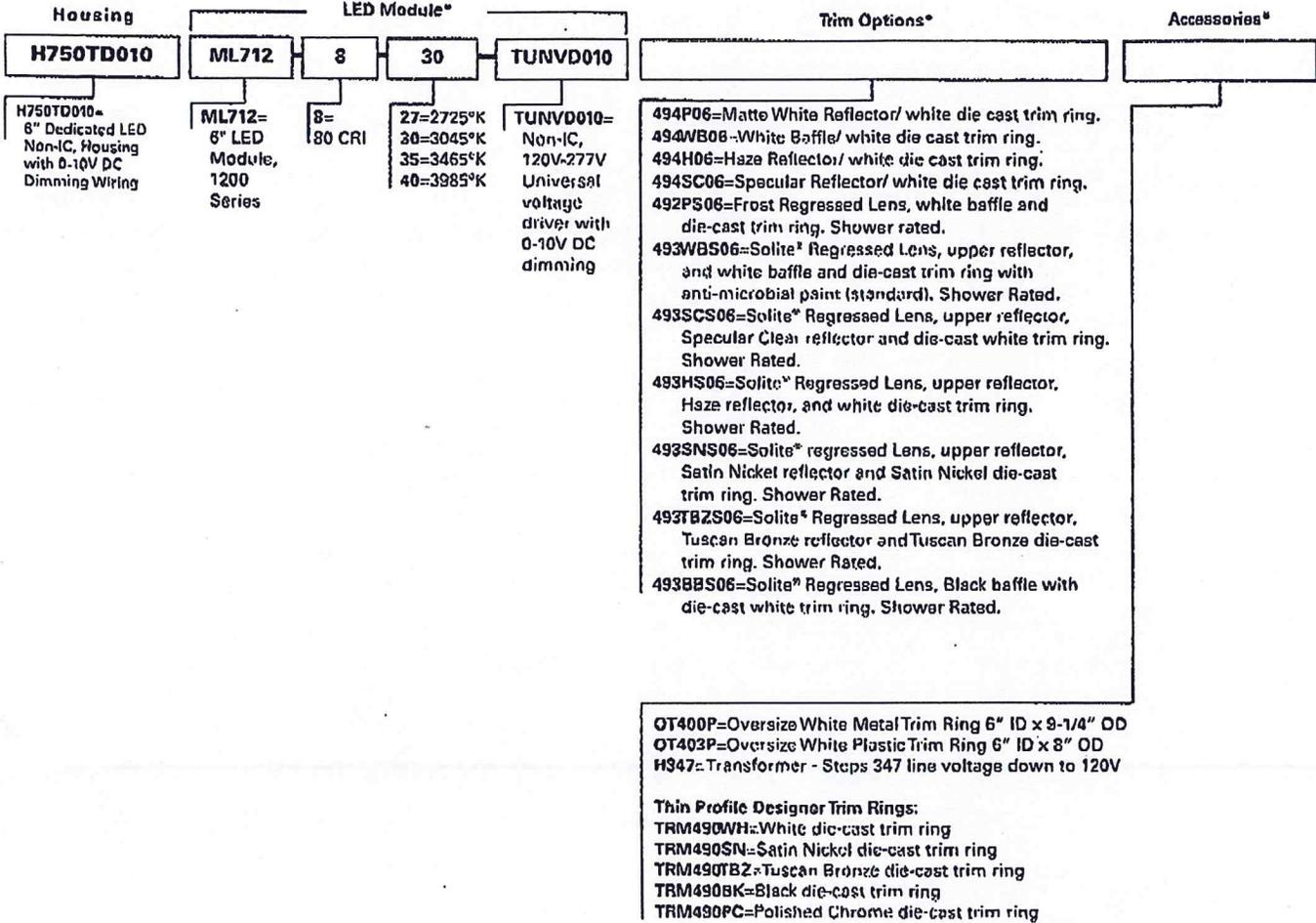


0-10V DC Low Voltage Dimming Wiring Compartment



ORDERING INFORMATION - SAMPLE NUMBER: H750TD010 ML712835TUNVD010 494SC06

Order housing, LED Module and trim separately



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

**HALO LED Module 1200 Series
For New and Existing Installations**

The Halo LED 1200 Series High Lumen Modules are universal voltage (120-277V) rated for commercial and residential applications. The Halo LED ML7128xxTUNVD010 Modules are designed for retrofit applications with an Edison screw base adapter (included) for use in compatible existing 6" nominal Non-IC housings OR may also be used in new construction with the LED dedicated Non-IC housing Series H750Tx. Halo LED 1200 Series Modules deliver in the range of 862-1541 lumens (depending upon the trim and color temperature selected); and the 1200 Series offers a selection of four color temperatures: 2700K, 3000K, 3500K, 4000K. Halo LED offers superior optical design that yields productive beam lumens, good cutoff and low glare.

Catalog #		Type
Project		
Comments		Date
Prepared by		

DESIGN FEATURES

The Halo LED 1200 Series offers comparable light output and distribution of a 90W PAR38 halogen lamp, a 120W BR40 incandescent lamp, or a 32W compact fluorescent luminaire (lamp & reflector trim), while consuming less than 25 watts.

Dimming

The HALO LED 1200 Series luminaire offers 0-10V dimming capability to <10% with 0-10V dimming controls.

Quality of Light

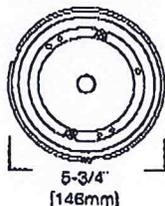
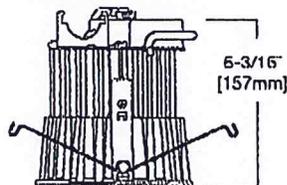
Halo 1200 Series Provides excellent color rendering (80 CRI), and a selection of four color temperatures (2700K, 3000K, 3500K and 4000K). CRI and color temperature performance conform to parameters established by ENERGY STARSM SSL standards (refer to ANSI-C78.377 - 2008 for CCT specifications). LED's have virtually no ultraviolet and minimal infrared wavelengths, and they do not direct 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 ML7128xxTUNVD010 LED modules are designed for use in the dedicated H750Tx series Non-IC housings OR for retrofit applications in existing Halo or ALL-PRO™ H7T/E17 Non-IC housings. The ML7128xxTUNVD010 Halo LED modules are designed for use in Non-IC construction only. Compatible HALO and ALL-PRO housings include model numbers:

- Dedicated LED Housings:
 - H750TD010, H750RTD010 and H750TCPD010 Non-IC Housing with 0-10V dimming connections included (use these housings for 0-10V dimming)
 - H750T, H750TCP Non-IC Housing (Non-Dim functionality only as these housings do not provide 0-10V dimming connections)
- Halo and All-Pro Incandescent Housings:
 - H7Tx and E17x Non-IC Housing (Non-Dim functionality only as these housings do not provide 0-10V dimming connections)

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 non-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 90V-305V, 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 Non-IC Housing and LED trims.

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

If used in Non-IC construction with 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

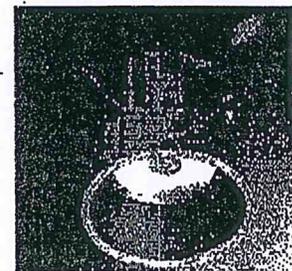
- UL/cUL Listed

Meets following requirements:

- State of California Title 24-2008 High Efficacy Compliant (with designated trims)
- International Energy Conservation Code (IECC) 2009 High Efficacy Compliant (with designated trims)
- Washington State Energy Code - AIR-TITE™
- New York State Energy Conservation Construction Code AIR-TITE™

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.
- H347 –The H347 (75VA rated) Step-down transformers for use with Non-IC housings and LED Modules (see Application Note).



**ML712840TUNVD010
1200 Series LED
0-10V DC
Dimmable Module**

**4000°K Correlated
Color Temperature**

49X Series Trims

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

**FOR USE IN
NON-INSULATED CEILING
OR
INSULATED CEILING
BUT INSULATION MUST BE KEPT
3" FROM ALL SIDES OF FIXTURE**

1200 Series Energy Data:

<i>(Values at non-dimming line voltage)</i>	
Minimum Starting Temp:	-30°C (-22°F)
EMW/RFI: FCC Title 47 CFR, Part 18, Class B	
<i>(Consumer)</i>	
Sound Rating:	Class A standards
Input Voltage:	UNV (90V - 305V)
Power Factor:	>0.90 (at nominal input 120V/240V/277 VAC & 100% of Rated Output Power)
Input Frequency:	47-63 Hz
THD:	<21%
Rated Voltage:	24.3W
Input Power:	24.3W
Input Current at 120V:	207mA
Input Current at 277V:	90mA
Maximum Non-IC Ambient Continuous Operating Temperature 40°C (104°F)	

**1200 Series
Summary Lighting Data:**

Lumen range:	862-1541
Lumens per watt:	up to 62
Rated Watts:	24.8
Color	
Correlated Color Temperature (CCT):	2700-4000K
Color Rendering Index (CRI, Ra):	... 80



Qualified & Compliant with designated LED modules and trims.



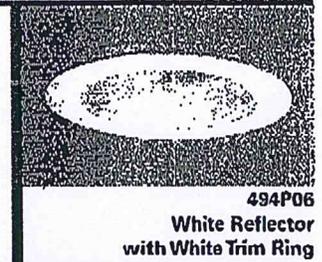
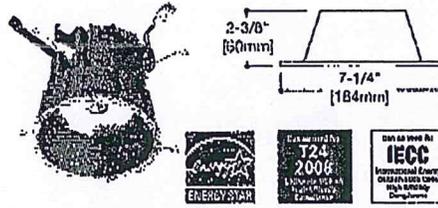
ADV100084
rev 3/15/10

DESCRIPTION: LED Trims

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 are available for applications requiring wet location listings.

494P06 White Reflector with White Trim Ring

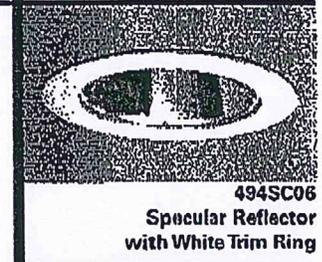
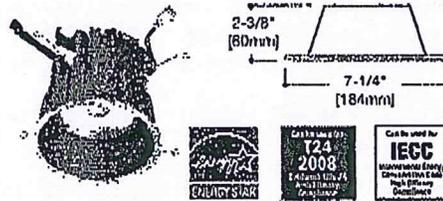
- Halo matte white finish die-cast trim ring
- Halo matte white aluminum reflector
- Trim ring height of .160" at OD and .180" at ID
- Provides clearance for remodeler flange and gasket for AIR-TITE™ seal



494P06
White Reflector
with White Trim Ring

494SC06 Specular Reflector with White Trim Ring

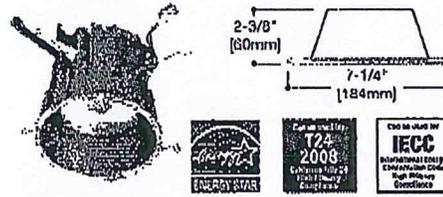
- Halo matte white finish die-cast trim ring
- Specular Clear aluminum reflector
- Trim ring height of .160" at OD and .180" at ID
- Provides clearance for remodeler flange and gasket for AIR-TITE™ seal



494SC06
Specular Reflector
with White Trim Ring

494H06 Haze Reflector with White Trim Ring

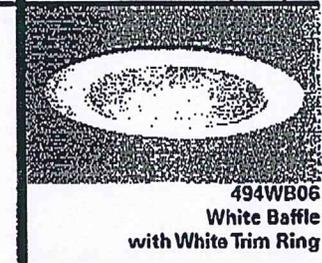
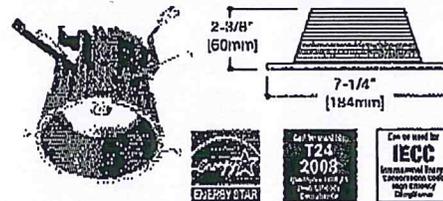
- Halo matte white finish die-cast trim ring
- Haze aluminum reflector
- Trim ring height of .160" at OD and .180" at ID
- Provides clearance for remodeler flange and gasket for AIR-TITE™ seal



494H06
Haze Reflector
with White Trim Ring

494WB06 White Baffle with White Trim Ring

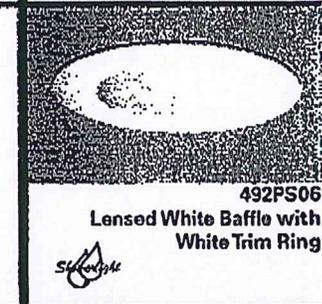
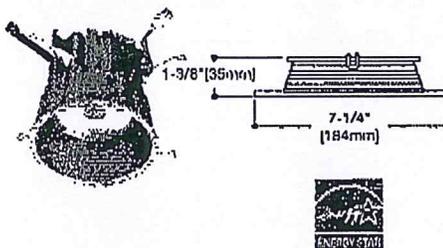
- Halo matte white finish die-cast trim ring
- Halo Matte White die-cast baffle
- Trim ring height of .160" at OD and .180" at ID
- Provides clearance for remodeler flange and gasket for AIR-TITE™ seal



494WB06
White Baffle
with White Trim Ring

492PS06 Lensed Trim with White Baffle and Trim Ring

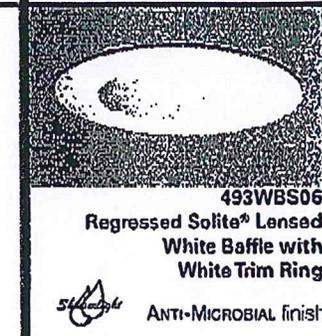
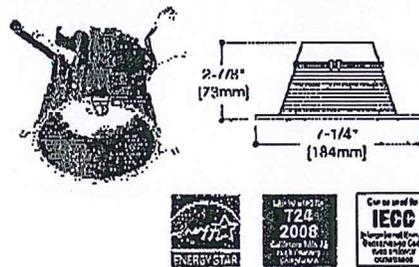
- Halo Matte White trim ring and baffle, regressed lens
- Wet location listed for use in showers and protected canopy applications
- Die-cast aluminum baffle and die-cast trim ring
- Frosted glass lens
- Trim height of .160" at OD & .180" at ID
- Provides clearance for remodeler flange and gasket for AIR-TITE™ seal



492PS06
Lensed White Baffle with
White Trim Ring

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

- Halo matte white trim ring and baffle with Anti-Microbial finish standard
- Upper specular aluminum reflector for optical control and enhanced lumen delivery
- Wet location listed for use in showers and protected canopy applications
- 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
ANTI-MICROBIAL finish

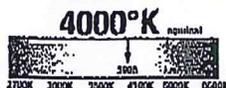
ML712840TUNVD010

Correlated Color Temperature

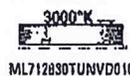
ENERGY STAR[®] SSL
Nominal CCT

LED Module

Also Available

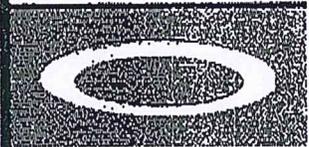
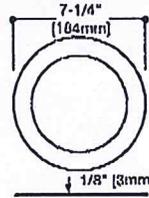


ML712840TUNVD010



TRM490 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
 - TRM490BK = Black
 - TRM490PC = Polished Chrome
 - TRM490SN = Satin Nickel
 - TRM490TBZ = Tuscan Bronze
 - TRM490WH = White



TRM490
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



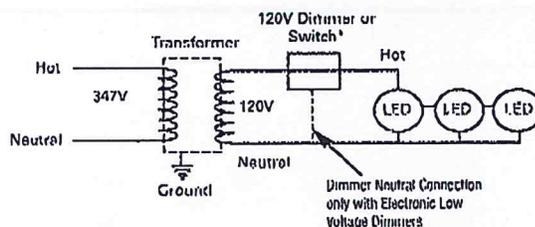
OT400, OT403
Oversize Trim Rings

Application Note

H347 are step-down transformers 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.

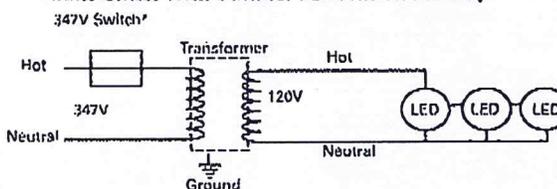
H347 is 75VA qualified to drive up to 2 Halo LED ML712x modules. Installation of individual H347 transformers on each LED downlight fixture in a circuit containing multiple LED modules is not recommended due to resulting multiple inductive currents pulled by each transformer; in this situation the majority of the power would be reactive (VARS) and not real (WATTS). If H347 transformers should be used individually on each LED fixture in a multiple LED circuit, then that circuit should be sized for lowered power factor as well as increased apparent power on the circuit.

Transformer with Dimmer /Switch on Secondary

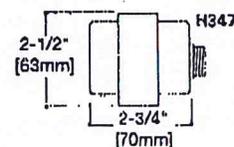


H347
347V Step Down Transformer,
75VA

Transformer with Dimmer /Switch on Primary



* Dimmer or Switch may be on the Primary OR Secondary side of the transformer.



Step Down Transformer

H347= Transformer - Steps 347 line voltage down to 120 volts. Attaches to knockout on junction box and is 75VA rated (2 - 1200 Series LED modules max.).

H347 is CSA/UL Listed for use under the luminaire UL/cUL listing with non-IC housings (H750T, H750TCP, H7T, H7TNB, H7RT, H750TD010, H750RTD010, H750TCPD010, and LED Module).

(Switch on the primary side as no 347V dimmers currently available.)

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 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 ML7128xxTUNVD010 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 H750TD010, H750RTD010, H750TCPD010, H750T, H750TCP, H7T, H7TNB, H7RT, ET700, ET700R Non-IC housings.