HALO

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	

ML56 LED System

900 Series / 90 CRI

ML5609927
ML5609930
ML5609935
ML5609940

5-Inch and 6-Inch 900 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

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
- 900 Series = 900 design lumens
- 900 Series 90CRI = 470 - 888 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 09 9 30
  56 = 5" / 6" aperture series
  09 = 900 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).

ENERGY DATA

ML56 900/90 Series

(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: 14W	
Input Power: 13.4W	
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)	

2700K nominal
2725
2700K 3000K 3500K 4100K 5000K 6500K
ML5609927
5" or 6" LED 900 Series Light Module, 90CRI / 2700K

3000K nominal
3045
2700K 3000K 3500K 4100K 5000K 6500K
ML5609930
5" or 6" LED 900 Series Light Module, 90CRI / 3000K

3500K nominal
3465
2700K 3000K 3500K 4100K 5000K 6500K
ML5609935
5" or 6" LED 900 Series Light Module, 90CRI / 3500K
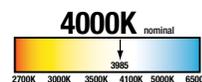
4000K nominal
3985
2700K 3000K 3500K 4100K 5000K 6500K
ML5609940
5" or 6" LED 900 Series Light Module, 90CRI / 4000K

COOPER Lighting
www.cooperlighting.com

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SPECIFICATION FEATURES continued

ML56 LED System

900 Series / 90 CRI

ML5609927
ML5609930
ML5609935
ML5609940

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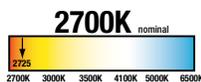Remodel and Retrofit

For use with 59x and 69x
Series Trims

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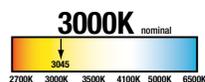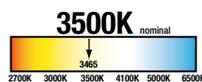HOUSINGS

HIGH EFFICACY LED
WITH INTEGRAL
DRIVER - DIMMABLE

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)
• CE Marking - "Conformité Européene" conformity with the *Council of European Communities Directives*, meeting internationally recognized compliance when used with H550 and H750 LED 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

4-1/2" [114 mm]

HALO

3" [76 mm]

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www.cooperlighting.com
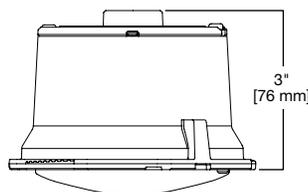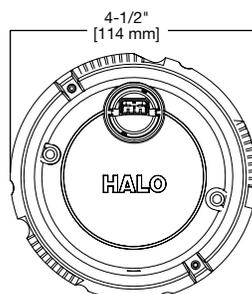
ORDERING INFORMATION

SAMPLE NUMBER: ML5609930 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 900 Series / 90 CRI	ML56 LED 5" and 6" Trims	ML56 System Accessories

ML56 LED Light Modules 900 Series / 90 CRI

ML5609927= 5"/6" LED Retrofit Downlight Light Module, 900 lumen, 90CRI, 2700K

ML5609930= 5"/6" LED Retrofit Downlight Light Module, 900 lumen, 90CRI, 3000K

ML5609935= 5"/6" LED Retrofit Downlight Light Module, 900 lumen, 90CRI, 3500K

ML5609940= 5"/6" LED Retrofit Downlight Light Module, 900 lumen, 90CRI, 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

ML5609927

Light Output (Lumens)	713
Watts	13.4
Lumens per Watt (Efficacy)	53
Color Accuracy Color Rendering Index (CRI)	93
Light Color Correlated Color Temperature (CCT)	2607 (Warm White)

ML5609930

Light Output (Lumens)	746
Watts	13.4
Lumens per Watt (Efficacy)	56
Color Accuracy Color Rendering Index (CRI)	96
Light Color Correlated Color Temperature (CCT)	2946 (Warm White)

ML5609935

Light Output (Lumens)	767
Watts	13.4
Lumens per Watt (Efficacy)	57
Color Accuracy Color Rendering Index (CRI)	94
Light Color Correlated Color Temperature (CCT)	3324 (Bright White)

ML5609940

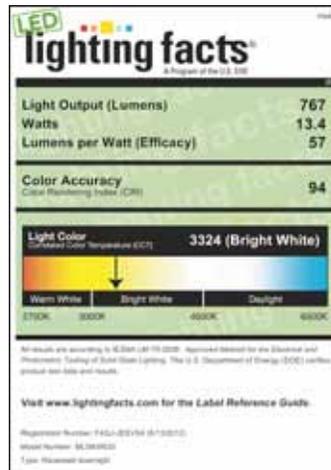|	
Light Output (Lumens)	812
Watts	13.4
Lumens per Watt (Efficacy)	61
Color Accuracy Color Rendering Index (CRI)	94
Light Color Correlated Color Temperature (CCT)	3749 (Bright White)

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		
	Catalog Number	**Description**
	Standard Housings	
HALO	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	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

COOPER Lighting

	Catalog Number	Description
HALO and All-Pro - Incandescent E26 Screwbase Housings - continued		
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	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)

	Catalog Number	Description
Halo LED Retrofit Enclosures		
HALO	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)

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

	Catalog Number	Description
HALO and All-Pro - Incandescent E26 Screwbase Housings		
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	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)

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

* ML56CLIP is compatible with only baffle and reflector trims.

5" Trims: 591X, 596X

Juno	**Standard Housings**	
	IC20, IC25S, IC25W, TC20	

ML5609930-592SC

Test Number	P92939
Light Module	900 Series, 90CRI
Trim	5" Aperture, Specular Clear Trim
Lumens	728.6
Efficacy	55.6 Lm/W
SC	1.08

CANDLEPOWER DISTRIBUTION

Downlight

CONE OF LIGHT

D	FC	L	W
5.5	17.2	5.8	9
7	10.6	7.4	7.4
8	8.1	8.6	8.6
9	6.4	9.6	9.6
10	5.2	10.6	10.6
12	3.6	12.8	12.8
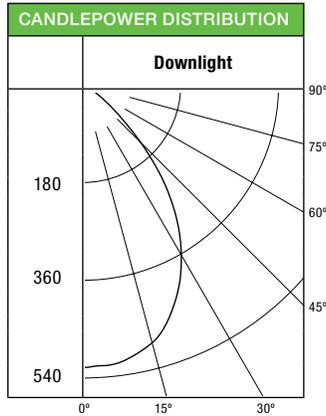
ZONAL LUMEN SUMMARY

Zone	Lumens	%Fixture
0-30	377.31	51.80
0-40	563.12	77.30
0-60	720.72	98.90
0-90	728.61	100.0
90-180	0	0.0
0-180	728.61	100.0

ML5609930-594WB

Test Number	P93067
Light Module	900 Series, 90CRI
Trim	5" Aperture, Directional Eyeball
Lumens	815.5
Efficacy	62.2 Lm/W
SC	1.21

CANDLEPOWER DISTRIBUTION

Eyeball at 0-degrees

30° HORIZONTAL PLANE

D	FC	L	W	CB
5.5	9.1	6.5	6.6	3.2
7	5.6	8.3	8.4	4
8	4.3	9.6	9.8	4.6
9	3.4	10.7	11	5.2
10	2.7	11.9	12.2	5.8
12	1.9	14.3	14.6	6.9

30° VERTICAL PLANE

D	FC	L	W	CB
5.5	5.8	6.2	7.2	9.5
7	3.6	7.9	9.2	12.1
8	2.8	9.0	10.4	13.9
9	2.2	10.0	11.8	15.6
10	1.8	11.1	13.2	17.3
12	1.2	13.5	15.8	20.8

ZONAL LUMEN SUMMARY

Zone	Lumens	%Fixture
0-30	238.24	29.20
0-40	384.33	47.10
0-60	656.45	80.50
0-90	815.46	100.0
90-180	0	0.0
0-180	815.46	100.0

ML5609930-595WW

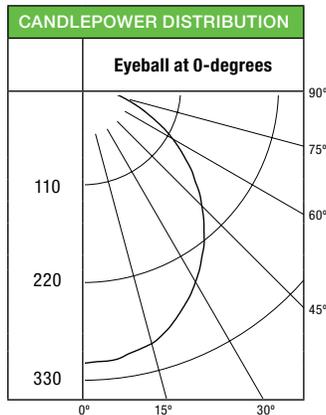|	
Test Number	P93099
Light Module	900 Series, 90CRI
Trim	5" Aperture, Wall Wash with Specular Clear Trim and Specular Clear Kick Reflector
Lumens	736.5
Efficacy	56.2 Lm/W
SC	1.07

CANDLEPOWER DISTRIBUTION

Wall Wash Downlight

ZONAL LUMEN SUMMARY

Zone	Lumens	%Fixture
0-30	363.45	49.30
0-40	546.91	74.30
0-60	717.90	97.50
0-90	736.48	100.0
90-180	0	0.0
0-180	736.48	100.0

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'	2.7	1.8	0.7	0.2	0.1	0	0
2'	9.6	7	3.1	1	0.3	0.1	0
3'	11.6	9.5	5	2.2	0.8	0.3	0.1
4'	8.3	7.5	5.3	2.9	1.3	0.5	0.2
5'	5.6	5.2	4.1	2.8	1.6	0.8	0.4
6'	3.7	3.5	3	2.3	1.6	0.9	0.5
7'	2.6	2.5	2.2	1.8	1.4	0.9	0.6
8'	1.9	1.8	1.6	1.4	1.1	0.8	0.6
9'	1.4	1.3	1.2	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'	2.9	2.3	2.9	2.7	1.3	2.7
2'	10.6	9.9	10.6	9.9	6.2	9.9
3'	13.7	14.4	13.7	12.4	10	12.4
4'	11.2	12.9	11.2	9.6	10.6	9.6
5'	8.4	9.4	8.4	7.2	8.2	7.2
6'	6	6.6	6	5.3	6.1	5.3
7'	4.4	4.7	4.4	3.9	4.4	3.9
8'	3.3	3.5	3.3	3	3.3	3
9'	2.5	2.6	2.5	2.3	2.5	2.3
10'	1.9	2	1.9	1.8	1.9	1.8

MULTIPLIER TABLE

CCT Option	2700K	3000K	3500K	4000K
CCT Multiplier	0.96	1.00	1.03	1.09

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.
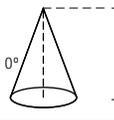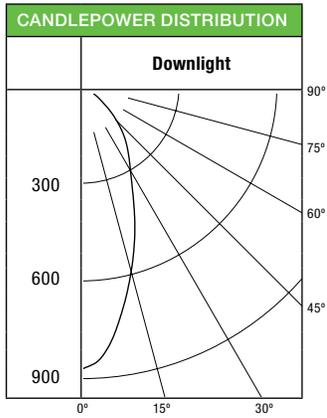Field results may vary.

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PHOTOMETRY

ML5609930-692SC

Test Number	P93163
Light Module	900 Series, 90CRI
Trim	6" Aperture, Specular Clear Trim
Lumens	751.8
Efficacy	57.4 Lm/W
SC	0.67
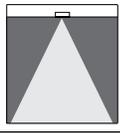
CONE OF LIGHT

D	FC	L	W
5.5	28.8	3.6	8.8
7	17.8	4.6	4.6
8	13.6	5.2	5.2
9	10.8	6	6
10	8.7	6.6	6.6
12	6.1	8	8

CANDLEPOWER DISTRIBUTION

Downlight

ZONAL LUMEN SUMMARY

Zone	Lumens	%Fixture
0-30	414.09	55.10
0-40	570.99	76.00
0-60	742.15	98.70
0-90	751.80	100.0
90-180	0	0.0
0-180	751.80	100.0

ML5609930-694WB

Test Number	P93307
Light Module	900 Series, 90CRI
Trim	6" Aperture, Directional Eyeball
Lumens	806.6
Efficacy	61.6 Lm/W
SC	1.22

CANDLEPOWER DISTRIBUTION

Eyeball at 0-degrees

30° HORIZONTAL PLANE
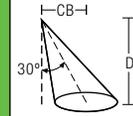
D	FC	L	W	CB
5.5	8.9	6.6	6.6	3.2
7	5.5	8.3	8.6	4
8	4.2	9.6	9.8	4.6
9	3.3	10.8	11	5.2
10	2.7	12	12.2	5.8
12	1.9	14.4	14.6	6.9

ZONAL LUMEN SUMMARY

Zone	Lumens	%Fixture
0-30	234.77	29.10
0-40	379.17	47.00
0-60	648.12	80.30
0-90	806.64	100.0
90-180	0	0.0
0-180	806.64	100.0

30° VERTICAL PLANE
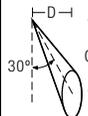
D	FC	L	W	CB
5.5'	5.8	6.1	7.2	9.5
7'	3.6	7.7	9.2	12.1
8'	2.7	9.0	10.6	13.9
9'	2.2	10.1	11.8	15.6
10'	1.7	11.2	13.2	17.3
12'	1.2	13.4	15.8	20.8

ML5609930-695WW

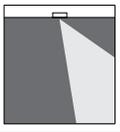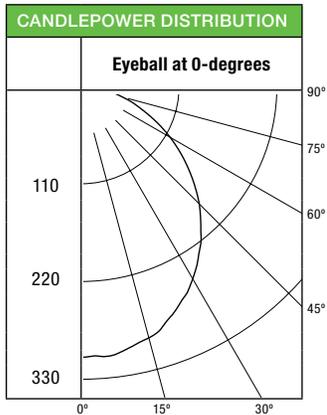|	
Test Number	P93339
Light Module	900 Series, 90CRI
Trim	6" Aperture, Wall Wash with Specular Clear Trim and Specular Clear Kick Reflector
Lumens	735.6
Efficacy	56.2 Lm/W
SC	0.74

CANDLEPOWER DISTRIBUTION

Wall Wash Downlight

ZONAL LUMEN SUMMARY

Zone	Lumens	%Fixture
0-30	384.13	52.20
0-40	543.16	73.80
0-60	717.57	97.50
0-90	735.60	100.0
90-180	0	0.0
0-180	735.60	100.0

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'	2.2	1.4	0.5	0.2	0.1	0	0
2'	9.7	7.1	3.1	1	0.3	0.1	0
3'	10.3	8.5	5	2.2	0.8	0.3	0.1
4'	7.7	6.7	4.7	2.7	1.3	0.6	0.3
5'	5.4	4.9	3.7	2.5	1.5	0.8	0.4
6'	3.9	3.6	2.8	2	1.4	0.9	0.5
7'	2.9	2.6	2.2	1.6	1.2	0.8	0.5
8'	2.2	2	1.7	1.3	1	0.7	0.5
9'	1.7	1.6	1.3	1.1	0.8	0.6	0.5
10'	1.3	1.2	1.1	0.9	0.7	0.5	0.4

MULTIPLE UNIT FOOTCANDLES

2.5' FROM WALL
(Distance From Fixture Along Wall)

DD	--3'--			--4'--		
1'	2.3	1.8	2.3	2.2	1	2.2
2'	10.7	9.8	10.7	9.9	6.1	9.9
3'	12.5	13.6	12.5	11.2	10	11.2
4'	10.4	11.4	10.4	9	9.3	9
5'	7.9	8.6	7.9	6.9	7.4	6.9
6'	5.9	6.5	5.9	5.2	5.6	5.2
7'	4.5	4.9	4.5	4	4.3	4
8'	3.5	3.7	3.5	3.2	3.4	3.2
9'	2.7	3	2.7	2.5	2.7	2.5
10'	2.2	2.3	2.2	2	2.2	2

MULTIPLIER TABLE

CCT Option	2700K	3000K	3500K	4000K
CCT Multiplier	0.96	1.00	1.03	1.09

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.

COOPER Lighting
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Note: Specifications and Dimensions subject to change without notice.
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