

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, 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)



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 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

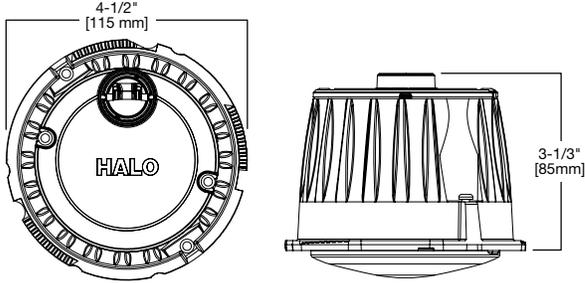
* Not for use with housings in direct contact with spray foam insulation.



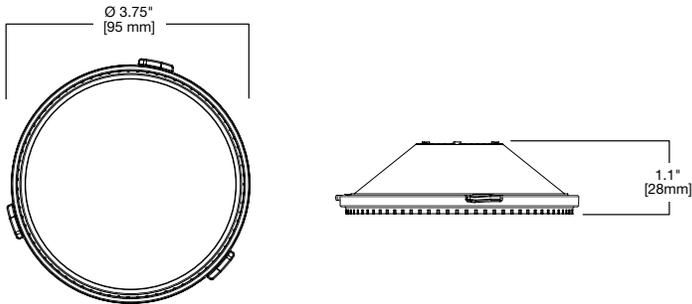
Refer to ENERGY STAR® Qualified Products List.
Can be used to comply with California Title 24 High Efficacy requirements.

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

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
ML5612D2W930= 5"/6" dim-to-warm LED module, 1200 lumen, 90CRI, 1850K

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

ML56 LED 5" and 6" Trims

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

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

ML56 Beam Forming Optic / Media
1200 Series Accessories

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.)

ML56 System Accessories

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**
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

**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
<small>MODEL# ML5612927 ADV141658LRL</small>	

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
<small>MODEL# ML5612930 ADV141657LRL</small>	

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
<small>MODEL# ML5612935 ADV141658LRL</small>	

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
<small>MODEL# ML5612940 ADV141658LRL</small>	

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

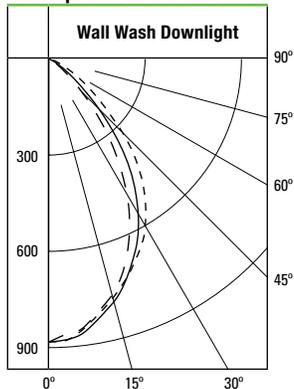
90 CRI LED Modules with ML56 trims

	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.

Photometry 5" Trims • 1200 Series • 90 CRI

Candlepower Distribution

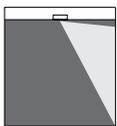


Legend

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

ML5612930-595WW

Test Number	P129848
Light Module	1200 Series, 90CRI
Trim	5" Aperture, Wall Wash with Specular Clear Trim and Specular Clear Kick Reflector
Lumens	1198
Efficacy	69.6 Lm/W
SC	0.83



Zonal Lumen Summary

Zone	Lumens	%Fixture
0-30	590	51.5
0-40	868	75.7
0-60	1119	97.7
0-90	1146	100
90-180	0	0
0-180	1146	100

Single Unit Footcandles

2.5' From Wall (Distance From Fixture Along Wall)

DD	1'	2'	3'	4'	5'	6'
1'	3.9	2.6	1	0.3	0.1	0
2'	14.9	10.6	4.5	1.4	0.4	0.1
3'	18.2	14.6	7.8	3.1	1.2	0.4
4'	13.6	11.9	8.2	4.3	1.9	0.8
5'	9.3	8.4	6.6	4.3	2.4	1.2
6'	6.3	5.9	4.9	3.6	2.4	1.4
7'	4.4	4.2	3.6	2.9	2.1	1.4
8'	3.2	3	2.7	2.3	1.8	1.3
9'	2.4	2.3	2.1	1.8	1.5	1.2
10'	1.8	1.7	1.6	1.4	1.2	1

Multiple Unit Footcandles

2.5' From Wall (Distance From Fixture Along Wall)

DD	--3'--	--4'--				
1'	4.2	3.4	4.2	4	2.1	4
2'	16.3	14.4	16.3	15.3	9	15.3
3'	21.4	22.4	21.4	19.4	15.6	19.4
4'	17.9	20.1	17.9	15.5	16.4	15.5
5'	13.5	15.1	13.5	11.7	13.1	11.7
6'	9.9	10.8	9.9	8.7	9.9	8.7
7'	7.3	7.8	7.3	6.5	7.3	6.5
8'	5.4	5.7	5.4	5	5.5	5
9'	4.1	4.3	4.1	3.8	4.2	3.8
10'	3.2	3.3	3.2	3	3.2	3

Photometry 5" Trims • 1200 Series • 90 CRI • NFL Lens

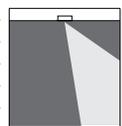
Multiplier Table

CCT Option	2700 K	3000 K	3500 K	4000 K
CCT Multiplier	0.967	1.000	1.052	1.164

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

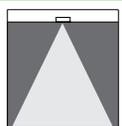
ML5612930-BFR56NFL-594WB

Test Number	P130446
Light Module	1200 Series, 90CRI, NFL optic
Trim	5" Aperture, Directional Eyeball
Lumens	1294
Efficacy	74.8 Lm/W
SC	0.4



ML5612930-BFR56NFL-592H

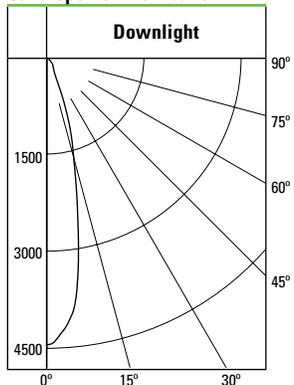
Test Number	P130382
Light Module	1200 Series, 90CRI, NFL optic
Trim	5" Aperture, Haze Trim
Lumens	1126
Efficacy	65.1 Lm/W
SC	0.41



Cone of Light

D	FC	L	W
5.5'	147.1	2.2	2.2
7'	90.8	2.8	2.8
8'	69.5	3.2	3.2
9'	54.9	3.6	3.6
10'	44.5	4	4
12'	30.9	4.8	4.8

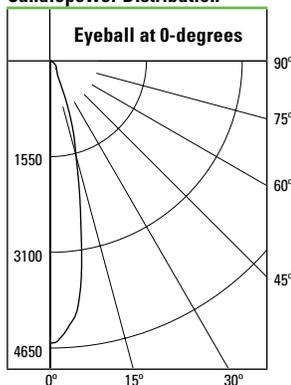
Candlepower Distribution



Zonal Lumen Summary

Zone	Lumens	%Fixture
0-30	982	87.2
0-40	1088	96.6
0-60	1124	99.8
0-90	1126	100
90-180	0	0
0-180	1126	100

Candlepower Distribution



Zonal Lumen Summary

Zone	Lumens	%Fixture
0-30	984	76.1
0-40	1088	84.1
0-60	1248	96.5
0-90	1294	100
90-180	0	0
0-180	1294	100

30° Horizontal Plane

D	FC	L	W	CB
5.5'	103.5	2.8	2.4	3.2
7'	63.9	3.6	3	4
8'	48.9	4.1	3.6	4.6
9'	38.6	4.6	4	5.2
10'	31.3	5.1	4.4	5.8
12'	21.7	6.1	5.4	6.9

30° Vertical Plane

D	FC	L	W	CB
1'	836.5	1	0.6	1.7
2'	209.1	2.1	1.2	3.5
3'	92.9	3.2	1.8	5.2
4'	52.3	4.3	2.6	6.9
5'	33.5	5.4	3.2	8.7
6'	23.2	6.5	3.8	10.4

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

Photometry 6" Trims • 1200 Series • 90 CRI

Multiplier Table

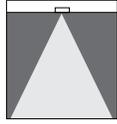
CCT Option	2700 K	3000 K	3500 K	4000 K
CCT Multiplier	0.9669	1.0000	1.0517	1.1644

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

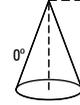
Multipliers may be used to determine relative lumen values with other color temperatures.

ML5612930-692SC

Test Number	P129864
Light Module	1200 Series, 90CRI
Trim	6" Aperture, Specular Clear Trim
Lumens	1174
Efficacy	67.8 Lm/W
SC	0.74

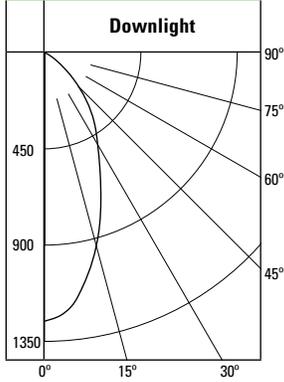


Cone of Light



D	FC	L	W
5.5'	41.5	4	4
7'	25.6	5	5
8'	19.6	5.8	5.8
9'	15.5	6.6	6.6
10'	12.6	7.2	7.2
12'	8.7	8.8	8.8

Candlepower Distribution

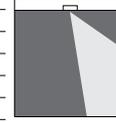


Zonal Lumen Summary

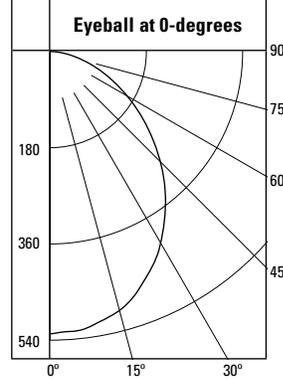
Zone	Lumens	%Fixture
0-30	655	55.8
0-40	910	77.5
0-60	1159	98.7
0-90	1174	100
90-180	0	0
0-180	1174	100

ML5612930-694WB

Test Number	P129920
Light Module	1200 Series, 90CRI
Trim	6" Aperture, Directional Eyeball
Lumens	1260
Efficacy	72.8 Lm/W
SC	1.17

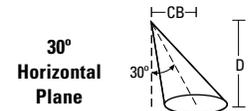


Candlepower Distribution

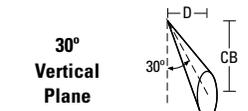


Zonal Lumen Summary

Zone	Lumens	%Fixture
0-30	397	31.5
0-40	631	50.1
0-60	1041	82.6
0-90	1260	100
90-180	0	0
0-180	1260	100

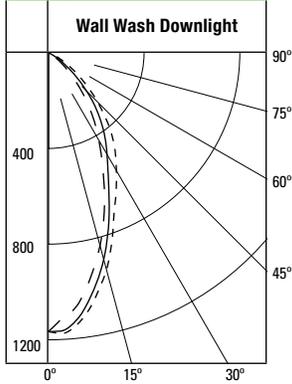


D	FC	L	W	CB
5.5'	15.1	6.3	6.4	3.2
7'	9.3	8.1	8.2	4
8'	7.1	9.2	9.4	4.6
9'	5.6	10.5	10.6	5.2
10'	4.6	11.6	11.8	5.8
12'	3.2	13.9	14.2	6.9



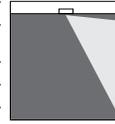
D	FC	L	W	CB
1'	279.6	1.1	1.2	1.7
2'	69.9	2.2	2.6	3.5
3'	31.1	3.5	3.8	5.2
4'	17.5	4.7	5.2	6.9
5'	11.2	5.7	6.4	8.7
6'	7.8	6.9	7.8	10.4

Candlepower Distribution



ML5612930-695WW

Test Number	P129944
Light Module	1200 Series, 90CRI
Trim	6" Aperture, Wall Wash with Specular Clear Trim and Specular Clear Kick Reflector
Lumens	1147
Efficacy	66.3 Lm/W
SC	0.76



Zonal Lumen Summary

Zone	Lumens	%Fixture
0-30	625	54.5
0-40	873	76.2
0-60	1122	97.9
0-90	1147	100
90-180	0	0
0-180	1147	100

Single Unit Footcandles

2.5' From Wall (Distance From Fixture Along Wall)

DD	●	1'	2'	3'	4'	5'	6'
1'	3.2	1.9	0.7	0.2	0.1	0	0
2'	14	9.9	4.3	1.3	0.3	0.1	0
3'	16.5	13	7.2	3.1	1.2	0.4	0.1
4'	12.6	10.8	7.3	4	1.9	0.8	0.4
5'	9	8	5.9	3.9	2.3	1.2	0.6
6'	6.5	5.9	4.6	3.3	2.2	1.3	0.8
7'	4.9	4.4	3.6	2.7	1.9	1.3	0.8
8'	3.7	3.4	2.8	2.2	1.6	1.2	0.8
9'	2.8	2.6	2.2	1.8	1.4	1	0.8
10'	2.2	2.1	1.8	1.5	1.2	0.9	0.7

Multiple Unit Footcandles

2.5' From Wall (Distance From Fixture Along Wall)

DD	--3'--	--4'--
1'	3.4 2.4 3.4	3.3 1.4 3.3
2'	15.3 13.5 15.3	14.3 8.5 14.3
3'	19.6 20 19.6	17.6 14.5 17.6
4'	16.7 18.1 16.7	14.6 14.5 14.6
5'	12.9 13.9 12.9	11.3 11.8 11.3
6'	9.8 10.5 9.8	8.7 9.2 8.7
7'	7.5 8 7.5	6.8 7.1 6.8
8'	5.8 6.2 5.8	5.3 5.6 5.3
9'	4.6 4.9 4.6	4.2 4.5 4.2
10'	3.7 3.9 3.7	3.3 3.6 3.3

Legend

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

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

Photometry 6" Trims • 1200 Series • 90 CRI • NFL Lens

Multiplier Table

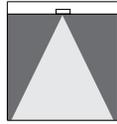
CCT Option	2700 K	3000 K	3500 K	4000 K
CCT Multiplier	0.967	1.000	1.052	1.164

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

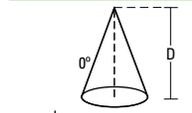
Multipliers may be used to determine relative lumen values with other color temperatures.

ML5612930-BFR56NFL-692H

Test Number	P130478
Light Module	1200 Series, 90CRI, NFL optic
Trim	6" Aperture, Haze Trim
Lumens	1175
Efficacy	67.9 Lm/W
SC	0.41

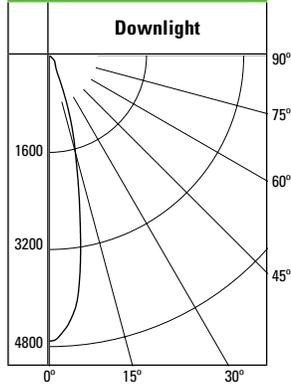


Cone of Light



D	FC	L	W
5.5'	155.7	2.2	2.2
7'	96.1	2.8	2.8
8'	73.6	3.2	3.2
9'	58.2	3.6	3.6
10'	47.1	4	4
12'	32.7	4.8	4.8

Candlepower Distribution

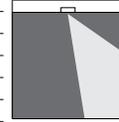


Zonal Lumen Summary

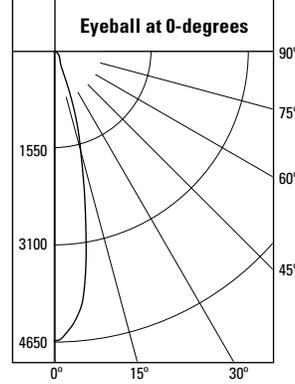
Zone	Lumens	%Fixture
0-30	1005	85.5
0-40	1110	94.4
0-60	1174	99.9
0-90	1175	100
90-180	0	0
0-180	1175	100

ML5612930-BFR56NFL-694WB

Test Number	P130542
Light Module	1200 Series, 90CRI, NFL optic
Trim	6" Aperture, Directional Eyeball
Lumens	1286
Efficacy	74.3 Lm/W
SC	0.41

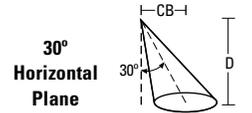


Candlepower Distribution

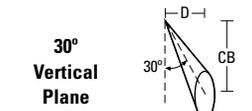


Zonal Lumen Summary

Zone	Lumens	%Fixture
0-30	1002	77.9
0-40	1109	86.2
0-60	1265	98.4
0-90	1286	100
90-180	0	0
0-180	1286	100



D	FC	L	W	CB
5.5'	105.2	2.8	2.4	3.2
7'	64.9	3.6	3.2	4
8'	49.7	4.1	3.6	4.6
9'	39.3	4.7	4	5.2
10'	31.8	5.2	4.6	5.8
12'	22.1	6.2	5.4	6.9



D	FC	L	W	CB
1'	853.3	1	0.6	1.7
2'	213.3	2	1.2	3.5
3'	94.8	3.1	2	5.2
4'	53.3	4.2	2.6	6.9
5'	34.1	5.3	3.2	8.7
6'	23.7	6.3	4	10.4

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