

Description

The Halo ML56 LED Downlighting System is a series of modular LED Modules for use with designated 5" or 6" ML56 LED trims in new construction, remodel and retrofit installation. Compatible with Halo 5" H550 and 6" H750, H2750 Series LED housings. And in retrofit of existing housings the ML56 Series fits 5" or 6" Halo and others. ML56 Modules are offered in 600 Series, 900 Series, and 1200 Series, 80CRI or 90CRI, and four color temperatures 2700K, 3000K, 3500K, 4000K. ML56 Modules are universal voltage 120V – 277V and dimmable at 120V. The ML56 lens provides uniform diffuse illumination standard. ML56 - 1200 Series offers narrow flood (NFL) beam forming reflector as an optional accessory. Wet location listed with reflector and baffle trims (directional eyeball trims are damp listed). Halo ML56 Series offers high performance LED downlighting in a flexible modular selection.

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, including insulated ceiling environments

Optics

- Diffuse lens is standard on all 1200 Series LED light modules
 - Impact-resistant polycarbonate
 - Convex form for lamp-like appearance
 - High lumen transmission
- Optional beam forming optic replaces diffuse lens and provide narrow flood (NFL) 25° nominal distribution. Beam forming optic is field installed. Order separately (accessories).

Mounting

- 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
- Use the retrofit adapter band (ML7RAB) accessory when housing does not have receivers for torsion springs.

Housing Compatibility

A complete ML56 system includes a LED 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 Section in this document.

LED

- 1200 Series = 1200 design lumens typical. Delivered lumens vary upon 5" or 6" trim, color temperature, and trim finish.
- Color Temperature options: 2700K, 3000K, 3500K, 4000K
- CRI: 90, R9750

- L70 at 50,000 hours, projected in accordance with IES TM-21
- LED is a chip on board design consisting of a multiple LED package with proximity phosphor coating to create one virtual white light source for a productive "cone of light"

Color Specification & Quality Standards

- A tight chromaticity specification ensures LED color uniformity, sustainable Color Rendering Index (CRI) and Correlated Color Temperature (CCT) over the useful life of the LED
- LED color uniformity of 3 SDCM, exceeds ENERGY STAR® color standards per ANSI C78.377- 2008.
- High color performance with 90CRI minimum, and R9 greater than 50.
- Every Halo LED Module is quality tested and performance measured, and then serialized in a permanent record to register lumens, wattage, CRI and CCT.
- Halo LED serialized testing and measurement process ensures color and lumen consistency on a per-unit basis, and validates long-term product consistency over time
- Halo ML56 LED Modules include lumen, CRI, and CCT designations in the model number Example: **ML5612930**
56 = 5" / 6" aperture series
12 = 1200 lumen series
9 = >90 CRI
30 = 3000K nominal CCT

Electrical Power Connections

- LED connector is a non-screw base luminaire disconnect offering easy installation in Halo 5" H550 series and 6" H750 and 2750 series housings (per LED trim 5" or 6").
- LED Connector meets high-efficacy luminaire requirements for a non-screw base, and where required.
- The included E26 medium screw-base Edison adapter* provides easy retrofit of incandescent housings (non-California product only) (see Housing Section).

Catalog #	Type
Project	
Comments	Date
Prepared by	

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 Halo LED housings 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 compliant 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

Designed for dimming capability to nominal 5% in normal operation with standard 120V Leading Edge (LE) and Trailing Edge (TE) phase control dimmers. (Consult dimmer manufacturer for dimmer compatibility and details. Note, some dimmers require a neutral in the wallbox.)

Warranty

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

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

- If used in recessed housings other than Halo the Eaton 5-year limited 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 properly and securely retain the LED Module and LED Trim in the housing at time of installation.



ML56 LED System

1200 Series with Beam Forming Reflector Option 90 CRI

ML5612927
ML5612930
ML5612935
ML5612940

5-Inch and 6-Inch 1200 Lumen LED Module for New Construction, Remodel and Retrofit

For use with 59x and 69x Series 5" and 6" Trims

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

HIGH EFFICACY LED WITH INTEGRAL DRIVER - DIMMABLE

Energy Data

ML56 1200/90 Series

(Values at non-dimming line voltage)

Minimum Starting Temp: -30°C (-22°F)

EMI/RFI: FCC Title 47 CFR, Part 15, (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%

Input Power: 12.3W

Input Current at 120V: 0.14A

Input Current at 277V: 0.07A

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)

D2W™



ML5612927
5" or 6" LED 1200 Series



ML5612930
5" or 6" LED 1200 Series



ML5612935
5" or 6" LED 1200 Series



ML5612940
5" or 6" LED 1200 Series

Compliance

- cULus listed 1598 Luminaire (Halo housings)
- UL Classified when used in retrofit (refer to housing section)
- cULus listed for damp locations
- cULus Wet location listed with baffle and reflector trims only
- Airtight certified per ASTM E283 (not exceeding 2.0 CFM under 57 Pascals pressure difference)
- IP56 ingress protection rated with baffle and reflector trims only
- RoHS compliant
- May be used in IC (insulated ceiling) housings in direct contact with insulation* and combustible material
- Can be used for California Title 24 compliance
- Can be used for International Energy Conservation Code (IECC) high efficiency luminaire compliance.
- Can be used for Washington State Energy Code compliance
- ENERGY STAR® certified luminaire - consult ENERGY STAR® certified product list
- EMI/RFI per FCC 47CFR Part 15 Class B Consumer limits (commercial and residential compliant)
- Photometric testing in accordance with IES LM-79
- Lumen maintenance projections in accordance with IES LM-80 and TM-21
- CE Mark - "Conformité Européenne" conformity with the Council of European Communities Directives, meeting internationally recognized compliance when used with Halo H550, H750, and H2750 Series LED housings only

* Not for use with housings in direct contact with spray foam insulation.

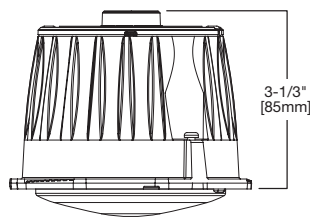
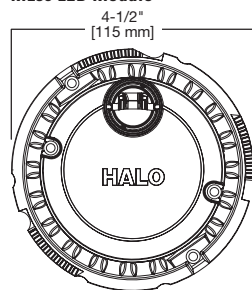


Refer to ENERGY STAR® Qualified Products List.

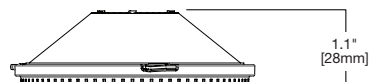
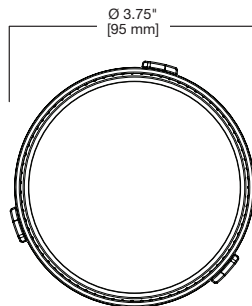
Can be used to comply with California Title 24 High Efficacy requirements.

Dimensions

ML56 LED Module



Beam Forming Optic (Accessories)



Ordering Information

Sample Number: **ML5612930 593WB**

Order LED Module and trim separately.

A complete system also includes a compatible housing (new construction, remodel, or existing retrofit). Housing aperture size in the ML56 System is determined by the ML56 trim dimensions.

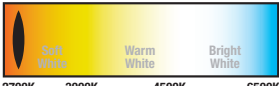
ML56 trims are available in 5" and 6" aperture (5" = 59xx series and 6" = 69xx series trims). Refer to Housing Section in this document.

ML56 LED Modules 1200 Series / 90 CRI	ML56 LED 5" and 6" Trims	ML56 Beam Forming Optic / Media 1200 Series Accessories	ML56 System Accessories
ML5612927 = 5"/6" LED module, 1200 lumen, 90CRI, 2700K ML5612930 = 5"/6" LED module, 1200 lumen, 90CRI, 3000K ML5612935 = 5"/6" LED module, 1200 lumen, 90CRI, 3500K ML5612940 = 5"/6" LED module, 1200 lumen, 90CRI, 4000K ML5606D2W930 = 5"/6" dim-to-warm LED module, 1200 lumen, 90CRI, 1850K	590 Series - 5" LED Trims 592SC =5" LED trim, specular reflector & white flange 592H =5" LED trim, haze reflector & white flange 592W =5" LED trim, white reflector & flange 593WB =5" LED trim, white micro-step baffle & flange 593BB =5" LED trim, black micro-step baffle & white flange 594WB =5" LED directional trim, white eyeball, baffle & flange – shallow and standard housings 595WW =5" LED trim, wall wash - specular reflector, repositionable specular kick reflector, white flange 596WB =5" LED trim, white shallow baffle & flange – shallow and standard housings	BFR56NFL =Beam forming reflector kit, narrow flood, 25° nominal BFR56MH =Media holder, accepts one 3.45" lens. (Requires BFR56NFL & L345SF, order separately.) L345SF =3.45" diameter soft focus lens. Requires (BFR56NFL and BFR56MH, order separately.)	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 WW595SC =5" Wall wash insert - kick reflector for 595WW (1-included with trim) double or corner wall wash** WW695SC =6" Wall wash insert - kick reflector for 695WW (1-included with trim) double or corner wall wash** TRM590VWH =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 TRM690VWH =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
California non-E26 modules¹ ML5612927-CA = 5/6" LED module, 1200 lumen, 90CRI, 2700K, California non-E26 ML5612930-CA = 5/6" LED module, 1200 lumen, 90CRI, 3000K, California non-E26 ML5612935-CA = 5/6" LED module, 1200 lumen, 90CRI, 3500K, California non-E26 ML5612940-CA = 5/6" LED module, 1200 lumen, 90CRI, 4000K, California non-E26	690 Series - 6" LED Trims 692SC =6" LED trim, specular reflector & white flange 692H =6" LED trim, haze reflector & white flange 692W =6" LED trim, white reflector & flange 693WB =6" LED trim, white micro-step baffle & flange 693BB =6" LED trim, black micro-step baffle & white flange 693TBZB =6" LED trim, tuscan bronze micro-step baffle & flange 693SNB =6" LED trim, satin nickel micro-step baffle & satin nickel flange 694WB =6" LED directional trim, white eyeball, baffle & flange – shallow and standard housings 694TBZB =6" LED directional trim, tuscan bronze eyeball, baffle & flange – shallow and standard housings 694SNB =6" LED directional trim, satin nickel eyeball, baffle & flange – shallow and standard housings 695WW =6" LED trim, wall wash - specular reflector, repositionable specular kick reflector, white flange 696WB =6" LED trim, white shallow baffle & flange – for use with shallow and standard housings		**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.

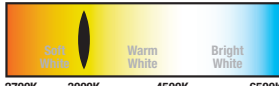
Notes: 1. California product only.

Lighting Info

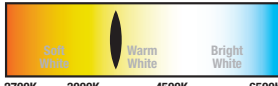
ML5612927

PRODUCT SPECIFICATIONS	
Lumens (Light Output)	1212
Watts	12.3
Lumens Per Watt (Efficacy)	98.6
Color Accuracy (CRI)	94
Light Color (CCT) Correlated Color Temperature (CCT)	2700K
	
MODEL# ML5612927 ADV14165RLBL	

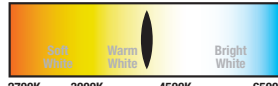
ML5612930

PRODUCT SPECIFICATIONS	
Lumens (Light Output)	1177
Watts	11.6
Lumens Per Watt (Efficacy)	101
Color Accuracy (CRI)	94
Light Color (CCT) Correlated Color Temperature (CCT)	3000K
	
MODEL# ML5612930 ADV141657LBL	

ML5612935

PRODUCT SPECIFICATIONS	
Lumens (Light Output)	1320
Watts	11.7
Lumens Per Watt (Efficacy)	113
Color Accuracy (CRI)	94
Light Color (CCT) Correlated Color Temperature (CCT)	3500K
	
MODEL# ML5612935 ADV14165RLBL	

ML5612940

PRODUCT SPECIFICATIONS	
Lumens (Light Output)	1395
Watts	12
Lumens Per Watt (Efficacy)	116
Color Accuracy (CRI)	94
Light Color (CCT) Correlated Color Temperature (CCT)	4000K
	
MODEL# ML5612940 ADV14165RLBL	

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.)

Housing – Compatibility

The ML56 LED module - trim combination is cULus Listed or UL Classified for use with any 5" or 6" diameter recessed housing constructed of steel or aluminum with an internal volume that exceeds 115 in³ in addition to those noted below.

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

Brand	Housing Type	Catalog Number	Description
Halo	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
		E750ICAT	6" LED, Insulated Ceiling, Air-Tite, New Construction Housing
		E750RICAT	6" LED, Insulated Ceiling, Air-Tite, Remodel Housing
Halo	Shallow Housings	H2750ICAT	6" LED, Shallow, Insulated Ceiling, Air-Tite, New Constr. (use with 691X, 694X, 696X trims only)
		H2750RICAT	6" LED, Shallow, Insulated Ceiling, Air-Tite, Remodel (use with 691X, 694X, 696X trims only)

HALO - Incandescent E26 Screwbase Housings

Brand	Housing Type	Catalog Number	Description
Halo	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
		H7UICAT	6" Insulated Ceiling, Universal, Air-Tite, New Construction Housing
		E7ICAT	6" Insulated Ceiling, Air-Tite New Construction Housing
		E7RICAT	6" Insulated Ceiling, Air-Tite Remodel Housing
		E7ICATNB	6" Insulated Ceiling, Air-Tite New Construction Housing, No Socket Bracket
		E7TAT	6" Non-IC, Air-Tite New Construction Housing
		E7RTAT	6" Non-IC, Air-Tite Remodel Housing
		E7TATNB	6" Non-IC, Air-Tite New Construction Housing, No Socket Bracket
Halo	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)
		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)
		E27ICAT	6" Shallow, Insulated Ceiling, Air-Tite New Construction (use with 691X, 694X, 696X trims only)
		E27RICAT	6" Shallow, Insulated Ceiling, Air-Tite Remodel Housing (use with 691X, 694X, 696X trims only)
		E27TAT	6" Shallow, Non-IC, Air-Tite New Construction Housing (use with 691X, 694X, 696X trims only)
		E27RTAT	6" Shallow, Non-IC, Air-Tite Remodel Housing (use with 691X, 694X, 696X trims only)

Halo LED Retrofit Enclosures

Brand	Type	Catalog Number	Description
Halo	Retrofit	ML7BXRFK	6" Retrofit Enclosure, Non-IC, BX Whip
		ML7E26RFK	6" Retrofit Enclosure, Non-IC, E26 Screw base Interface

Housing Compatibility - Continued

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

Brand	Housing Type	Catalog Number	Description
Halo	Standard Housings	H550ICAT	5" LED, Insulated Ceiling, Air-Tite, New Construction Housing
		H550RICAT	5" LED, Insulated Ceiling, Air-Tite, Remodel Housing
		E550ICAT	5" LED, Insulated Ceiling, Air-Tite, New Construction Housing
		E550RICAT	5" LED, Insulated Ceiling, Air-Tite, Remodel Housing

HALO - Incandescent E26 Screwbase Housings

Brand	Housing Type	Catalog Number	Description
Halo	Standard Housings	H5ICAT	5" Insulated Ceiling, Air-Tite New Construction Housing
		H5RICAT	5" Insulated Ceiling, Air-Tite Remodel Housing
		H5ICATNB	5" Insulated Ceiling, Air-Tite New Construction Housing, No Socket Bracket
		H5T	5" Non-IC, New Construction Housing
		H5RT	5" Non-IC, Remodel Housing
		H5TNB	5" Non-IC, New Construction Housing, No Socket Bracket
		H5TM	5" Non-IC, New Construction Housing (Canada)
Halo	Shallow Housings	H25ICAT	5" Shallow, Insulated Ceiling, Air-Tite New Construction (use with 591X, 594X, 596X trims only)
		H25RICAT	5" Shallow, Insulated Ceiling, Air-Tite Remodel (use with 591X, 594X, 596X trims only)
		H25ICATNB	5" Shallow, Insulated Ceiling, Air-Tite New Construction, No Socket Bracket (use with 591X, 594X, 596X trims only)

Housings – UL Classified for Retrofit Compatibility

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

Juno	IC22, IC22R, IC22W, IC22S, IC23, IC23W, TC2, TC2R, IC2
Capri	CR1, PR1, QL1
Elco	HL7ICA (EL7ICA)
Lithonia	LC6, L7X
Thomas	PS1
Commercial Electric	C7ICA, H3
Progress	P87-AT †
Lightolier	1104ICx †, 1104IC †

† Requires ML7RAB retrofit adapter band (ordered separately); for use in housings without torsion springs.

Juno®, Capri, Lightolier®, Lithonia Lighting®, Thomas® Lighting, Elco Lighting®, Progress® Lighting and Commercial Electric™ and their product brand names, where identified above, are tradenames or trademarks of each respective company and Cooper makes no representations on these trademarks.

ML56 1200 Series Compliance Table

90 CRI LED Modules with ML56 Trims

	ML5612927	ML5612930	ML5612935	ML5612940
593BB	WSEC, IECC	WSEC, IECC	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC
693BB	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC
593TBZB	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC
693TBZB	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC
593SNB	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC
693SNB	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC
592H	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC
593WB	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC
592SC	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC
592W	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC
595WW	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC
695WW	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC
692H	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC
692W	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC
692SC	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC
693WB	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC
596WB	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC
694TBZB	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC
696WB	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC
594TBZB	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC
694SNB	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC
594SNB	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC
694WB	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC
594WB	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC
594WB-30	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC
694WB-30	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC

Code Descriptions:

ES = ENERGY STAR® Certified Luminaire

T24 = Can be used to comply with California Title 24 High Efficacy requirements. Certified to California Title 20 Appliance Efficiency Database.

IECC = International Energy Conservation Code "High Efficacy"

WSEC = Washington State Energy Code - "High Efficacy" Luminaire

ML56 1200 Series Lumen Table

90 CRI LED Modules with ML56 trims

	Trim Catalog #	ML5612927		ML5612930		ML5612935		ML5612940	
		Lumens	LPW	Lumens	LPW	Lumens	LPW	Lumens	LPW
0° Tilt Angle	593BB	727.0	42.0	777.4	62.4	848.4	71.3	875.8	67.4
	693BB	813.6	47.0	870.0	69.9	949.5	79.8	980.1	75.4
	593TBZB	821.3	47.5	878.3	70.5	958.5	80.5	989.5	76.1
	693TBZB	845.7	48.9	904.4	72.6	987.0	82.9	1018.9	78.4
	593SNB	900.1	52.0	962.6	77.3	1050.5	88.3	1084.4	83.4
	693SNB	937.9	54.2	1002.9	80.6	1094.5	92.0	1129.8	86.9
	592H	1036.6	59.9	1108.6	89.0	1209.8	101.7	1248.9	96.1
	593WB	1057.7	61.1	1131.1	90.9	1234.4	103.7	1274.3	98.0
	592SC	1071.1	61.9	1145.4	92.0	1250.0	105.0	1290.3	99.3
	592W	1074.4	62.1	1148.9	92.3	1253.9	105.4	1294.3	99.6
	595WW	1077.7	62.3	1152.5	92.6	1257.7	105.7	1298.3	99.9
	695WW	1078.8	62.4	1153.7	92.7	1259.0	105.8	1299.7	100.0
	692H	1082.2	62.6	1157.2	93.0	1262.9	106.1	1303.7	100.3
	692W	1099.9	63.6	1176.2	94.5	1283.6	107.9	1325.1	101.9
	692SC	1104.4	63.8	1181.0	94.9	1288.8	108.3	1330.4	102.3
	693WB	1109.9	64.2	1186.9	95.3	1295.3	108.8	1337.1	102.9
	596WB	1113.8	64.4	1191.1	95.7	1299.8	109.2	1341.8	103.2
	694TBZB	1117.7	64.6	1195.2	96.0	1304.4	109.6	1346.5	103.6
	696WB	1137.6	65.8	1216.6	97.7	1327.7	111.6	1370.5	105.4
	594TBZB	1138.8	65.8	1217.8	97.8	1329.0	111.7	1371.9	105.5
	694SNB	1149.9	66.5	1229.6	98.8	1341.9	112.8	1385.2	106.6
	594SNB	1167.6	67.5	1248.6	100.3	1362.7	114.5	1406.6	108.2
	694WB	1184.8	68.5	1267.0	101.8	1382.7	116.2	1427.4	109.8
	594WB	1192.0	68.9	1274.7	102.4	1391.2	116.9	1436.0	110.5
30° Tilt Angle	594WB-30	1126.5	65.1	1204.7	96.8	1314.7	110.5	1357.2	104.4
	694WB-30	1108.8	64.1	1185.7	95.2	1294.0	108.7	1335.8	102.8

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

Description

The Halo ML56 LED Downlighting System is a series of modular LED Modules for use with designated 5" or 6" ML56 LED trims in new construction, remodel and retrofit installation. Compatible with Halo 5" H550 and 6" H750, H2750 Series LED housings. And in retrofit of existing housings the ML56 Series fits 5" or 6" Halo and others. ML56 Modules are offered in 600 Series, 900 Series, and 1200 Series, 80CRI or 90CRI, and four color temperatures 2700K, 3000K, 3500K, 4000K. ML56 Modules are universal voltage 120V – 277V and dimmable at 120V. The ML56 lens provides uniform diffuse illumination standard. ML56 - 1200 Series offers narrow flood (NFL) beam forming reflector as an optional accessory. Wet location listed with reflector and baffle trims (directional eyeball trims are damp listed). Halo ML56 Series offers high performance LED downlighting in a flexible modular selection.

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, including insulated ceiling environments

Optics

- Diffuse lens is standard on all 1200 Series LED light modules
 - Impact-resistant polycarbonate
 - Convex form for lamp-like appearance
 - High lumen transmission
- Optional beam forming optic replaces diffuse lens and provide narrow flood (NFL) 25° nominal distribution. Beam forming optic is field installed. Order separately (accessories).

Mounting

- 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
- Use the retrofit adapter band (ML7RAB) accessory when housing does not have receivers for torsion springs.

Housing Compatibility

A complete ML56 system includes a LED 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 Section in this document.

LED

- 1200 Series = 1200 design lumens typical. Delivered lumens vary upon 5" or 6" trim, color temperature, and trim finish.
- Color Temperature options: 2700K, 3000K, 3500K, 4000K
- CRI: 90, R9750

- L70 at 50,000 hours, projected in accordance with IES TM-21
- LED is a chip on board design consisting of a multiple LED package with proximity phosphor coating to create one virtual white light source for a productive "cone of light"

Color Specification & Quality Standards

- A tight chromaticity specification ensures LED color uniformity, sustainable Color Rendering Index (CRI) and Correlated Color Temperature (CCT) over the useful life of the LED
- LED color uniformity of 3 SDCM, exceeds ENERGY STAR® color standards per ANSI C78.377- 2008.
- High color performance with 90CRI minimum, and R9 greater than 50.
- Every Halo LED Module is quality tested and performance measured, and then serialized in a permanent record to register lumens, wattage, CRI and CCT.
- Halo LED serialized testing and measurement process ensures color and lumen consistency on a per-unit basis, and validates long-term product consistency over time
- Halo ML56 LED Modules include lumen, CRI, and CCT designations in the model number Example: **ML5612930**
56 = 5" / 6" aperture series
12 = 1200 lumen series
9 = >90 CRI
30 = 3000K nominal CCT

Electrical Power Connections

- LED connector is a non-screw base luminaire disconnect offering easy installation in Halo 5" H550 series and 6" H750 and 2750 series housings (per LED trim 5" or 6").
- LED Connector meets high-efficacy luminaire requirements for a non-screw base, and where required.
- The included E26 medium screw-base Edison adapter* provides easy retrofit of incandescent housings (non-California product only) (see Housing Section).

Catalog #	Type
Project	
Comments	Date
Prepared by	

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 Halo LED housings 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 compliant 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

Designed for dimming capability to nominal 5% in normal operation with standard 120V Leading Edge (LE) and Trailing Edge (TE) phase control dimmers. (Consult dimmer manufacturer for dimmer compatibility and details. Note, some dimmers require a neutral in the wallbox.)

Warranty

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

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

- If used in recessed housings other than Halo the Eaton 5-year limited 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 properly and securely retain the LED Module and LED Trim in the housing at time of installation.



ML56 LED System

1200 Series with Beam Forming Reflector Option 90 CRI

ML5612927
ML5612930
ML5612935
ML5612940

5-Inch and 6-Inch 1200 Lumen LED Module for New Construction, Remodel and Retrofit

For use with 59x and 69x Series 5" and 6" Trims

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

HIGH EFFICACY LED WITH INTEGRAL DRIVER - DIMMABLE

Energy Data

ML56 1200/90 Series

(Values at non-dimming line voltage)

Minimum Starting Temp: -30°C (-22°F)

EMI/RFI: FCC Title 47 CFR, Part 15, (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%

Input Power: 12.3W

Input Current at 120V: 0.14A

Input Current at 277V: 0.07A

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)

D2W™



ML5612927
5" or 6" LED 1200 Series



ML5612930
5" or 6" LED 1200 Series



ML5612935
5" or 6" LED 1200 Series



ML5612940
5" or 6" LED 1200 Series

Compliance

- cULus listed 1598 Luminaire (Halo housings)
- UL Classified when used in retrofit (refer to housing section)
- cULus listed for damp locations
- cULus Wet location listed with baffle and reflector trims only
- Airtight certified per ASTM E283 (not exceeding 2.0 CFM under 57 Pascals pressure difference)
- IP56 ingress protection rated with baffle and reflector trims only
- RoHS compliant
- May be used in IC (insulated ceiling) housings in direct contact with insulation* and combustible material
- Can be used for California Title 24 compliance
- Can be used for International Energy Conservation Code (IECC) high efficiency luminaire compliance.
- Can be used for Washington State Energy Code compliance
- ENERGY STAR® certified luminaire - consult ENERGY STAR® certified product list
- EMI/RFI per FCC 47CFR Part 15 Class B Consumer limits (commercial and residential compliant)
- Photometric testing in accordance with IES LM-79
- Lumen maintenance projections in accordance with IES LM-80 and TM-21
- CE Mark - "Conformité Européenne" conformity with the Council of European Communities Directives, meeting internationally recognized compliance when used with Halo H550, H750, and H2750 Series LED housings only

* Not for use with housings in direct contact with spray foam insulation.

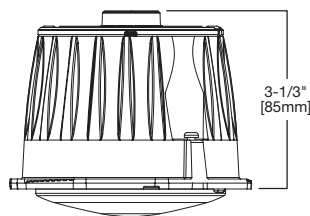
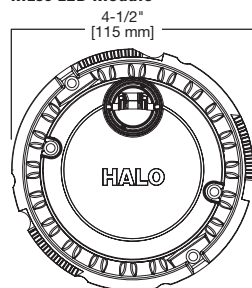


Refer to ENERGY STAR® Qualified Products List.

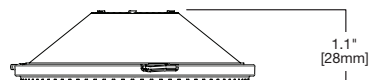
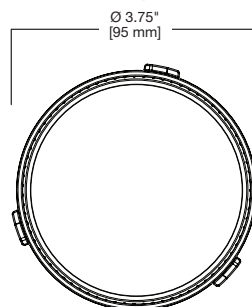
Can be used to comply with California Title 24 High Efficacy requirements.

Dimensions

ML56 LED Module



Beam Forming Optic (Accessories)



Ordering Information

Sample Number: **ML5612930 593WB**

Order LED Module and trim separately.

A complete system also includes a compatible housing (new construction, remodel, or existing retrofit). Housing aperture size 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 Section in this document.

ML56 LED Modules 1200 Series / 90 CRI	ML56 LED 5" and 6" Trims	ML56 Beam Forming Optic / Media 1200 Series Accessories	ML56 System Accessories
ML5612927 = 5"/6" LED module, 1200 lumen, 90CRI, 2700K ML5612930 = 5"/6" LED module, 1200 lumen, 90CRI, 3000K ML5612935 = 5"/6" LED module, 1200 lumen, 90CRI, 3500K ML5612940 = 5"/6" LED module, 1200 lumen, 90CRI, 4000K ML5606D2W930 = 5"/6" dim-to-warm LED module, 1200 lumen, 90CRI, 1850K	590 Series - 5" LED Trims 592SC =5" LED trim, specular reflector & white flange 592H =5" LED trim, haze reflector & white flange 592W =5" LED trim, white reflector & flange 593WB =5" LED trim, white micro-step baffle & flange 593BB =5" LED trim, black micro-step baffle & white flange 594WB =5" LED directional trim, white eyeball, baffle & flange – shallow and standard housings 595WW =5" LED trim, wall wash - specular reflector, repositionable specular kick reflector, white flange 596WB =5" LED trim, white shallow baffle & flange – shallow and standard housings	BFR56NFL =Beam forming reflector kit, narrow flood, 25° nominal BFR56MH =Media holder, accepts one 3.45" lens. (Requires BFR56NFL & L345SF, order separately.) L345SF =3.45" diameter soft focus lens. Requires (BFR56NFL and BFR56MH, order separately.)	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 WW595SC =5" Wall wash insert - kick reflector for 595WW (1-included with trim) double or corner wall wash** WW695SC =6" Wall wash insert - kick reflector for 695WW (1-included with trim) double or corner wall wash** TRM590VWH =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 TRM690VWH =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
California non-E26 modules¹ ML5612927-CA = 5/6" LED module, 1200 lumen, 90CRI, 2700K, California non-E26 ML5612930-CA = 5/6" LED module, 1200 lumen, 90CRI, 3000K, California non-E26 ML5612935-CA = 5/6" LED module, 1200 lumen, 90CRI, 3500K, California non-E26 ML5612940-CA = 5/6" LED module, 1200 lumen, 90CRI, 4000K, California non-E26	690 Series - 6" LED Trims 692SC =6" LED trim, specular reflector & white flange 692H =6" LED trim, haze reflector & white flange 692W =6" LED trim, white reflector & flange 693WB =6" LED trim, white micro-step baffle & flange 693BB =6" LED trim, black micro-step baffle & white flange 693TBZB =6" LED trim, tuscan bronze micro-step baffle & flange 693SNB =6" LED trim, satin nickel micro-step baffle & satin nickel flange 694WB =6" LED directional trim, white eyeball, baffle & flange – shallow and standard housings 694TBZB =6" LED directional trim, tuscan bronze eyeball, baffle & flange – shallow and standard housings 694SNB =6" LED directional trim, satin nickel eyeball, baffle & flange – shallow and standard housings 695WW =6" LED trim, wall wash - specular reflector, repositionable specular kick reflector, white flange 696WB =6" LED trim, white shallow baffle & flange – for use with shallow and standard housings		**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.

Notes: 1. California product only.

Lighting Info

ML5612927

PRODUCT SPECIFICATIONS

Lumens (Light Output)

1212

Watts

12.3

Lumens Per Watt (Efficacy)

98.6

Color Accuracy (CRI)

94

Light Color (CCT)

2700K

Correlated Color Temperature (CCT)

Soft White

Warm White

Bright White

2700K

3000K

4500K

6500K

MODEL # ML 5612927

ADV141656L RI

ML5612930

PRODUCT SPECIFICATIONS

Lumens (Light Output)

1177

Watts

11.6

Lumens Per Watt (Efficacy)

101

Color Accuracy (CRI)

94

Light Color (CCT)

3000K

Correlated Color Temperature (CCT)

Soft White

Warm White

Bright White

2700K

3000K

4500K

6500K

MODEL # ML 5612930

ADV141657L RI

ML5612935

PRODUCT SPECIFICATIONS

Lumens (Light Output)

1320

Watts

11.7

Lumens Per Watt (Efficacy)

113

Color Accuracy (CRI)

94

Light Color (CCT)

3500K

Correlated Color Temperature (CCT)

Soft White

Warm White

Bright White

2700K

3000K

4500K

6500K

MODEL # ML 5612935

ADV141658L RI

ML5612940

PRODUCT SPECIFICATIONS

Lumens (Light Output)

1395

Watts

12

Lumens Per Watt (Efficacy)

116

Color Accuracy (CRI)

94

Light Color (CCT)

4000K

Correlated Color Temperature (CCT)

Soft White

Warm White

Bright White

2700K

3000K

4500K

6500K

MODEL # ML 5612940

ADV141659L RI

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.)

Housing – Compatibility

The ML56 LED module - trim combination is cULus Listed or UL Classified for use with any 5" or 6" diameter recessed housing constructed of steel or aluminum with an internal volume that exceeds 115 in³ in addition to those noted below.

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

Brand	Housing Type	Catalog Number	Description
Halo	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
		E750ICAT	6" LED, Insulated Ceiling, Air-Tite, New Construction Housing
		E750RICAT	6" LED, Insulated Ceiling, Air-Tite, Remodel Housing
Halo	Shallow Housings	H2750ICAT	6" LED, Shallow, Insulated Ceiling, Air-Tite, New Constr. (use with 691X, 694X, 696X trims only)
		H2750RICAT	6" LED, Shallow, Insulated Ceiling, Air-Tite, Remodel (use with 691X, 694X, 696X trims only)

HALO - Incandescent E26 Screwbase Housings

Brand	Housing Type	Catalog Number	Description
Halo	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
		H7UICAT	6" Insulated Ceiling, Universal, Air-Tite, New Construction Housing
		E7ICAT	6" Insulated Ceiling, Air-Tite New Construction Housing
		E7RICAT	6" Insulated Ceiling, Air-Tite Remodel Housing
		E7ICATNB	6" Insulated Ceiling, Air-Tite New Construction Housing, No Socket Bracket
		E7TAT	6" Non-IC, Air-Tite New Construction Housing
		E7RTAT	6" Non-IC, Air-Tite Remodel Housing
		E7TATNB	6" Non-IC, Air-Tite New Construction Housing, No Socket Bracket
Halo	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)
		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)
		E27ICAT	6" Shallow, Insulated Ceiling, Air-Tite New Construction (use with 691X, 694X, 696X trims only)
		E27RICAT	6" Shallow, Insulated Ceiling, Air-Tite Remodel Housing (use with 691X, 694X, 696X trims only)
		E27TAT	6" Shallow, Non-IC, Air-Tite New Construction Housing (use with 691X, 694X, 696X trims only)
		E27RTAT	6" Shallow, Non-IC, Air-Tite Remodel Housing (use with 691X, 694X, 696X trims only)

Halo LED Retrofit Enclosures

Brand	Type	Catalog Number	Description
Halo	Retrofit	ML7BXRFK	6" Retrofit Enclosure, Non-IC, BX Whip
		ML7E26RFK	6" Retrofit Enclosure, Non-IC, E26 Screw base Interface

Housing Compatibility - Continued

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

Brand	Housing Type	Catalog Number	Description
Halo	Standard Housings	H550ICAT	5" LED, Insulated Ceiling, Air-Tite, New Construction Housing
		H550RICAT	5" LED, Insulated Ceiling, Air-Tite, Remodel Housing
		E550ICAT	5" LED, Insulated Ceiling, Air-Tite, New Construction Housing
		E550RICAT	5" LED, Insulated Ceiling, Air-Tite, Remodel Housing

HALO - Incandescent E26 Screwbase Housings

Brand	Housing Type	Catalog Number	Description
Halo	Standard Housings	H5ICAT	5" Insulated Ceiling, Air-Tite New Construction Housing
		H5RICAT	5" Insulated Ceiling, Air-Tite Remodel Housing
		H5ICATNB	5" Insulated Ceiling, Air-Tite New Construction Housing, No Socket Bracket
		H5T	5" Non-IC, New Construction Housing
		H5RT	5" Non-IC, Remodel Housing
		H5TNB	5" Non-IC, New Construction Housing, No Socket Bracket
		H5TM	5" Non-IC, New Construction Housing (Canada)
Halo	Shallow Housings	H25ICAT	5" Shallow, Insulated Ceiling, Air-Tite New Construction (use with 591X, 594X, 596X trims only)
		H25RICAT	5" Shallow, Insulated Ceiling, Air-Tite Remodel (use with 591X, 594X, 596X trims only)
		H25ICATNB	5" Shallow, Insulated Ceiling, Air-Tite New Construction, No Socket Bracket (use with 591X, 594X, 596X trims only)

Housings – UL Classified for Retrofit Compatibility

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

Juno	IC22, IC22R, IC22W, IC22S, IC23, IC23W, TC2, TC2R, IC2
Capri	CR1, PR1, QL1
Elco	HL7ICA (EL7ICA)
Lithonia	LC6, L7X
Thomas	PS1
Commercial Electric	C7ICA, H3
Progress	P87-AT †
Lightolier	1104ICx †, 1104IC †

† Requires ML7RAB retrofit adapter band (ordered separately); for use in housings without torsion springs.

Juno®, Capri, Lightolier®, Lithonia Lighting®, Thomas® Lighting, Elco Lighting®, Progress® Lighting and Commercial Electric™ and their product brand names, where identified above, are tradenames or trademarks of each respective company and Cooper makes no representations on these trademarks.

ML56 1200 Series Compliance Table

90 CRI LED Modules with ML56 Trims

	ML5612927	ML5612930	ML5612935	ML5612940
593BB	WSEC, IECC	WSEC, IECC	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC
693BB	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC
593TBZB	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC
693TBZB	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC
593SNB	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC
693SNB	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC
592H	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC
593WB	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC
592SC	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC
592W	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC
595WW	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC
695WW	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC
692H	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC
692W	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC
692SC	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC
693WB	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC
596WB	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC
694TBZB	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC
696WB	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC
594TBZB	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC
694SNB	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC
594SNB	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC
694WB	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC
594WB	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC
594WB-30	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC
694WB-30	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC	ES, T24, WSEC, IECC

Code Descriptions:

ES = ENERGY STAR® Certified Luminaire

T24 = Can be used to comply with California Title 24 High Efficacy requirements. Certified to California Title 20 Appliance Efficiency Database.

IECC = International Energy Conservation Code "High Efficacy"

WSEC = Washington State Energy Code - "High Efficacy" Luminaire

ML56 1200 Series Lumen Table

90 CRI LED Modules with ML56 trims

	Trim Catalog #	ML5612927		ML5612930		ML5612935		ML5612940	
		Lumens	LPW	Lumens	LPW	Lumens	LPW	Lumens	LPW
0° Tilt Angle	593BB	727.0	42.0	777.4	62.4	848.4	71.3	875.8	67.4
	693BB	813.6	47.0	870.0	69.9	949.5	79.8	980.1	75.4
	593TBZB	821.3	47.5	878.3	70.5	958.5	80.5	989.5	76.1
	693TBZB	845.7	48.9	904.4	72.6	987.0	82.9	1018.9	78.4
	593SNB	900.1	52.0	962.6	77.3	1050.5	88.3	1084.4	83.4
	693SNB	937.9	54.2	1002.9	80.6	1094.5	92.0	1129.8	86.9
	592H	1036.6	59.9	1108.6	89.0	1209.8	101.7	1248.9	96.1
	593WB	1057.7	61.1	1131.1	90.9	1234.4	103.7	1274.3	98.0
	592SC	1071.1	61.9	1145.4	92.0	1250.0	105.0	1290.3	99.3
	592W	1074.4	62.1	1148.9	92.3	1253.9	105.4	1294.3	99.6
	595WW	1077.7	62.3	1152.5	92.6	1257.7	105.7	1298.3	99.9
	695WW	1078.8	62.4	1153.7	92.7	1259.0	105.8	1299.7	100.0
	692H	1082.2	62.6	1157.2	93.0	1262.9	106.1	1303.7	100.3
	692W	1099.9	63.6	1176.2	94.5	1283.6	107.9	1325.1	101.9
	692SC	1104.4	63.8	1181.0	94.9	1288.8	108.3	1330.4	102.3
	693WB	1109.9	64.2	1186.9	95.3	1295.3	108.8	1337.1	102.9
	596WB	1113.8	64.4	1191.1	95.7	1299.8	109.2	1341.8	103.2
	694TBZB	1117.7	64.6	1195.2	96.0	1304.4	109.6	1346.5	103.6
	696WB	1137.6	65.8	1216.6	97.7	1327.7	111.6	1370.5	105.4
	594TBZB	1138.8	65.8	1217.8	97.8	1329.0	111.7	1371.9	105.5
	694SNB	1149.9	66.5	1229.6	98.8	1341.9	112.8	1385.2	106.6
	594SNB	1167.6	67.5	1248.6	100.3	1362.7	114.5	1406.6	108.2
	694WB	1184.8	68.5	1267.0	101.8	1382.7	116.2	1427.4	109.8
	594WB	1192.0	68.9	1274.7	102.4	1391.2	116.9	1436.0	110.5
30° Tilt Angle	594WB-30	1126.5	65.1	1204.7	96.8	1314.7	110.5	1357.2	104.4
	694WB-30	1108.8	64.1	1185.7	95.2	1294.0	108.7	1335.8	102.8

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