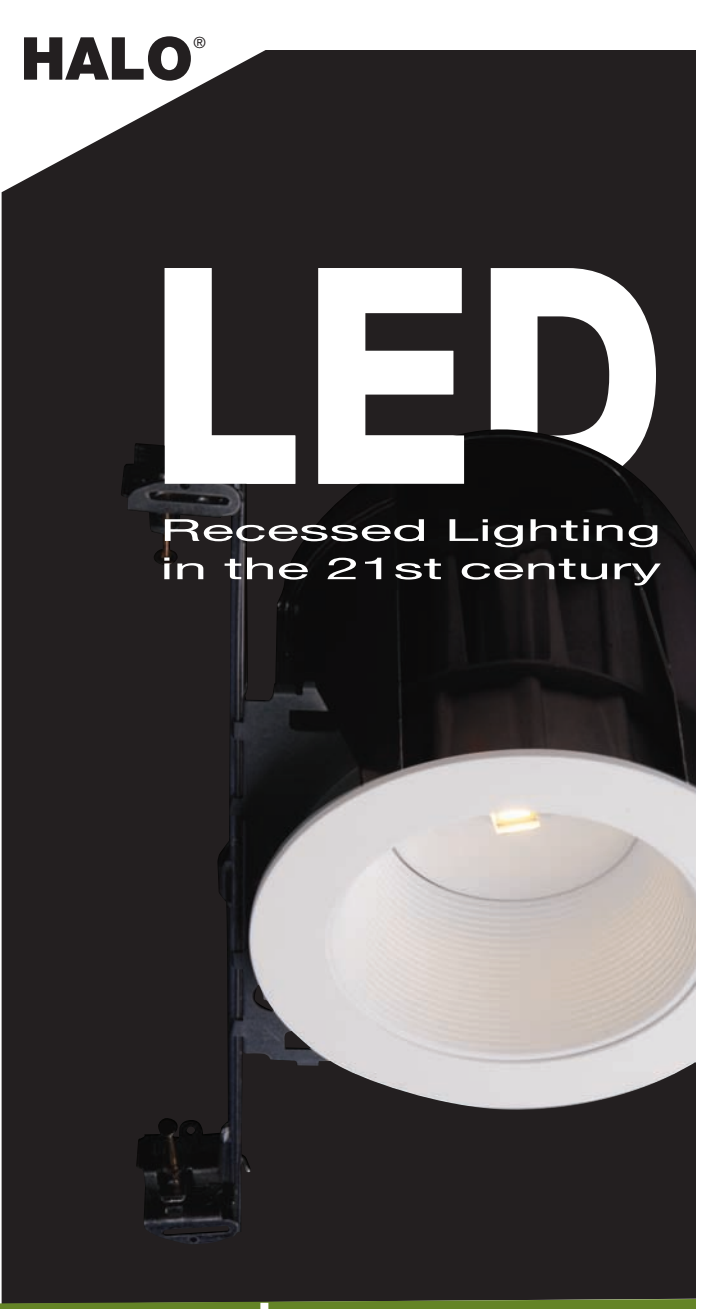
HALO®

LED

Recessed Lighting
in the 21st century



ENERGY STAR

HALO® LED

Saves Energy
Saves Money

COOPER Lighting

HALO LED FEATURES

Superior light quality

Consumes 75% less energy compared to a 65W BR30 incandescent lamp

For use in new construction or existing applications

Uses less than 15 watts

600 lumen output

Projected 50,000 hour life

MR16-like color (3000°K with CRI over 80)

Greater than 40 lumens per watt

Dimmable

Designed to last

Virtually maintenance free

Three year limited warranty

HALO®

APPLICATIONS

Halo LED luminaires are ideal for creating low maintenance public spaces. Hotels, restaurants and night-time businesses will reduce expensive electric bills and maintenance costs by choosing the Halo LED downlight. Luminaires will last approximately eleven years based on twelve hours use per day.

Sustainable Lighting for Hospitality

Cooper Lighting's LED's are ideal for creating low maintenance public spaces, patient rooms and recovery rooms. Energy efficient fixtures reduce energy consumption and LED's long life lowers maintenance costs. A warm white color temperature creates a familiar home-like environment.

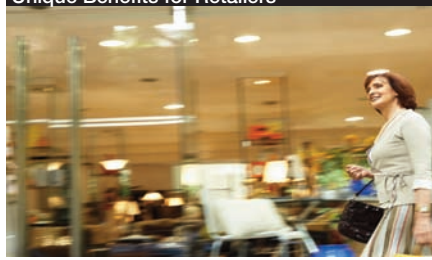
Maintenance-Free for Healthcare

Halo LED luminaires provide light output comparable to traditional sources while saving energy and eliminating the inconvenience and distraction of frequent maintenance.

Task Lighting for Commercial Spaces

LED luminaires do not emit ultraviolet or infrared wavelengths so garments and fabrics can be illuminated without color deterioration. An LED does not emit heat like traditional sources reducing the load on air conditioning.

Unique Benefits for Retailers



Quality optical design provides light output and distribution comparable to an incandescent lamp source. Excellent cutoff, color quality and a warm white color temperature create an enjoyable illuminated environment. Halo LED also offers full range dimming .

Comfortable Illumination for the Home

Features and Benefits of LED Lighting

Introduces Revolutionary Lighting Technology

An LED (Light Emitting Diode) is composed of various semi-conductor materials and, when an electrical current passes through the diode, the recombination of positive and negative charges within the different compositions results in the emission of visible light. LED's are also referred to as "Solid State Lighting."
Environmental and legislative awareness continues to drive demand for energy efficient lighting solutions in residential and commercial applications. LED luminaires are high-efficiency alternatives to traditional light sources. Capitalize on the light quality, longevity and convenience benefits of solid state lighting.

Reduces the Environmental Impact of Lighting

The supply of fossil fuels impacts lighting and all energy consuming products. Lighting fixtures constitute a large percentage of electric utility bills - as much as 40% in some commercial facilities. Lighting will need to change to meet higher mandated efficiency levels. Changes in lighting technology are being driven by energy legislation that has been established to reduce consumption. This energy strategy is also referred to as demand side management. The future of lighting is with high efficiency products that meet lower energy consumption levels.

Saves Energy and Money

Changing one incandescent lamp to a HALO LED recessed downlight will save hundreds of dollars over the life of the fixture. Changing multiple fixtures will significantly lower electric bills and change how people view lighting. The Halo LED luminaire is more efficient than traditional light sources using 75% less energy than a 65 watt BR30 incandescent lamp.

Provides Increased Reliability

LED's are solid state devices that do not have filaments or glass components that could break. Due to LED's solid state principles the light source is not susceptible to vibration reducing the risk of premature failure. Over 70% of the initial light output is maintained after 50,000 hours of operation. The sustainability of the Halo LED fixture dramatically reduces maintenance and service costs over traditional sources. The Halo LED fixture can last five times longer than a fluorescent or fifty times longer than an incandescent source.

Reduces Energy Cost

10 Fixtures operate 6 hrs/day at 10¢/Kwh, 50,000 Hour Life

14W LED=$700 *(10 fixtures operating over 50,000 hours)*

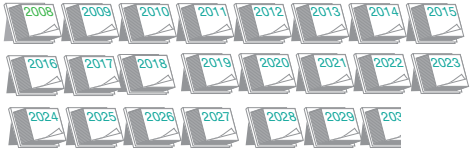
65W Incandescent=$3,250

(10 fixtures operating over 50,000 hours)

Provides Increased Life

Six hours use per day 50,000 Hour Life

LED = 22.8 years *(assuming 50,000 hr. life)*



Incandescent= 0.46 years *(published 1,000 hr. life)*

Fluorescent=5.5 years *(published 12,000 hr. life)*

PERFORMS LIKE A TRADITIONAL DOWNLIGHT

Features and Benefits of LED Lighting

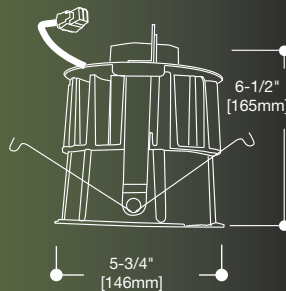
ML706830 LED Module Features:

LED, Driver, Heat Sink, Torsion Springs and Edison Base Adapter

- Comparable in light output and distribution to a 65 watt BR30 incandescent lamp or an 18 watt compact fluorescent luminaire while consuming less than 15 watts of electricity. Uses 75% less energy than comparable 65W BR30 incandescent lamps.
- Exceeds high efficacy requirements for California Title 24 2005
- Can be dimmed to 15% with standard AC incandescent dimmers and is capable of dimming to 5% with select incandescent dimmers that have a minimum brightness low-end adjustment.
- Excellent color rendering (over 80 CRI) and MR16-like color temperature.
- Does not emit ultraviolet or infrared wavelengths that could cause fading of fabrics and merchandise.
- Does not emit heat like traditional light sources.
- Significantly reduces air conditioning loads and lowers energy demands for powering AC systems.
- Mercury free.
- Patent pending optical design provides 50° cutoff and low glare.
- Product life is rated for 50,000 hours at 70% lumen maintenance (or approximately 20 years based on six hours of use per day).
- Cooper Lighting provides a 3-year warranty on the complete luminaire: Halo LED Module, LED Housing and LED trims.
- Compatible HALO and ALL-PRO housings include: H750ICAT, H7ICAT, H7ICATNB, H7ICT, H7ICTNB, H7RICAT, H7RT, H7T, H7TNB, EI700AT, EI700NB, EI700ATNB, EI700RAT, EI700, ET700, EI700R, ET700R.
- 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.
- Damp location listed and wet location shower listed with lensed trim (492PS06).
- Multiple trim and reflector options including a wet location listed shower trim.
- High efficiency driver: power factor of >.90 at an input power of 120V, 60Hz.

T24 2005
California Title 24 Compliant

Edison Base Adapter



ENERGY STAR

Patents Pending

HALO LED Module, H750ICAT Housing and 494H06 Trim

Dedicated LED Housing

New Construction Housing - H750ICAT

- 6" Aperture new Construction Housing
- For use with Halo 6" LED Modules
- Meets High Efficacy California Title 24 - 2005 standard
- For use in Insulated Ceilings - may be covered in insulation
- AIR-TITE™ to meet Restricted Air Flow Requirements
- UL Listed connector for easy installation of LED module
- Input: 120V Line Voltage
- Suitable for Damp Locations; Suitable for Wet Locations (Covered Ceiling Only) when utilized with Shower Trim Catalog No. 492PS06
- UL/cUL listed

Compliance

The HALO LED H7 Collection is in compliance with UL/cUL requirements. The HALO LED fixture is designed to exceed the highest energy efficiency codes and standards in the industry. The LED Module is compatible with IC-rated HALO housings for direct contact with insulation.The Halo LED recessed luminaire exceeds high efficacy requirements for California Title 24 with energy savings in excess of 75% when compared to a 65W BR30 incandescent lamp and meets Restricted Air Flow Standard ASTM-E283.

Housing Features-Got Nail! Hanger Bars

The H750ICAT features the GOT NAIL!™ hanger bars with a preinstalled ready-to-use nail.

- Regressed nail prevents snagging and ensures straight penetration.
- The levelling flange aligns the bar hanger with the bottom of the joist allowing the housing to be held in position with one hand while the nails are hammered into the joist.
- If necessary, the bar hanger can be removed with a claw hammer without damaging the nail or the bar hanger.
- To accommodate tight joist spacing, the patented Pass-N-Thru™ feature allows tool-free shortening of bar hangers without having to remove them from the housing.

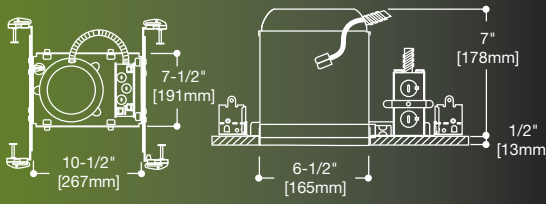
Slide-N-Side Junction Box

The H750ICAT housing is provided with the Slide-N-Side III™ junction box wire traps.

- Wiring connections with non-metallic sheathed cable (NM) can be made outside the junction box first and then the NM cable can be slid into place in the wire trap.
- The H750ICAT housing is also equipped with Quick Connect wiring connectors.
- Simply trim the supply wires and push the wires into the connectors. No additional connectors or wire nuts are needed.
- The Halo housing also includes several knockouts for use with metallic cable or rigid conduit connectors.
- Slide-N-Side wire trap accommodates these popular sizes:
  - -U.S. #14/2, #14/3, #12/2, #12/3
  - -Canada: #14/2, #14/3, #12/2

airtite

T24
2005
California Title 24 Compliant



The H750ICAT features the GOT NAIL!™ hanger bars with a preinstalled ready to use nail that easily penetrates regular lumber as well as engineered lumber, I- joists and laminated veneer beams. The nail is regressed to prevent snagging and to ensure straight penetration.

Make wiring connections outside the junction box (with easy access to feed wires and housing wires), then slide the cable into the wire trap for a secure connection. The Slide-N-Side III™ accepts the most popular sizes of non-metallic sheathed cable.

New Construction

Start saving money and lowering energy costs from the beginning with a dedicated Title 24 Compliant housing. The H750ICAT housing is already wired to accept only the Halo LED module.

Title 24 Compliant Dedicated LED H750ICAT Housing

Halo LED Module

LED Trim

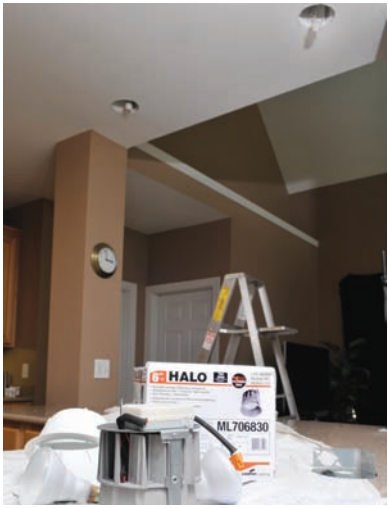
1. Install H750ICAT in joists and make wiring connections.

2. Connect LED module with housing wiring.

3. Install LED Module with trim in H750ICAT housing.

Existing Applications

For use with existing housings already installed, a change to energy saving Halo LED is quick and simple. The Halo LED modules can be installed using the Edison screw-base adapter which is included with the Halo LED module - no special tools or rewiring is needed.



Edison screw base adapter (included with module)

Halo LED Module

LED Trim

1. Remove trim (and socket plate if present) from existing Halo H7 or ALL- PRO E700 housing.

2. Install Edison screw-base adapter into recessed housing socket.

3. Plug Edison screw-base cable connector onto LED module.
Clip housing socket onto LED module bracket.

4. Install LED module with trim in existing housing.

Trims

494P06
White Reflector and White Trim Ring

- Die-cast trim ring and aluminum reflector
- Trim ring height of .160" at OD and .180" at ID
- Trim ring provides clearance for flange and included gasket on remodel housings
- Energy Star Qualified: ML706830 with 494P06

494SC06
Specular Reflector, White Trim Ring

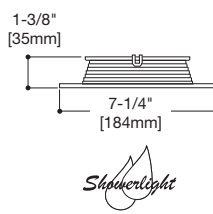
- Halo matte white finish trim ring
- Die-cast trim ring and aluminum reflector
- Trim ring height of .160" at OD and .180" at ID
- Trim ring provides clearance for flange and included gasket on remodel housings
- Energy Star Qualified: ML706830 with 494SC06

494H06
Haze Reflector and 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
- Trim ring provides clearance for flange and included gasket on remodel housings
- Energy Star Qualified: ML706830 with 494H06

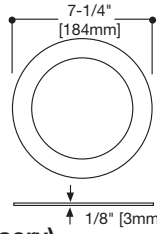
494WB06
White Baffle and White Trim Ring

- Halo matte white finish
- Die-Cast trim ring and aluminum baffle
- Trim ring height of .160" at OD and .180" at ID
- Trim ring provides clearance for flange and included gasket on remodel housings
- Energy Star Qualified: ML706830 with 49WB06



492PS06
Shower Trim and White Trim Ring

- White trim ring and baffle with regressed lens
- Wet location listed for use in showers and protected canopies
- Suggested for use:
  - over tubs and showers - eaves and soffits
- Aluminum reflector and die-cast trim ring
- Frosted glass regressed lens
- Trim ring height of .160" at OD and .180" at ID
- Trim ring provides clearance for flange and included gasket on remodel housings



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

Technical

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

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

Test
Test No: LTL13658
Spacing Criteria: 1 26
Unit LPW: 45 3

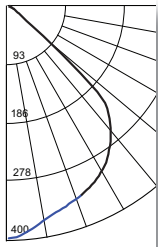
Typical
Spacing Criteria: 1 22
Unit LPW: 42 5

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

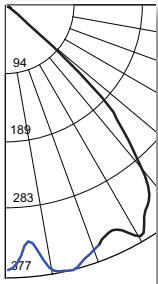
Typical
Spacing Criteria: 1 42
Unit LPW: 44 0

CONE OF LIGHT (Test)

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

CONE OF LIGHT (Typical)

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"



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

Specification Sheets

Individual specification sheets are available from your HALO representative or at www cooperlighting com Sheets contain detailed line drawings, critical dimensions, construction features and photometric information Photometric tests provided are based upon IC, Airtight housing testing by a third party certified testing facility Photometric information may vary slightly between fixtures Information published regarding performance represents the nominal performance of production units

design standard is to achieve over 600 lumens at less than 15 watts. Typical photometric data is provided to illustrate expectation of typical performance.

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

Test
Test No: LTL13657
Spacing Criteria: 1 40
Unit LPW: 43 3

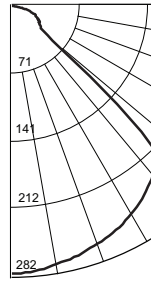
Typical
Spacing Criteria: 1 36
Unit LPW: 40 7

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

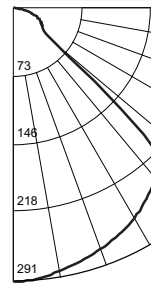
Typical
Spacing Criteria: 1 34
Unit LPW: 41 8

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

Warranty

Cooper Lighting provides a three-year warranty on the HALO H750ICAT housing, HALO LED Module and HALO LED trims against defects in workmanship Many HALO features are protected by U S and foreign patents, and we will aggressively pursue any infringement We reserve the right to change material, design or dimensions without notice

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