

DESCRIPTION

The Halo ML56 LED Downlighting System is a series of modular LED Light Modules for use with dedicated 5" or 6" ML56 LED trims. The ML56 system is suitable for new construction, remodel and retrofit installation.

The ML56 light modules and LED trims fit 5" or 6" housings including the Halo LED 5" H550 and 6" H750 Series for new construction and remodel. And for retrofit of existing housings the ML56 Series fits the Halo 5" H5 and 6" H7 series, All-Pro 5" ET/EI500 and 6" ET/EI700 series, and other compatible 5" and 6" housings. In addition, for shallow ceiling housings the ML56 system offers shallow trims that allow installation in Halo 5" H25 and 6" H27 series, All-Pro 6" EI2700 series, and other shallow housings.

ML56 Light Module System is offered in 600 Series and 900 Series, 80CRI or 90CRI, and four color temperatures 2700K, 3000K, 3500K, 4000K.

ML56 Light Modules are universal voltage 120V – 277V with integral LED drivers that are dimmable at 120V. The ML56 lens provides uniform illumination and wet location listing with reflector and baffle trims. Halo ML56 Series offers high performance LED downlighting in a flexible modular selection.

| | | |
|-------------|--|------|
| Catalog # | | Type |
| Project | | |
| Comments | | Date |
| Prepared by | | |

SPECIFICATION FEATURES

MECHANICAL

Light Module

Module includes LED package, LED driver, heat sink, and lens

- Durable die-cast aluminum construction.
- Heat sink designed to conduct heat away from the LED keeping the junction temperatures below specified maximums, even when installed in insulated ceiling environments

Lens

- Impact-resistant polycarbonate
- Convex form for lamp-like appearance
- High lumen transmission
- Diffusing for even illumination

MOUNTING

- Light Modules attach to reflector and baffle trims via locking tabs, and attach to eyeballs via keyed twist-to-lock mating bosses
- The complete light module and trim assembly installs into housings with precision formed torsion springs located on the trim
- Friction Blade mounting is an alternate option using the accessory 6" Friction Blade Kit model ML56CLIP (order separately). Friction blades provide alternative to torsion springs for retrofit in 6" housings without torsion mounting tabs. The stainless steel friction blades allow the ML56 to be installed in a wider range of housings, and allow rotation in the housing aperture (360 degrees).

Housing Compatibility

A complete ML56 system includes a LED Light Module, LED trim, and a compatible housing (new construction, remodel, or existing retrofit). Housing compatibility in the ML56 System is determined by the ML56 trim dimensions. ML56 trims are available in 5" and 6" aperture (5" = 59xx series and 6" = 69xx series trims). Refer to Housing – Trim Compatibility in this document.

LED

- 600 Series = 600 design lumens
- 600 Series 90CRI = 383 - 705 delivered lumens (Design lumens typical for respective series light modules. Delivered lumens vary depending upon 5" or 6", color temperature, and trim finish selected.)
- Color Temperature options: 2700K, 3000K, 3500K, 4000K
- CRI: 90
- Lumen Maintenance: L70/B50 70% lumens / 50,000 hours
- Efficacy: up to 66 Lumens per Watt
- LED is a chip on board design consisting of a multiple LED package to create one virtual light source for a productive "cone of light"

COLOR SPECIFICATION & QUALITY STANDARDS

- Halo employs a tight chromaticity specification to ensure LED color uniformity, sustainable Color Rendering Index (CRI) and Correlated Color Temperature (CCT) consistency over the useful life of the LED

- Halo LED chromaticity specification of 3 SDCM initial and 5 SDCM life exceeds ENERGY STAR® color standards per ANSI C78.377-2008.
- Every Halo LED Light Module is quality tested and performance measured, and then serialized in a permanent record to register lumens, wattage, CRI and CCT.
- Halo LED's serialized testing and measurement process ensures color and lumen consistency on a per-unit basis, and also validates long-term product consistency over time
- Halo ML56 LED Light Modules include lumen, CRI, and CCT designations in the model number
- Example: ML5606830
56 06 9 30
56 = 5" / 6" aperture series
06 = 600 lumen
9 = >90 CRI
30 = 3000K nominal CCT

ELECTRICAL POWER CONNECTIONS

- LED connector is a non-screw base luminaire disconnect offering easy installation with the matching Halo 5" H550 Series and 6" H750 Series housings (housing selected depends upon LED trim 5" or 6").
- LED Connector meets California Title-24 high-efficacy luminaire requirement for a non-screw base socket, and where required to qualify as a high-efficacy luminaire.
- The included E26 medium screw-base Edison adapter provides easy retrofit of incandescent housings (see Housing Compatibility).



ML56 LED System

600 Series / 90 CRI

ML5606927
ML5606930
ML5606935
ML5606940

**5-Inch and 6-Inch
 600 Lumen LED
 Light Module for
 New Construction,
 Remodel and Retrofit**

**For use with 59x and 69x
 Series Trims**

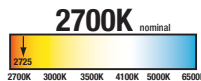
**FOR USE IN
 INSULATED CEILING
 AND NON-INSULATED
 CEILING RATED
 HOUSINGS**

**HIGH EFFICACY LED
 WITH INTEGRAL
 DRIVER - DIMMABLE**

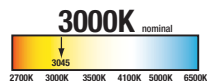
ENERGY DATA

ML56 600/90 Series

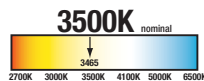
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|--------------------------------------------------------------------------------------|
| (Values at non-dimming line voltage) |
| Minimum Starting Temp: -30°C (-22°F) |
| EMI/RFI: FCC Title 47 CFR, Part 18, (Consumer) |
| Sound Rating: Class A |
| Input Voltage: UNV 120V-277V |
| Power Factor: >0.95 @ 120V and >0.9 @ 277V |
| Input Frequency: 50/60Hz |
| THD: <20% |
| Max. Rated Wattage: 11W |
| Input Power: 10.2W |
| Input Current at 120V: 0.15A |
| Input Current at 277V: 0.08A |
| Driver Compliance: UL8750, Class II rated |
| Maximum IC (Insulated Ceiling) Ambient Continuous Operating Temperature: 25°C (77°F) |
| Maximum Non-IC Ambient Continuous Operating Temperature: 40°C (104°F) |



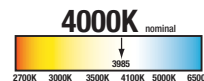
ML5606927
 5" or 6" LED 600 Series
 Light Module, 90CRI / 2700K



ML5606930
 5" or 6" LED 600 Series
 Light Module, 90CRI / 3000K



ML5606935
 5" or 6" LED 600 Series
 Light Module, 90CRI / 3500K



ML5606940
 5" or 6" LED 600 Series
 Light Module, 90CRI / 4000K



ML56 LED System

600 Series / 90 CRI

ML5606927

ML5606930

ML5606935

ML5606940

5-Inch and 6-Inch
600 Lumen LED
Light Module for
New Construction,
Remodel and Retrofit

For use with 59x and 69x
Series Trims

FOR USE IN
INSULATED CEILING
AND NON-INSULATED
CEILING RATED
HOUSINGS

HIGH EFFICACY LED
WITH INTEGRAL
DRIVER - DIMMABLE

SPECIFICATION FEATURES continued

Ground Connection

- Separate grounding cable included on the module for attachment to the housing during installation.

LED Driver

- Driver is universal voltage 120V-277V, and may be controlled from a switch in this range of main inputs (switchable at 120V, 220V, 230V, 240V, and 277V)
- Driver is dimmable at 120V operation when connected to a compatible dimmer.
- Driver is a high efficiency, electronic power supply providing DC power to the LED.
- Driver meets FCC EMI/RFI Consumer Level limits on 120V main inputs, and is suitable for use in residential and commercial installations.
- Driver features high power factor, low THD, and has integral thermal protection in the event of over temperature or internal failure.
- Driver is replaceable, if replacement should be required.

Dimming

- Halo ML56 LED System is designed for dimming capability to 15% in normal operation with standard 120V electronic low voltage, LED-Rated, and many incandescent dimmers. The ML56 Light Module has dimming capability to 5% with select dimmers with low end trim adjustment. (Consult dimmer manufacturer for dimmer compatibility and details. Note, some dimmers require a neutral in the wallbox.)

Warranty

- Cooper Lighting provides a (5) five year limited warranty on the Halo ML56 LED Light Module.

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

- If used in recessed housings other than Halo or All-Pro the Cooper Lighting 5-year limited warranty applies to the LED Light 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 properly and securely retain the LED Module and LED Trim in the housing at time of installation.

COMPLIANCE Labels

- UL/cUL Listed 1598 Luminaire (Halo and All-Pro housings)
- UL/cUL Listed for Damp Location
- UL/cUL Listed for Wet Location (Protected Ceiling) with baffle and reflector trims
- IP66 rated with baffle and reflector trims
- RoHS Compliant
- May be installed in IC housings in direct contact with air permeable insulation and combustible material
- UL Classified when used in retrofit with listed housings (See Housing Compatibility)

Qualification

- ENERGY STAR® qualified as registered in the “ENERGY STAR® Qualified Products List”
- May be used for State of California Title 24 high efficacy LED luminaire compliance, as registered in the State of California Energy Commission “Appliance Database”
- May be used for International Energy Conservation Code (IECC) high efficacy luminaire compliance
- May be used for Washington State Energy Code (WSEC) high efficacy luminaire compliance

AIR-TITE™

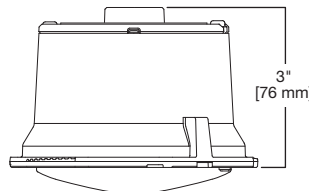
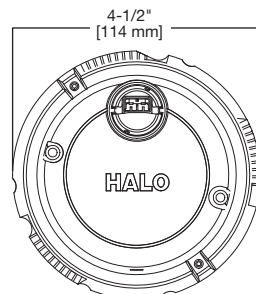
Certified under ASTM-E283 to meet insulated ceiling and restricted air-flow requirements such as:

- International Energy Conservation Code (IECC)
- Washington State Energy Code (WSEC)
- New York State Energy Conservation Construction Code (NY-ECCC)
- State of California Title 24 “Recessed Luminaires in Insulated Ceilings”



Qualified and compliant. Refer to ENERGY STAR® Qualified Products List and CEC (T24) Appliance Database for listings.

DIMENSIONS



ORDERING INFORMATION

SAMPLE NUMBER: ML5606930 593WB

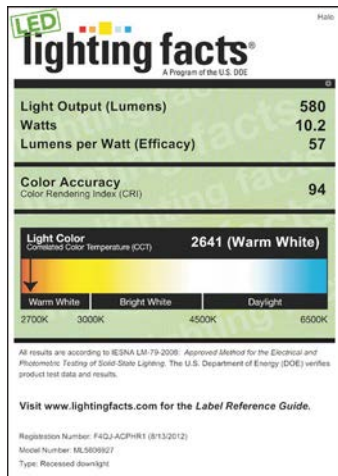
Order LED Module and trim separately.

A complete system also includes a compatible housing (new construction, remodel, or existing retrofit). Housing compatibility in the ML56 System is determined by the ML56 trim dimensions. ML56 trims are available in 5" and 6" aperture (5" = 59xx series and 6" = 69xx series trims). Refer to *Housing – Trim Compatibility* in this document.

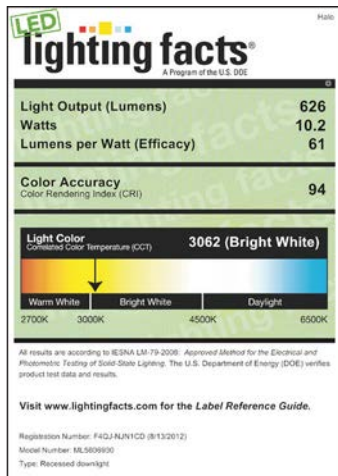
| ML56 LED Light Modules 600 Series / 90 CRI | ML56 LED 5" and 6" Trims | ML56 System Accessories |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>ML5606927= 5"/6" LED Retrofit Downlight Light Module, 600 lumen, 90CRI, 2700K</p> <p>ML5606930= 5"/6" LED Retrofit Downlight Light Module, 600 lumen, 90CRI, 3000K</p> <p>ML5606935= 5"/6" LED Retrofit Downlight Light Module, 600 lumen, 90CRI, 3500K</p> <p>ML5606940= 5"/6" LED Retrofit Downlight Light Module, 600 lumen, 90CRI, 4000K</p> | <p>590 Series - 5" LED Trims</p> <p>591WB=5" LED Trim, Polymer "Dead-Front", Shallow White Baffle & Flange – Shallow and Standard housings (For use with 600 Series LED Light Modules only)</p> <p>592SC=5" LED Trim, Specular Reflector & White Flange</p> <p>592H=5" LED Trim, Haze Reflector & White Flange</p> <p>592W=5" LED Trim, White Reflector & Flange</p> <p>593WB=5" LED Trim, White Micro-Step Baffle & Flange</p> <p>593BB=5" LED Trim, Black Micro-Step Baffle & White Flange</p> <p>593SNB=5" LED Trim, Satin Nickel Micro-Step Baffle & Flange</p> <p>593TBZB=5" LED Trim, Tuscan Bronze Micro-Step Baffle & Flange</p> <p>594WB=5" LED Directional Trim, White Eyeball, Baffle & Flange – Shallow and Standard Housings</p> <p>594SNB=5" LED Directional Trim, Satin Nickel Eyeball, Baffle & Flange – Shallow and Standard Housings</p> <p>594TBZB=5" LED Directional Trim, Tuscan Bronze Eyeball, Baffle & Flange – Shallow and Standard Housings</p> <p>595WW=5" LED Trim, Wall Wash - Specular Reflector, Repositionable Specular Kick Reflector, White Flange</p> <p>596WB=5" LED Trim, White Shallow Baffle & Flange – Shallow and Standard Housings</p> <p>690 Series - 6" LED Trims</p> <p>691WB=6" LED Trim, Polymer "Dead-Front", White Shallow Baffle & Flange – Shallow and Standard housings (For use with 600 Series LED Light Modules only)</p> <p>692SC=6" LED Trim, Specular Reflector & White Flange</p> <p>692H=6" LED Trim, Haze Reflector & White Flange</p> <p>692W=6" LED Trim, White Reflector & Flange</p> <p>693WB=6" LED Trim, White Micro-Step Baffle & Flange</p> <p>693BB=6" LED Trim, Black Micro-Step Baffle & White Flange</p> <p>693SNB=6" LED Trim, Satin Nickel Micro-Step Baffle & Flange</p> <p>693TBZB=6" LED Trim, Tuscan Bronze Micro-Step Baffle & Flange</p> <p>694WB=6" LED Directional Trim, White Eyeball, Baffle & Flange – Shallow and Standard Housings</p> <p>694SNB=6" LED Directional Trim, Satin Nickel Eyeball, Baffle & Flange – Shallow and Standard Housings</p> <p>694TBZB=6" LED Directional Trim, Tuscan Bronze Eyeball, Baffle & Flange – Shallow and Standard Housings</p> <p>695WW=6" LED Trim, Wall Wash - Specular Reflector, Repositionable Specular Kick Reflector, White Flange</p> <p>696WB=6" LED Trim, White Shallow Baffle & Flange – for use with Shallow and Standard Housings</p> | <p>ML56CLIP=Friction Clip Mounting Kit - For non-torsion spring housings, 6" clips</p> <p>WW595SC=5" Wall Wash Insert - Kick Reflector for 595WW (1-included with trim) Double or Corner Wall Wash</p> <p>WW695SC=6" Wall Wash Insert - Kick Reflector for 695WW (1-included with trim) Double or Corner Wall Wash</p> <p>TRM590WH= 5" LED Oversize Trim Ring for use with 59" series trims, White 6.3" I.D., 7.5" O.D. Ring slips over LED trim. Inset design allows 5" trim to fit into oversize ring for an even trim surface</p> <p>TRM690WH= 6" LED Oversize Trim Ring for use with 69" series trims, White 6.9" I.D., 9.5" O.D. Ring slips over LED trim. Inset design allows 6" trim to fit into oversize ring for an even trim surface</p> <p>*Wall Wash Trims 595WW and 695WW Feature an exclusive Repositionable Kick Reflector for fine-tuning adjustment of the wall wash effect. The WW595SC and WW695SC are Repositionable Kick Reflectors sold separately for addition to the Wall Wash Trim when a double or corner wall wash is needed, or for replacement of original kick reflector included with the trim.</p> |

LIGHTING FACTS

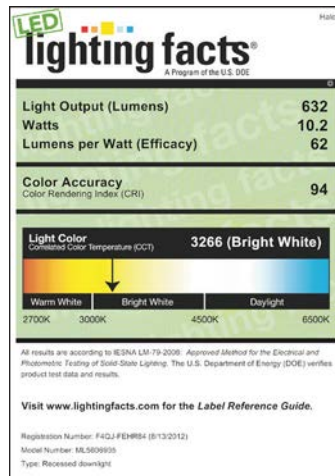
ML5609927



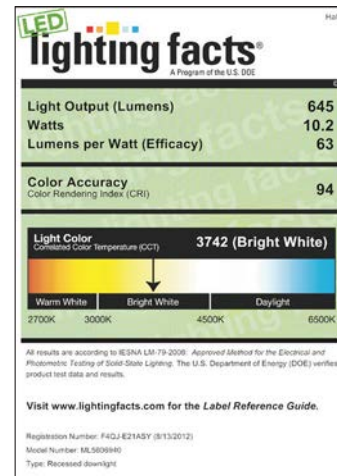
ML5609930



ML5609935



ML5609940



HOUSING – TRIM COMPATIBILITY

Housing compatibility in the ML56 System is determined by the ML56 trim dimensions. ML56 trims are available in 5" and 6" aperture (5" = 59xx series and 6" = 69xx series trims). Refer to *ML56 TRIMS* in this document. (Note "X" in the trim model number denotes finish code.)

Halo and All-Pro UL Listed Compatibility

6" Trims: 691X, 692X, 693X, 694X, 695X, 696X

(Note shallow housings for use with 691X, 694X, 696X trims only)

| HALO - LED Housings with LED luminaire connector - high-efficacy compliant | | |
|-----------------------------------------------------------------------------------|--------------------------|--------------------------------------------------------------------------------------------------|
| HALO | Catalog Number | Description |
| | Standard Housings | |
| | H750ICAT | 6" LED, Insulated Ceiling, AIR-TITE, New Construction Housing |
| | H750RICAT | 6" LED, Insulated Ceiling, AIR-TITE, Remodel Housing |
| | H750T | 6" LED, Non-IC, AIR-TITE, New Construction Housing |
| | H750TCP | 6" LED, Non-IC, New Construction/Remodel Chicago Plenum Housing |
| | H750TD010 | 6" LED, Non-IC, AIR-TITE, New Construction Housing |
| | H750RTD010 | 6" LED, Non-IC, AIR-TITE, Remodel Housing |
| | H750TCPD010 | 6" LED, Non-IC, New Construction/Remodel Chicago Plenum Housing |
| | H750RINTD010 | 6" LED, Non-IC, AIR-TITE, Remodel Housing (International CE Mark and UL/cUL Listed) |
| | Shallow Housings | |
| | H2750ICAT | 6" LED, Shallow, Insulated Ceiling, AIR-TITE, New Constr. (use with 691X, 694X, 696X trims only) |

| HALO and All-Pro - Incandescent E26 Screwbase Housings | | |
|---------------------------------------------------------------|--------------------------|----------------------------------------------------------------------------|
| HALO | Catalog Number | Description |
| | Standard Housings | |
| | H7ICAT | 6" Insulated Ceiling, AIR-TITE New Construction Housing |
| | H7RICAT | 6" Insulated Ceiling, AIR-TITE Remodel Housing |
| | H7ICT | 6" Insulated Ceiling, New Construction Housing |
| | H7RICT | 6" Insulated Ceiling, Remodel Housing |
| | H7ICATNB | 6" Insulated Ceiling, AIR-TITE New Construction Housing, No Socket Bracket |
| | H7ICTNB | 6" Insulated Ceiling, New Construction Housing, No Socket Bracket |
| | H7T | 6" Non-IC, New Construction Housing |
| | H7RT | 6" Non-IC, Remodel Housing |
| | H7TNB | 6" Non-IC, New Construction Housing, No Socket Bracket |
| | H7TCP | 6" Non-IC, Chicago Plenum, New Construction/Remodel Housing |
| | H7UICT | 6" Insulated Ceiling, Universal New Construction Housing |
| | H7UICAT | 6" Insulated Ceiling, Universal, AIR-TITE, New Construction Housing |
| | ALL-PRO | EI700AT |
| EI700RAT | | 6" Insulated Ceiling, AIR-TITE Remodel Housing |
| EI700 | | 6" Insulated Ceiling, New Construction Housing |
| EI700R | | 6" Insulated Ceiling, Remodel Housing |
| EI700ATNB | | 6" Insulated Ceiling, AIR-TITE New Construction Housing, No Socket Bracket |
| EI700NB | | 6" Insulated Ceiling, New Construction Housing, No Socket Bracket |
| EI700U | | 6" Insulated Ceiling, Universal New Construction Housing |
| EI700UAT | | 6" Insulated Ceiling, Universal, AIR-TITE, New Construction Housing |
| ET700 | | 6" Non-IC, New Construction Housing |
| ET700R | | 6" Non-IC, Remodel Housing |

HOUSING – TRIM COMPATIBILITY - continued

| HALO and All-Pro - Incandescent E26 Screwbase Housings - continued | | |
|--------------------------------------------------------------------|-------------------------|-------------------------------------------------------------------------------------------------|
| HALO | Catalog Number | Description |
| | Shallow Housings | |
| | H27ICAT | 6" Shallow, Insulated Ceiling, AIR-TITE New Construction (use with 691X, 694X, 696X trims only) |
| | H27RICAT | 6" Shallow, Insulated Ceiling, AIR-TITE Remodel Housing (use with 691X, 694X, 696X trims only) |
| | H27ICT | 6" Shallow, Insulated Ceiling, New Construction Housing (use with 691X, 694X, 696X trims only) |
| | H27RICT | 6" Shallow, Insulated Ceiling, Remodel Housing (use with 691X, 694X, 696X trims only) |
| | H27T | 6" Shallow, Non-IC, New Construction Housing (use with 691X, 694X, 696X trims only) |
| | H27RT | 6" Shallow, Non-IC, Remodel Housing (use with 691X, 694X, 696X trims only) |
| ALL-PRO | EI2700AT | 6" Shallow, Insulated Ceiling, AIR-TITE New Construction (use with 691X, 694X, 696X trims only) |
| | EI2700 | 6" Shallow, Insulated Ceiling, New Construction Housing (use with 691X, 694X, 696X trims only) |
| | EI2700R | 6" Shallow, Insulated Ceiling, AIR-TITE Remodel Housing (use with 691X, 694X, 696X trims only) |
| | ET2700 | 6" Shallow, Non-IC, New Construction Housing (use with 691X, 694X, 696X trims only) |
| | ET2700R | 6" Shallow, Non-IC, Remodel Housing (use with 691X, 694X, 696X trims only) |

| Halo LED Retrofit Enclosures | | |
|------------------------------|----------------|---------------------------------------------------------|
| HALO | Catalog Number | Description |
| | ML7BXRFK | 6" Retrofit Enclosure, Non-IC, BX Whip |
| | ML7E26RFK | 6" Retrofit Enclosure, Non-IC, E26 Screw base Interface |

5" Trims: 591X, 592X, 593X, 594X, 595X, 596X
(Note shallow housings for use with 591X, 594X, 596X trims only)

| HALO - LED Housings with LED luminaire connector - high-efficacy compliant | | |
|----------------------------------------------------------------------------|----------------|---------------------------------------------------------------|
| HALO | Catalog Number | Description |
| | H550ICAT | 5" LED, Insulated Ceiling, AIR-TITE, New Construction Housing |
| | H550RICAT | 5" LED, Insulated Ceiling, AIR-TITE, Remodel Housing |

| HALO and All-Pro - Incandescent E26 Screwbase Housings | | |
|--------------------------------------------------------|--------------------------|-------------------------------------------------------------------------------------------------|
| HALO | Catalog Number | Description |
| | Standard Housings | |
| | H5ICAT | 5" Insulated Ceiling, AIR-TITE New Construction Housing |
| | H5RICAT | 5" Insulated Ceiling, AIR-TITE Remodel Housing |
| | H5T | 5" Non-IC, New Construction Housing |
| | H5RT | 5" Non-IC, Remodel Housing |
| | H5TM | 5" Non-IC, New Construction Housing (Canada) |
| ALL-PRO | EI500AT | 5" Insulated Ceiling, AIR-TITE New Construction Housing |
| | EI500RAT | 5" Insulated Ceiling, AIR-TITE Remodel Housing |
| | ET500 | 5" Non-IC, New Construction Housing |
| | ET500R | 5" Non-IC, Remodel Housing |
| HALO | Shallow Housings | |
| | H25ICAT | 5" Shallow, Insulated Ceiling, AIR-TITE New Construction (use with 591X, 594X, 596X trims only) |

HOUSING – TRIM COMPATIBILITY

HOUSINGS - UL Classified for retrofit compatibility

6" Trims: 691X, 692X, 693X, 694X, 695X, 696X

(Note shallow housings for use with 691X, 694X, 696X trims only)

| | |
|----------------------------|----------------------------------------------------------------|
| Juno | Standard Housings |
| | IC22, IC22R, IC22W, IC22S, IC23, IC23W, TC2, TC2R, IC2 |
| | Shallow Housings (use with 691X, 694X, 696X trims only) |
| | IC21, IC21R |
| Capri | Standard Housings |
| | CR1, PR1, QL1 |
| | Shallow Housings (use with 691X, 694X, 696X trims only) |
| | R9ASIC/PS9RM |
| Elco | HL7ICA (EL7ICA) |
| Lithonia | Standard Housings |
| | LC6, L7X |
| | Shallow Housings (use with 691X, 694X, 696X trims only) |
| | L7XP |
| Thomas | PS1 |
| Commercial Electric | C7ICA, H3 |
| Progress | Standard Housing |
| | P87-AT † |
| | Shallow Housing (use with 691X, 694X, 696X trims only) |
| | P86TG |
| Lightolier | 1104ICS †, 1104ICR † |

† Requires replacement of torsion springs with Friction Clips. Order Friction Clip Kit separately: ML56CLIP

5" Trims: 591X, 594X, 596X

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|-------------|--------------------------|
| Juno | Standard Housings |
| | IC20, IC25S, IC25W, TC20 |

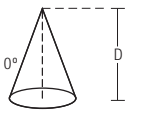
PHOTOMETRY

ML5606930-592SC

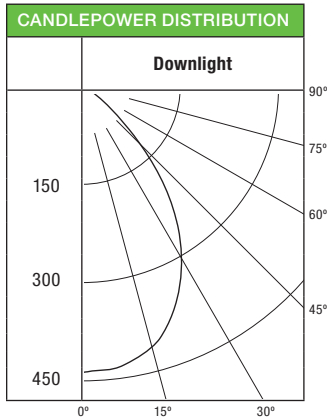
Test Number P92931
Light Module 600 Series, 90CRI
Trim 5" Aperture, Specular Clear Trim
Lumens 610.9
Efficacy 69.4 Lm/W
SC 1.07



CONE OF LIGHT



| D | FC | L | W |
|-----|------|------|------|
| 5.5 | 14.5 | 5.8 | 9 |
| 7 | 8.9 | 7.4 | 7.4 |
| 8 | 6.8 | 8.4 | 8.4 |
| 9 | 5.4 | 9.6 | 9.6 |
| 10 | 4.4 | 10.6 | 10.6 |
| 12 | 3.0 | 12.8 | 12.8 |

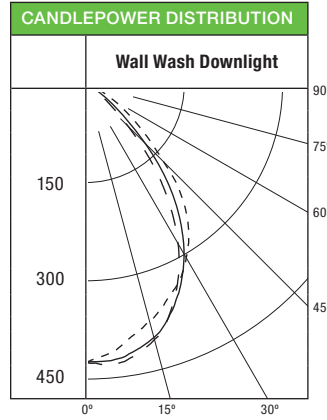


ZONAL LUMEN SUMMARY

| Zone | Lumens | %Fixture |
|--------|--------|----------|
| 0-30 | 316.36 | 51.80 |
| 0-40 | 472.16 | 77.30 |
| 0-60 | 604.31 | 98.90 |
| 0-90 | 610.90 | 100.0 |
| 90-180 | 0 | 0.0 |
| 0-180 | 610.90 | 100.0 |

ML5606930-595WW

Test Number P93091
Light Module 600 Series, 90CRI
Trim 5" Aperture, Wall Wash with Specular Clear Trim and Specular Clear Kick Reflector
Lumens 617.5
Efficacy 70.2 Lm/W
SC 1.07

ZONAL LUMEN SUMMARY

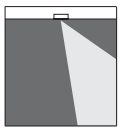
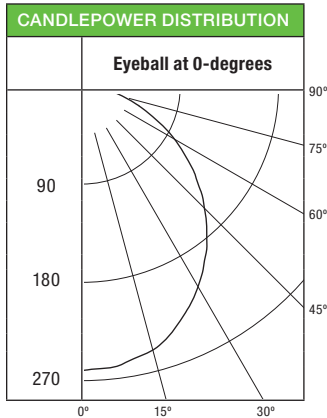
| Zone | Lumens | %Fixture |
|--------|--------|----------|
| 0-30 | 304.75 | 49.30 |
| 0-40 | 458.59 | 74.30 |
| 0-60 | 601.97 | 97.50 |
| 0-90 | 617.54 | 100.0 |
| 90-180 | 0 | 0.0 |
| 0-180 | 617.54 | 100.0 |

Legend

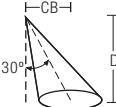
0-deg: - - - - - Wall
90-deg: _____ Side
180-deg: _____ Room

ML5606930-594WB

Test Number P93059
Light Module 600 Series, 90CRI
Trim 5" Aperture, Directional Eyeball
Lumens 683.8
Efficacy 77.7 Lm/W
SC 1.21

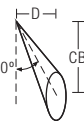



30° HORIZONTAL PLANE



| D | FC | L | W | CB |
|-----|-----|------|------|-----|
| 5.5 | 7.6 | 6.5 | 6.6 | 3.2 |
| 7 | 4.7 | 8.3 | 8.4 | 4 |
| 8 | 3.6 | 9.6 | 9.8 | 4.6 |
| 9 | 2.8 | 10.7 | 11 | 5.2 |
| 10 | 2.3 | 11.9 | 12.2 | 5.8 |
| 12 | 1.6 | 14.3 | 14.6 | 6.9 |

30° VERTICAL PLANE



| D | FC | L | W | CB |
|-----|-----|------|------|------|
| 5.5 | 4.9 | 6.2 | 7.2 | 9.5 |
| 7 | 3.0 | 7.9 | 9.2 | 12.1 |
| 8 | 2.3 | 9.0 | 10.4 | 13.9 |
| 9 | 1.8 | 10.0 | 11.8 | 15.6 |
| 10 | 1.5 | 11.1 | 13.2 | 17.3 |
| 12 | 1.0 | 13.5 | 15.8 | 20.8 |

ZONAL LUMEN SUMMARY

| Zone | Lumens | %Fixture |
|--------|--------|----------|
| 0-30 | 199.76 | 29.20 |
| 0-40 | 322.26 | 47.10 |
| 0-60 | 550.46 | 80.50 |
| 0-90 | 683.82 | 100.0 |
| 90-180 | 0 | 0.0 |
| 0-180 | 683.82 | 100.0 |

SINGLE UNIT FOOTCANDLES

2.5' FROM WALL
(Distance From Fixture Along Wall)

| DD | ● | 1' | 2' | 3' | 4' | 5' | 6' |
|-----|-----|-----|-----|-----|-----|-----|-----|
| 1' | 2.2 | 1.5 | 0.6 | 0.2 | 0 | 0 | 0 |
| 2' | 8 | 5.9 | 2.6 | 0.9 | 0.2 | 0.1 | 0 |
| 3' | 9.7 | 8 | 4.2 | 1.8 | 0.7 | 0.2 | 0.1 |
| 4' | 7 | 6.2 | 4.4 | 2.4 | 1.1 | 0.5 | 0.2 |
| 5' | 4.7 | 4.3 | 3.5 | 2.4 | 1.3 | 0.6 | 0.3 |
| 6' | 3.1 | 3 | 2.5 | 1.9 | 1.3 | 0.8 | 0.4 |
| 7' | 2.2 | 2.1 | 1.9 | 1.5 | 1.1 | 0.8 | 0.5 |
| 8' | 1.6 | 1.5 | 1.4 | 1.2 | 0.9 | 0.7 | 0.5 |
| 9' | 1.1 | 1.1 | 1 | 0.9 | 0.8 | 0.6 | 0.5 |
| 10' | 0.9 | 0.8 | 0.8 | 0.7 | 0.6 | 0.5 | 0.4 |

MULTIPLE UNIT FOOTCANDLES

2.5' FROM WALL
(Distance From Fixture Along Wall)

| DD | --3'-- | | | --4'-- | | |
|-----|--------|------|------|--------|-----|------|
| | 1' | 2.4 | 1.9 | 2.4 | 2.3 | 1.1 |
| 2' | 8.9 | 8.3 | 8.9 | 8.3 | 5.2 | 8.3 |
| 3' | 11.5 | 12.1 | 11.5 | 10.4 | 8.4 | 10.4 |
| 4' | 9.4 | 10.8 | 9.4 | 8 | 8.9 | 8 |
| 5' | 7 | 7.9 | 7 | 6 | 6.9 | 6 |
| 6' | 5.1 | 5.6 | 5.1 | 4.4 | 5.1 | 4.4 |
| 7' | 3.7 | 4 | 3.7 | 3.3 | 3.7 | 3.3 |
| 8' | 2.7 | 2.9 | 2.7 | 2.5 | 2.8 | 2.5 |
| 9' | 2.1 | 2.2 | 2.1 | 1.9 | 2.1 | 1.9 |
| 10' | 1.6 | 1.7 | 1.6 | 1.5 | 1.6 | 1.5 |

MULTIPLIER TABLE

| CCT Option | 2700K | 3000K | 3500K | 4000K |
|----------------|-------|-------|-------|-------|
| CCT Multiplier | 0.93 | 1.00 | 1.01 | 1.03 |

Table based upon testing with 3000K color temperature, 90CRI.

Multipliers may be used to determine relative lumen values with other color temperatures.

Photometric tests are per IES measurement standards. Tests represent typical fixture performance. Field results may vary.

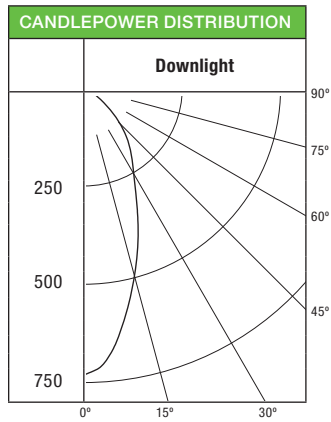
PHOTOMETRY

ML5606930-692SC

Test Number P93155
Light Module 600 Series, 90CRI
Trim 6" Aperture, Specular Clear Trim
Lumens 630.4
Efficacy 71.6 Lm/W
SC 0.67

CONE OF LIGHT

| D | FC | L | W |
|-----|------|-----|-----|
| 5.5 | 24.1 | 3.6 | 8.8 |
| 7 | 14.9 | 4.6 | 4.6 |
| 8 | 11.4 | 5.2 | 5.2 |
| 9 | 9.0 | 6 | 6 |
| 10 | 7.3 | 6.6 | 6.6 |
| 12 | 5.1 | 8 | 8 |

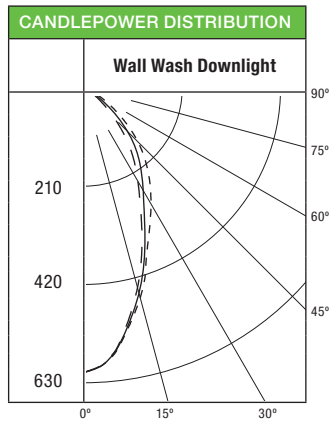


ZONAL LUMEN SUMMARY

| Zone | Lumens | %Fixture |
|--------|--------|----------|
| 0-30 | 347.21 | 55.10 |
| 0-40 | 478.76 | 76.00 |
| 0-60 | 622.27 | 98.70 |
| 0-90 | 630.35 | 100.0 |
| 90-180 | 0 | 0.0 |
| 0-180 | 630.35 | 100.0 |

ML5606930-695WW

Test Number P93331
Light Module 600 Series, 90CRI
Trim 6" Aperture, Wall Wash with Specular Clear Trim and Specular Clear Kick Reflector
Lumens 616.8
Efficacy 70.1 Lm/W
SC 0.74



ZONAL LUMEN SUMMARY

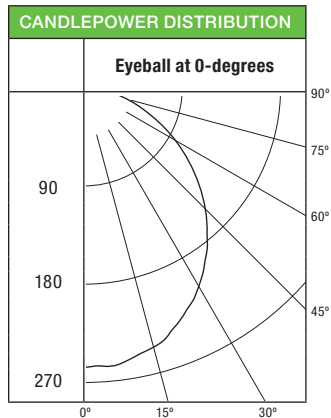
| Zone | Lumens | %Fixture |
|--------|--------|----------|
| 0-30 | 322.10 | 52.20 |
| 0-40 | 455.44 | 73.80 |
| 0-60 | 601.69 | 97.50 |
| 0-90 | 616.81 | 100.0 |
| 90-180 | 0 | 0.0 |
| 0-180 | 616.81 | 100.0 |

Legend

0-deg: --- Wall
90-deg: --- Side
180-deg: --- Room

ML5606930-694WB

Test Number P93299
Light Module 600 Series, 90CRI
Trim 6" Aperture, Directional Eyeball
Lumens 676.4
Efficacy 76.9 Lm/W
SC 1.22



30° HORIZONTAL PLANE

| D | FC | L | W | CB |
|-----|-----|------|------|-----|
| 5.5 | 7.5 | 6.6 | 6.6 | 3.2 |
| 7 | 4.6 | 8.3 | 8.6 | 4 |
| 8 | 3.5 | 9.6 | 9.8 | 4.6 |
| 9 | 2.8 | 10.8 | 11 | 5.2 |
| 10 | 2.3 | 12 | 12.2 | 5.8 |
| 12 | 1.6 | 14.4 | 14.6 | 6.9 |

30° VERTICAL PLANE

| D | FC | L | W | CB |
|-----|-----|------|------|------|
| 5.5 | 4.8 | 6.1 | 7.2 | 9.5 |
| 7 | 3.0 | 7.7 | 9.2 | 12.1 |
| 8 | 2.3 | 9.0 | 10.6 | 13.9 |
| 9 | 1.8 | 10.1 | 11.8 | 15.6 |
| 10 | 1.5 | 11.2 | 13.2 | 17.3 |
| 12 | 1.0 | 13.4 | 15.8 | 20.8 |

ZONAL LUMEN SUMMARY

| Zone | Lumens | %Fixture |
|--------|--------|----------|
| 0-30 | 196.86 | 29.10 |
| 0-40 | 317.95 | 47.00 |
| 0-60 | 543.46 | 80.40 |
| 0-90 | 676.35 | 100.0 |
| 90-180 | 0 | 0.0 |
| 0-180 | 676.35 | 100.0 |

SINGLE UNIT FOOTCANDLES

2.5' FROM WALL
(Distance From Fixture Along Wall)

| DD | 1' | 2' | 3' | 4' | 5' | 6' |
|-----|-----|-----|-----|-----|-----|-----|
| 1' | 1.8 | 1.2 | 0.4 | 0.1 | 0 | 0 |
| 2' | 8.1 | 5.9 | 2.6 | 0.8 | 0.2 | 0.1 |
| 3' | 8.7 | 7.2 | 4.2 | 1.9 | 0.7 | 0.2 |
| 4' | 6.4 | 5.6 | 3.9 | 2.3 | 1.1 | 0.5 |
| 5' | 4.5 | 4.1 | 3.1 | 2.1 | 1.3 | 0.7 |
| 6' | 3.2 | 3 | 2.4 | 1.7 | 1.2 | 0.7 |
| 7' | 2.4 | 2.2 | 1.8 | 1.4 | 1 | 0.7 |
| 8' | 1.8 | 1.7 | 1.4 | 1.1 | 0.8 | 0.6 |
| 9' | 1.4 | 1.3 | 1.1 | 0.9 | 0.7 | 0.5 |
| 10' | 1.1 | 1 | 0.9 | 0.7 | 0.6 | 0.5 |

MULTIPLE UNIT FOOTCANDLES

2.5' FROM WALL
(Distance From Fixture Along Wall)

| DD | --3'-- | --4'-- |
|-----|--------|--------|
| 1' | 2 | 1.5 |
| 2' | 9 | 8.2 |
| 3' | 10.5 | 11.4 |
| 4' | 8.7 | 9.6 |
| 5' | 6.6 | 7.2 |
| 6' | 4.9 | 5.4 |
| 7' | 3.8 | 4.1 |
| 8' | 2.9 | 3.1 |
| 9' | 2.3 | 2.5 |
| 10' | 1.8 | 2 |

MULTIPLIER TABLE

| CCT Option | 2700K | 3000K | 3500K | 4000K |
|----------------|-------|-------|-------|-------|
| CCT Multiplier | 0.93 | 1.00 | 1.01 | 1.03 |

Table based upon testing with 3000K color temperature, 90CRI.
Multipliers may be used to determine relative lumen values with other color temperatures.

Photometric tests are per IES measurement standards. Tests represent typical fixture performance. Field results may vary.