HALO®

Description

The Halo ML56 LED Downlighting System is a series of modular LED Light 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, All-Pro, and others. ML56 system offers shallow trims for installation in Halo, All-Pro and others shallow housings. ML56 Light Modules are offered in 600 Series, 900 Series, and 1200 Series, 80CRI or 90CRI, and four color temperatures 2700K, 3000K, 3500K, 4000K. ML56 Light Modules are universal voltage 120V – 277V and dimmable at 120V. The ML56 lens provides uniform diffuse illumination standard.

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

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 Section in this document.

LED
- 600 Series = 600 design lumens typical.
- Delivered lumens vary depending upon CRI, color temperature, and trim finish.
- Color Temperature options: 2700K, 3000K, 3500K, 4000K
- CRI: 80

- 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 to create one virtual 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.
- 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 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 Light Modules include lumen, CRI, and CCT designations in the model number
- Example: **ML5606830**
  56 = 5" / 6" aperture series
  06 = 600 lumen series
  8 = >80 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 and H2750 series housings (housing selected depends upon LED trim 5" or 6").
- LED Connector is a non-screw base, 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 Section).

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 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
Cooper Lighting Solutions 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 Solutions 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.

ML56 LED System

600 Series / 80 CRI

ML5606827
ML5606830
ML5606835
ML5606840

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 600/80 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%
Max. Rated Wattage: 10W
Input Power: 9.0W
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)

ML5606827
5" or 6" LED 600 Series

ML5606830
5" or 6" LED 600 Series

ML5606835
5" or 6" LED 600 Series

ML5606840
5" or 6" LED 600 Series

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ADV141689
3/02/2015

Compliance

- cULus listed 1598 Luminaire (Halo and All-Pro 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)
- IP66 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 as a California Title 24 compliant Non-Residential LED Luminaire
- 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 Européene" 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® Certified Products List.
Can be used to comply with California Title 24 Non-Residential Lighting Controls requirements as a LED Luminaire

Dimensions

4-1/2"
[114 mm]

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3"
[76 mm]

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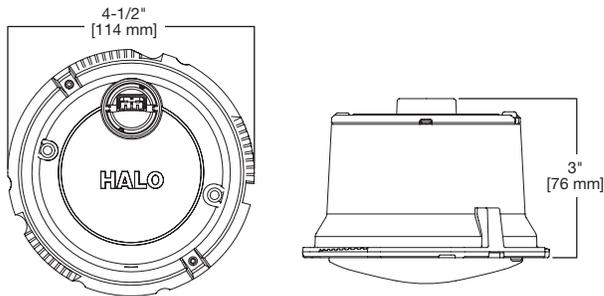
Ordering Information

Sample Number: **ML5606830 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 Light Modules
600 Series / 80 CRI

ML5606827= 5"/6" LED light module, 600 lumen, 80CRI, 2700K
ML5606830= 5"/6" LED light module, 600 lumen, 80CRI, 3000K
ML5606835= 5"/6" LED light module, 600 lumen, 80CRI, 3500K
ML5606840= 5"/6" LED light module, 600 lumen, 80CRI, 4000K

ML56 LED 5" and 6" Trims

590 Series - 5" LED Trims

591WB=5" LED trim, polymer "dead-front", shallow white baffle & flange – shallow and standard housings (For use with 600 Series LED light modules only)
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
593SNB=5" LED trim, satin nickel micro-step baffle & flange
593TBZB=5" LED trim, tuscan bronze micro-step baffle & flange
594WB=5" LED directional trim, white eyeball, baffle & flange – shallow and standard housings
594SNB=5" LED directional trim, satin nickel eyeball, baffle & flange – shallow and standard housings
594TBZB=5" LED directional trim, tuscan bronze 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

690 Series - 6" LED Trims

691WB=6" LED trim, polymer "dead-front", white shallow baffle & flange – shallow and standard housings (For use with 600 Series LED light modules only)
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
693SNB=6" LED trim, satin nickel micro-step baffle & flange
693TBZB=6" LED trim, tuscan bronze micro-step baffle & flange
694WB=6" LED directional trim, white eyeball, baffle & flange – shallow and standard housings
694SNB=6" LED directional trim, satin nickel eyeball, baffle & flange – shallow and standard housings
694TBZB=6" LED directional trim, tuscan bronze 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

ML56 System Accessories

ML56CLIP=Friction clip mounting kit - for retrofitting non-torsion spring housings, 6" clips*
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**
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
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
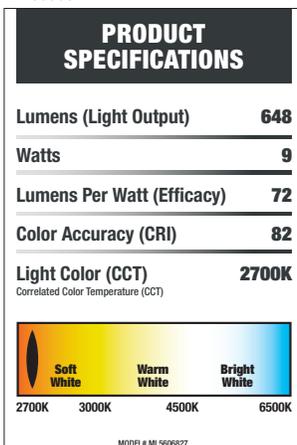
*ML56CLIP is compatible with 6" baffle and reflector trims only (691, 692, 693, 695, 696 series).
For eyeball trim (694 series) use ML7RAB retrofit adpater band.

**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.

Lighting Facts

ML5606827

PRODUCT SPECIFICATIONS	
Lumens (Light Output)	648
Watts	9
Lumens Per Watt (Efficacy)	72
Color Accuracy (CRI)	82
Light Color (CCT) Correlated Color Temperature (CCT)	2700K

Soft White / Warm White / Bright White
2700K 3000K 4500K 6500K
MODEL# ML5606827

ML5606830

PRODUCT SPECIFICATIONS	
Lumens (Light Output)	668
Watts	9
Lumens Per Watt (Efficacy)	74.2
Color Accuracy (CRI)	82
Light Color (CCT) Correlated Color Temperature (CCT)	3000K

Soft White / Warm White / Bright White
2700K 3000K 4500K 6500K
MODEL# ML5606830

ML5606835

PRODUCT SPECIFICATIONS	
Lumens (Light Output)	737
Watts	9
Lumens Per Watt (Efficacy)	81.9
Color Accuracy (CRI)	82
Light Color (CCT) Correlated Color Temperature (CCT)	3500K

Soft White / Warm White / Bright White
2700K 3000K 4500K 6500K
MODEL# ML5606835

ML5606840

PRODUCT SPECIFICATIONS	
Lumens (Light Output)	759
Watts	9
Lumens Per Watt (Efficacy)	84.3
Color Accuracy (CRI)	81
Light Color (CCT) Correlated Color Temperature (CCT)	4000K

Soft White / Warm White / Bright White
2700K 3000K 4500K 6500K
MODEL# ML5606840

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Housing – Trim Compatibility

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 ML56 TRIMS in this document. (Note "X" in the trim model number denotes finish code.)

Housing – Compatibility

The ML56 LED light 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 in^3 in addition to those noted below.

Housing 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
Halo	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

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
		H7UICT	6" Insulated Ceiling, Universal New Construction Housing
		H7UICAT	6" Insulated Ceiling, Universal, Air-Tite, New Construction Housing
All-Pro	Standard Housings	EI700AT	6" Insulated Ceiling, Air-Tite New Construction Housing
		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
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)
		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	Shallow Housings	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

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

HALO - LED Housings with LED Luminaire Connector - High-Efficacy Compliant

Brand	Housing Type	Catalog Number	Description

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Housing Compatibility Continued

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

Halo	Standard Housings	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

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
		H5T	5" Non-IC, New Construction Housing
		H5RT	5" Non-IC, Remodel Housing
		H5TM	5" Non-IC, New Construction Housing (Canada)
All-Pro	Standard Housings	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)

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)

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

† Requires replacement of torsion springs with Friction Clips. Order Friction Clip Kit separately: ML56CLIP
* ML56CLIP is compatible with only baffle and reflector trims.

5" Trims: 591X, 596X

Brand	Housing Type	Catalog Number
Juno	Standard Housings	IC20, IC25S, IC25W, TC20

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ML56 600 Series Compliance Table

80 CRI LED Modules with ML56 Trims

	ML5606827	ML5606830	ML5606835	ML5606840
593BB	T24NR, WSEC, IECC	T24NR, WSEC, IECC	T24NR, WSEC, IECC	T24NR, WSEC, IECC
693BB	T24NR, WSEC, IECC	T24NR, WSEC, IECC	T24NR, WSEC, IECC	T24NR, WSEC, IECC
593TBZB	T24NR, WSEC, IECC	T24NR, WSEC, IECC	T24NR, WSEC, IECC	T24NR, WSEC, IECC
693TBZB	T24NR, WSEC, IECC	T24NR, WSEC, IECC	T24NR, WSEC, IECC	ES, T24NR, WSEC, IECC
593SNB	T24NR, WSEC, IECC	T24NR, WSEC, IECC	ES, T24NR, WSEC, IECC	ES, T24NR, WSEC, IECC
693SNB	T24NR, WSEC, IECC	T24NR, WSEC, IECC	ES, T24NR, WSEC, IECC	ES, T24NR, WSEC, IECC
592H	ES, T24NR, WSEC, IECC	ES, T24NR, WSEC, IECC	ES, T24NR, WSEC, IECC	ES, T24NR, WSEC, IECC
592W	ES, T24NR, WSEC, IECC	ES, T24NR, WSEC, IECC	ES, T24NR, WSEC, IECC	ES, T24NR, WSEC, IECC
593WB	ES, T24NR, WSEC, IECC	ES, T24NR, WSEC, IECC	ES, T24NR, WSEC, IECC	ES, T24NR, WSEC, IECC
592SC	ES, T24NR, WSEC, IECC	ES, T24NR, WSEC, IECC	ES, T24NR, WSEC, IECC	ES, T24NR, WSEC, IECC
692H	ES, T24NR, WSEC, IECC	ES, T24NR, WSEC, IECC	ES, T24NR, WSEC, IECC	ES, T24NR, WSEC, IECC
595WW	ES, T24NR, WSEC, IECC	ES, T24NR, WSEC, IECC	ES, T24NR, WSEC, IECC	ES, T24NR, WSEC, IECC
695WW	ES, T24NR, WSEC, IECC	ES, T24NR, WSEC, IECC	ES, T24NR, WSEC, IECC	ES, T24NR, WSEC, IECC
693WB	ES, T24NR, WSEC, IECC	ES, T24NR, WSEC, IECC	ES, T24NR, WSEC, IECC	ES, T24NR, WSEC, IECC
692SC	ES, T24NR, WSEC, IECC	ES, T24NR, WSEC, IECC	ES, T24NR, WSEC, IECC	ES, T24NR, WSEC, IECC
692W	ES, T24NR, WSEC, IECC	ES, T24NR, WSEC, IECC	ES, T24NR, WSEC, IECC	ES, T24NR, WSEC, IECC
596WB	ES, T24NR, WSEC, IECC	ES, T24NR, WSEC, IECC	ES, T24NR, WSEC, IECC	ES, T24NR, WSEC, IECC
694TBZB	ES, T24NR, WSEC, IECC	ES, T24NR, WSEC, IECC	ES, T24NR, WSEC, IECC	ES, T24NR, WSEC, IECC
594TBZB	ES, T24NR, WSEC, IECC	ES, T24NR, WSEC, IECC	ES, T24NR, WSEC, IECC	ES, T24NR, WSEC, IECC
696WB	ES, T24NR, WSEC, IECC	ES, T24NR, WSEC, IECC	ES, T24NR, WSEC, IECC	ES, T24NR, WSEC, IECC
694SNB	ES, T24NR, WSEC, IECC	ES, T24NR, WSEC, IECC	ES, T24NR, WSEC, IECC	ES, T24NR, WSEC, IECC
594SNB	ES, T24NR, WSEC, IECC	ES, T24NR, WSEC, IECC	ES, T24NR, WSEC, IECC	ES, T24NR, WSEC, IECC
694WB	ES, T24NR, WSEC, IECC	ES, T24NR, WSEC, IECC	ES, T24NR, WSEC, IECC	ES, T24NR, WSEC, IECC
594WB	ES, T24NR, WSEC, IECC	ES, T24NR, WSEC, IECC	ES, T24NR, WSEC, IECC	ES, T24NR, WSEC, IECC
594WB-30	ES, T24NR, WSEC, IECC	ES, T24NR, WSEC, IECC	ES, T24NR, WSEC, IECC	ES, T24NR, WSEC, IECC
694WB-30	ES, T24NR, WSEC, IECC	ES, T24NR, WSEC, IECC	ES, T24NR, WSEC, IECC	ES, T24NR, WSEC, IECC

Code Descriptions:

ES = ENERGY STAR® Certified Luminaire

T24 = Can be used to comply with California Title 24 Non-Residential Lighting Controls requirements as a LED Luminaire

IECC = International Energy Conservation Code "High Efficacy"

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

ML56 600 Series Lumen Table

80 CRI LED Modules with ML56 trims

		ML5606827		ML5606830		ML5606835		ML5606840	
	Trim Catalog #	**Lumens**	**LPW**	**Lumens**	**LPW**	**Lumens**	**LPW**	**Lumens**	**LPW**
0° Tilt Angle	593BB	427.3	47.5	440.5	48.9	486.0	54.0	500.5	55.6
	693BB	473.0	52.6	487.6	54.2	537.9	59.8	554.0	61.6
	593TBZB	479.5	53.3	494.3	54.9	545.3	60.6	561.6	62.4
	693TBZB	496.9	55.2	512.2	56.9	565.1	62.8	582.0	64.7
	593SNB	531.7	59.1	548.1	60.9	604.7	67.2	622.7	69.2
	693SNB	549.1	61.0	566.0	62.9	624.5	69.4	643.1	71.5
	592H	599.1	66.6	617.6	68.6	681.4	75.7	701.7	78.0
	592W	617.6	68.6	636.6	70.7	702.4	78.0	723.3	80.4
	593WB	628.4	69.8	647.8	72.0	714.7	79.4	736.1	81.8
	592SC	632.8	70.3	652.3	72.5	719.7	80.0	741.2	82.4
	692H	635.0	70.6	654.6	72.7	722.2	80.2	743.7	82.6
	595WW	637.1	70.8	656.8	73.0	724.6	80.5	746.3	82.9
	695WW	638.2	70.9	657.9	73.1	725.9	80.7	747.5	83.1
	693WB	648.0	72.0	668.0	74.2	737.0	81.9	759.0	84.3
	692SC	648.0	72.0	668.0	74.2	737.0	81.9	759.0	84.3
	692W	650.2	72.2	670.2	74.5	739.5	82.2	761.5	84.6
	596WB	662.1	73.6	682.6	75.8	753.1	83.7	775.6	86.2
	694TBZB	667.6	74.2	688.2	76.5	759.3	84.4	781.9	86.9
	594TBZB	668.7	74.3	689.3	76.6	760.5	84.5	783.2	87.0
	696WB	673.0	74.8	693.8	77.1	765.4	85.0	788.3	87.6
	694SNB	681.7	75.7	702.7	78.1	775.3	86.1	798.5	88.7
	594SNB	683.9	76.0	705.0	78.3	777.8	86.4	801.0	89.0
	694WB	704.5	78.3	726.3	80.7	801.3	89.0	825.2	91.7
	594WB	706.7	78.5	728.5	80.9	803.8	89.3	827.8	92.0
30° Tilt Angle	594WB-30	685.0	76.1	706.1	78.5	779.0	86.6	802.3	89.1
	694WB-30	654.5	72.7	674.7	75.0	744.4	82.7	766.6	85.2

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

COOPER
Lighting Solutions

Photometry 5" Trims • 600 Series • 80 CRI

Multiplier Table

CCT Option	2700 K	3000 K	3500 K	4000 K
CCT Multiplier	0.970	1.000	1.103	1.136

Table based upon testing with 3000°K color temperature, 80CRI.
Multipliers may be used to determine relative lumen values with other color temperatures.

ML5606830-592SC

Test Number	P130228
Light Module	600 Series, 80CRI
Trim	5" Aperture, Specular Clear Trim
Lumens	652.0
Efficacy	72.5 Lm/W
SC	1.06

Candlepower Distribution

Downlight
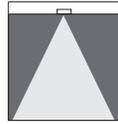
Cone of Light
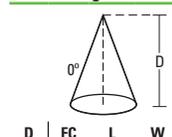
D	FC	L	W
5.5	15.7	5.8	5.8
7	9.7	7.2	7.2
8	7.4	8.4	8.4
9	5.9	9.4	9.4
10	4.7	10.4	10.4
12	3.3	12.6	12.6
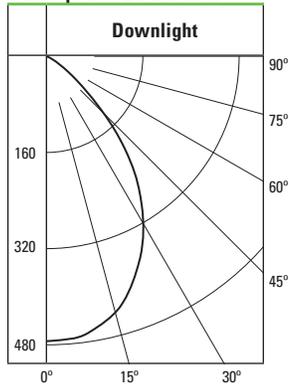
Zonal Lumen Summary

Zone	Lumens	%Fixture
0-30	337	51.7
0-40	502	77
0-60	644	98.7
0-90	652	100
90-180	0	0
0-180	652	100

ML5606830-594WB

Test Number	P130276
Light Module	600 Series, 80CRI
Trim	5" Aperture, Directional Eyeball
Lumens	729
Efficacy	80.9 Lm/W
SC	1.22

Candlepower Distribution

Eyeball at 0-degrees
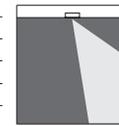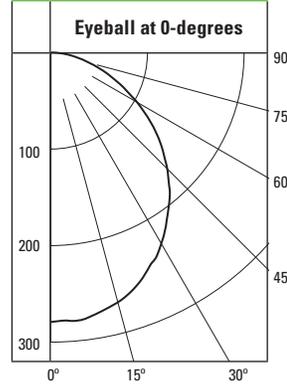
Zonal Lumen Summary

Zone	Lumens	%Fixture
0-30	214	29.4
0-40	346	47.5
0-60	590	81
0-90	729	100
90-180	0	0
0-180	729	100

30° Horizontal Plane
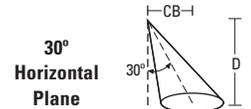
D	FC	L	W	CB
5.5	8.1	6.6	6.6	3.2
7	5	8.3	8.4	4
8	3.8	9.6	9.8	4.6
9	3	10.7	11	5.2
10	2.5	12	12.2	5.8
12	1.7	14.3	14.6	6.9

30° Vertical Plane
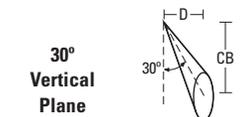
D	FC	L	W	CB
1'	159.1	1.1	1.2	1.7
2'	39.8	2.2	2.6	3.5
3'	17.7	3.3	3.8	5.2
4'	9.9	4.5	5.2	6.9
5'	6.4	5.6	6.6	8.7
6'	4.4	6.7	7.8	10.4

Candlepower Distribution

Wall Wash Downlight

Legend

0-deg: — — —	Wall
90-deg: ——	Side
180-deg: — —	Room
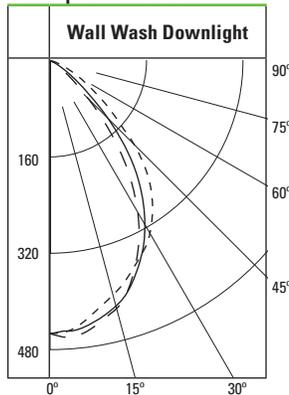
ML5606830-595WW

Test Number	P130300
Light Module	600 Series, 80CRI
Trim	5" Aperture, Wall Wash with Specular Clear Trim and Specular Clear Kick Reflector
Lumens	657
Efficacy	73 Lm/W
SC	1.1
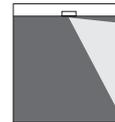
Zonal Lumen Summary

Zone	Lumens	%Fixture
0-30	322	49
0-40	485	73.8
0-60	639	97.4
0-90	657	100
90-180	0	0
0-180	657	100

Single Unit Footcandles

2.5' From Wall (Distance From Fixture Along Wall)

DD	●	1'	2'	3'	4'	5'	6'
1'	2.8	1.8	0.7	0.2	0.1	0	0
2'	9.4	6.8	3	1	0.3	0.1	0
3'	10.8	8.9	4.8	2	0.7	0.2	0.1
4'	7.6	6.8	4.9	2.7	1.2	0.5	0.2
5'	5	4.6	3.7	2.5	1.5	0.7	0.3
6'	3.4	3.2	2.7	2.1	1.4	0.9	0.5
7'	2.3	2.2	2	1.6	1.2	0.8	0.5
8'	1.7	1.6	1.5	1.2	1	0.8	0.5
9'	1.2	1.2	1.1	1	0.8	0.6	0.5
10'	0.9	0.9	0.9	0.8	0.7	0.5	0.4

Multiple Unit Footcandles

2.5' From Wall (Distance From Fixture Along Wall)

DD	--3'--			--4'--		
1'	3	2.3	3	2.8	1.3	2.8
2'	10.3	9.5	10.3	9.6	5.9	9.6
3'	12.7	14	12.7	11.5	9.7	11.5
4'	10.3	11.9	10.3	8.7	9.7	8.7
5'	7.6	8.6	7.6	6.5	7.5	6.5
6'	5.4	6	5.4	4.8	5.5	4.8
7'	3.9	4.3	3.9	3.5	4	3.5
8'	2.9	3.1	2.9	2.7	3	2.7
9'	2.2	2.4	2.2	2	2.2	2
10'	1.7	1.8	1.7	1.6	1.7	1.6

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

COOPER Lighting Solutions

Photometry 6" Trims • 600 Series • 80 CRI

Multiplier Table

CCT Option	2700 K	3000 K	3500 K	4000 K
CCT Multiplier	0.97	1.00	1.10	1.14

Table based upon testing with 3000°K color temperature, 80CRI.
Multipliers may be used to determine relative lumen values with other color temperatures.
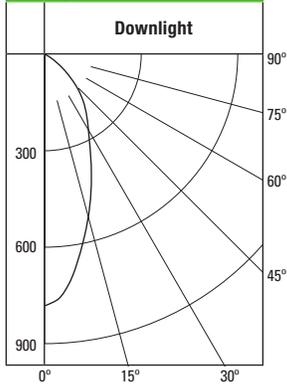
ML5606830-692SC

Test Number	P130316
Light Module	600 Series, 80CRI
Trim	6" Aperture, Specular Clear Trim
Lumens	668
Efficacy	74.2 Lm/W
SC	0.66

Candlepower Distribution

Downlight

Cone of Light

D	FC	L	W
5.5	25.9	3.6	3.6
7	16	4.6	4.6
8	12.2	5.2	5.2
9	9.7	5.8	5.8
10	7.8	6.6	6.6
12	5.4	7.8	7.8
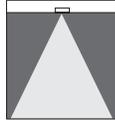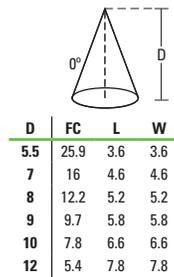
Zonal Lumen Summary

Zone	Lumens	%Fixture
0-30	368	55.1
0-40	509	76.3
0-60	659	98.7
0-90	668	100
90-180	0	0
0-180	668	100

ML5606830-694WB

Test Number	P130372
Light Module	600 Series, 80CRI
Trim	6" Aperture, Directional Eyeball
Lumens	726
Efficacy	80.7 Lm/W
SC	1.21

Candlepower Distribution

Eyeball at 0-degrees
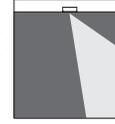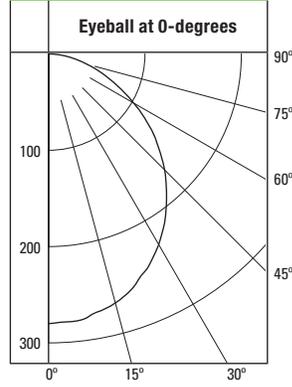
Zonal Lumen Summary

Zone	Lumens	%Fixture
0-30	214	29.5
0-40	346	47.6
0-60	589	81.1
0-90	726	100
90-180	0	0
0-180	726	100

30° Horizontal Plane

D	FC	L	W	CB
5.5	8.1	6.5	6.6	3.2
7	5	8.3	8.6	4
8	3.8	9.6	9.8	4.6
9	3	10.7	11	5.2
10	2.5	11.9	12.2	5.8
12	1.7	14.3	14.6	6.9

30° Vertical Plane

D	FC	L	W	CB
1'	158.1	1.1	1.2	1.7
2'	39.5	2.2	2.6	3.5
3'	17.6	3.3	3.8	5.2
4'	9.9	4.5	5.2	6.9
5'	6.3	5.6	6.6	8.7
6'	4.4	6.7	7.8	10.4

Candlepower Distribution

Wall Wash Downlight
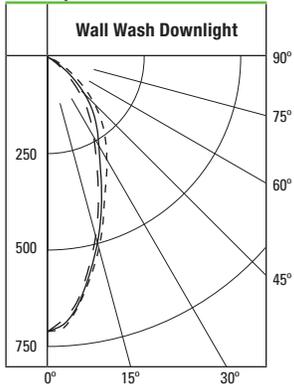
ML5606830-695WW

Test Number	P130396
Light Module	600 Series, 80CRI
Trim	6" Aperture, Wall Wash with Specular Clear Trim and Specular Clear Kick Reflector
Lumens	658
Efficacy	73.1 Lm/W
SC	0.69
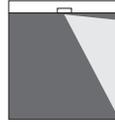
Zonal Lumen Summary

Zone	Lumens	%Fixture
0-30	352	53.5
0-40	492	74.8
0-60	643	97.7
0-90	658	100
90-180	0	0
0-180	658	100

Legend

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

Single Unit Footcandles

2.5' From Wall (Distance From Fixture Along Wall)

DD	●	1'	2'	3'	4'	5'	6'
1'	1.9	1.2	0.4	0.1	0	0	0
2'	8.6	6.2	2.7	0.8	0.2	0.1	0
3'	9.2	7.5	4.4	1.9	0.7	0.2	0.1
4'	6.9	5.9	4.1	2.4	1.2	0.5	0.2
5'	4.9	4.4	3.3	2.2	1.3	0.7	0.4
6'	3.5	3.2	2.5	1.8	1.2	0.8	0.5
7'	2.6	2.4	1.9	1.5	1	0.7	0.5
8'	2	1.8	1.5	1.2	0.9	0.6	0.5
9'	1.5	1.4	1.2	1	0.7	0.6	0.4
10'	1.2	1.1	1	0.8	0.6	0.5	0.4

Multiple Unit Footcandles

2.5' From Wall (Distance From Fixture Along Wall)

DD	--3'--			--4'--		
1'	2	1.5	2	1.9	0.9	1.9
2'	9.5	8.5	9.5	8.9	5.3	8.9
3'	11.1	11.9	11.1	9.9	8.8	9.9
4'	9.3	10.1	9.3	8	8.2	8
5'	7.1	7.7	7.1	6.2	6.5	6.2
6'	5.3	5.8	5.3	4.7	5	4.7
7'	4.1	4.4	4.1	3.7	3.9	3.7
8'	3.2	3.4	3.2	2.9	3.1	2.9
9'	2.5	2.7	2.5	2.3	2.4	2.3
10'	2	2.1	2	1.8	2	1.8

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

Specifications and dimensions subject to change without notice.

COOPER Lighting Solutions