HYDREL

CATALOG NUMBER

NOTES

TYPE



M9700

LED Color Changing In-Grade Luminaire

Specifications	SINGLE LENS	DOUBLE LENS
Length:	12"	12"
	305 mm	305 mm
Width:	12"	12"
	305 mm	305 mm
Height:	16"	16"
	407 mm	407 mm
Weight:	29lbs	31lbs

Weight is based on aluminum material.
For B and SS material add 2lbs.

HIGHLIGHTS

- Factory-sealed LED lamp module and encapsulated power module
- Optical and mechanical aiming with an optional double lens
- Optimal efficiency through photometric improvements
- DMX control / RDM
- Six distributions including 8° narrow spot
- Flow-through technology
- IK08 (IK10 option available)

5 YEAR warranty

LED

IP68

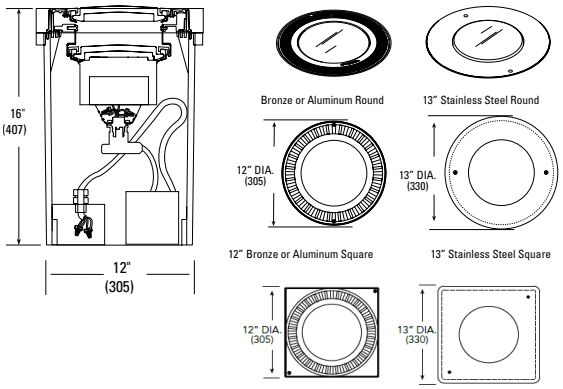
WET LOCATION™

ARCHITAINMENT COLOR

BAA

BABA

DIMENSIONS

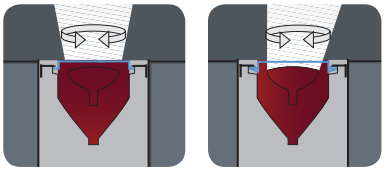


LUMEN PACKAGES

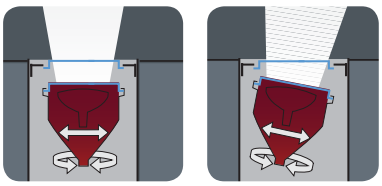
	NSP	MFL	FL	WFL	HSP	HFL
Delivered Lumens	810	548	775	498	880	933
Watts	47	47	47	47	47	47
LPW	17	18	16	11	19	20

Note: Information based on all colors full on.

AIMING DETAILS

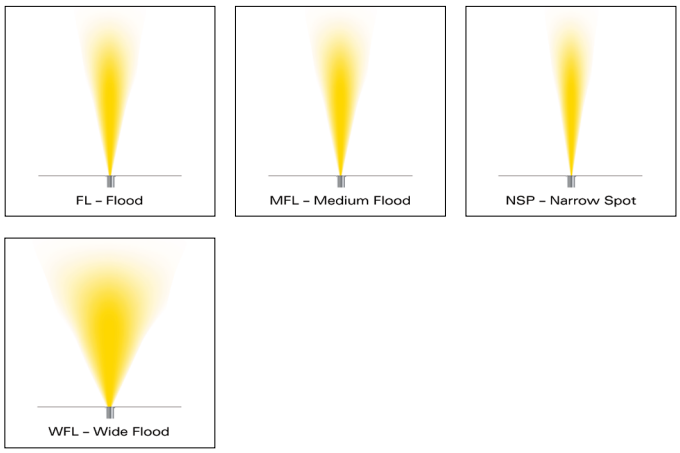


Single lensed fixture can be aimed using 10° and 20° optical tilt lenses only.



Double lens, mechanically and optically aimed.

STANDARD DISTRIBUTION



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ORDERING INFORMATION

EXAMPLE: M9720 SS 18LED RGB MVOLT NSP FLC 34S RDM

Model	Door Material	Lamp Type	LED Color	Voltage	Distribution	Lens[1]	
M9710 Round Door Single Lens	**A** Aluminum	**18LED** 18 chip LED array	**RGB** Mixing	**MVOLT (120 - 277)**	**NSP** Narrow Spot	**FLC** Flat Lens Clear	**FLCSR[2]** Flat Lens Clear Slip Resistant
M9720 Round Door Double Lens	**B** Bronze				**MFL** Medium Flood	**FLC5** Flat Lens Clear, 5° Axial Spread	**FLC5SR[2]** Flat Lens Clear, 5° Axial Spread, Slip Resistant
M9730 Square Door Single Lens	**SS** Stainless Steel				**FL** Flood	**FLC10** Flat Lens Clear, 10° tilt	**FLC10SR[2]** Flat Lens Clear, 10° tilt, Slip Resistant
M9740 Square Door Doubdle Lens	*Note: Aluminum material is not available with M9730C and M9740C square door*				**WFL** Wide Flood	**FLC20** Flat Lens Clear, 20° tilt	**FLC20SR[2]** Flat Lens Clear, 20° tilt, Slip Resistant
					HSP Horizontal Spot	**FLF** Flat Lens Frosted	
					HFL Horizontal Flood	**FLCAS** Flat Lens Clear, Anti-Slip	
						FLC5AS Flat Lens Clear, 5° Axial Spread, Anti-Slip	

Conduit Entries	Control	Accessories	Finish[8]	Optional Listing
12S 1/2" NPT Side and Bottom	**RDM[4]** Remote Device Management	**Internal[5]**	**BL** Black	**IEC** International Electro-technical Commission
34S 3/4" NPT Side and Bottom		**IHL[6]** Internal Honeycomb Louver	**BZ** Bronze	
25S[3] 25mm Side and Bottom		**LSF** Linear Spread Filter	**DDB** Dark Bronze	
		External[5,7]	**DNA** Natural Alum.	
		GS Glare Shield	**GN** Green	
		LC Lexan Cover	**GR** Gray	
		LS Light Shield	**SND** Sand	
		RG Rock Guard Note: For IK10 use external RG option	**STG** Steel Gray	
			TVG Terra Verde Green	
		Trim Ring[5,7]	**WH** White	
		BTR Brass Round	**__Z[9]** Zinc Undercoat (i.e. BLZ)	
		STR Stainless Round		

Notes:
1 Specify top lens. Bottom lens is FLC standard.
2 Meets ADA requirements for coefficient of friction.
3 Only for use in 50HZ applications.
4 RDM = Field discoverable and field programmable DMX.
5 Accessories are mutually exclusive, choose one only.
6 Not available with FLC10.
7 Accessory not available with SS door material.
8 Finish only available on "A" door material.
9 Add Zinc undercoat for harsh environments.

ELECTRICAL LOAD

			Current (A)			
Light Engines	**Drive Current (mA)**	**System Watts**	120	208	240	277
18 LED	750mA	47	0.39	0.23	0.20	0.17

SLIP RESISTANCE AND LOAD RATING

M9700 LED
MAXIMUM LOAD RATING
Peak compression force of 3,750 lbs. (single lens).
LENS STATIC COEFFICIENT OF FRICTION
M9700 Anti-Slip Lens (FLCAS): Dry = 0.76; Wet = 0.10
M9700 Slip Resistant Lens (FLSR): Dry = 0.84; Wet = 0.65

M9700 LED Series Assembly consists of the following individual components parts	MRIS97 Rough-In Housing
	MFS97 Finishing Section
	MACL Lamp Module
	MHSL97 Power Module

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PERFORMANCE DATA

LUMEN OUTPUT

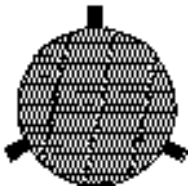
Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown, within the tolerances allowed by Lighting Facts. Actual performance may differ as a result of end-user environment and application. Contact factory for performance data on any configurations not shown here.

	Distribution	NEMA Type	Beam Angle (50%) H x V	Field Angle (10%) H x V	Watts	LPW	Delivered Lumens
All Colors Full On	NSP	2 x 2	8 x 8	20 x 20	47	17	810
	MFL	3 x 3	21 x 21	39 x 39	47	18	845
	FL	5 x 5	73 x 47	94 x 79	47	16	775
	WFL	6 x 6	100 x 100	125 x 125	47	11	498
	HSP	3 x 2	26 x 10	40 x 23	47	19	880
	HFL	2 x 4	10 x 38	22 x 54	47	20	933

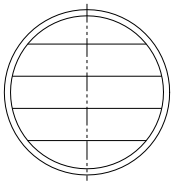
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ACCESSORIES

INTERNAL

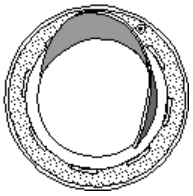


INTERNAL HONEYCOMB LOUVERS — IHL
Hexagonal cell louver with 45° cut-off.

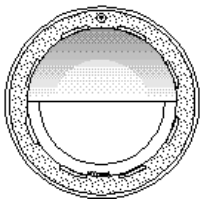


LINEAR SPREAD FILTER — LSF
6.68" diamter, spreads the beam of light along one axis only. May be oriented to spread the light horizontally or vertically.

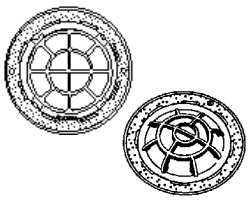
EXTERNAL



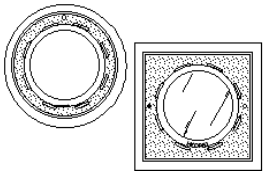
QUARTER GLARE SHILEDS — GS
Rolled sheet aluminum or brass. 360° of adjustment on fixture door, with lock down. May be field installed to door as shown.
(Not recommended for foot traffic areas.)



HALF LIGHT SHIELD — LS
(Quarter Spherical External)
Cast aluminum or bronze shield for glare control for wall wash units. 360° adjustment allows field setting and lock down. May be field installed to door as shown.
(Not recommended for foot traffic areas.)



ROCKGUARD — RG
Cast aluminum or cast bronze material.
(Not recommended for foot traffic areas.)



STAINLESS STEEL or BRONZE TRIM RINGS — BTR, BTS, STR, STS
A decorative escutcheon used when a high finish look is wanted. For finishing marble, tile or other installations. Available in round or square. Door is flush with escutcheon. Not available on SS doors.



LEXAN DOME — LC
A Lexan protective cover for use in areas where loose debris such as leaves and pine needles accumulate.

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CONTROLS

RECOMMENDED CONTROLS

Easyl DMX TOUCHSCREEN
http://www.acuitybrands.com/products/detail/210270/Fresco/Easyl/Easyl-DMX512A-Show-Controller

FRESCO
http://www.acuitybrands.com/products/detail/223381/Fresco/Fresco/Touchscreen-Lighting-Controllers



Easyl™ Solo	is a standalone entry-level controller enabling show creation and playback directly at the LCD touchscreen.
Easyl™ Touch	features an astronomic time clock for automating shows and expands the controller's features by accepting inputs from remote button stations, and button station contact closure inputs.
Easyl™ Pro	is further enhanced by using Easyl Studio™ computer software to create multi-zone shows, and Easyl Pro features a 20 hour DMX512 capture from a theatrical console.
FCS	Create and edit 36 lighting scenes including intensity, color, and color temperature Integral astronomic timeclock with battery backup for system scheduling Direct DMX control for 1 universe (512 slots) Internal Bluetooth® radio for wireless App control.

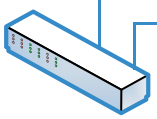
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DMX SYSTEM WIRING — INGRADES



DMX Controller
(ordered separately)
Easyl Pro controller by Acuity Brands is the recommended console

128 Fixtures total per DMX Universe



DMX Splitter
for use with applications that have more than 32 luminaires. If less than 32 luminaires skip this step. (Splitter by others)

DMX512 Bus network may be no more than 1,000 feet (300 meters) with no more than 32 devices per bus.

Parallel bus for more than 32 luminaires

DMX IN & OUT **Signal Wire**

Fixtures may either be run individually back to a junction box or sets of fixtures may be "daisy-chained" together and the entire run wired back to a junction box. Signal side and power side must be segregated in separate junction boxes and separate conduit. Diagram to the left showing the more common "daisy-chain" option.

Luminaire 1

JBox #1

Luminaire 2

JBox #2

Luminaire 10

Power Conduit

Luminaire 32

Up to 32 Luminaires per DMX Line

120 Ω resistor required on signal side

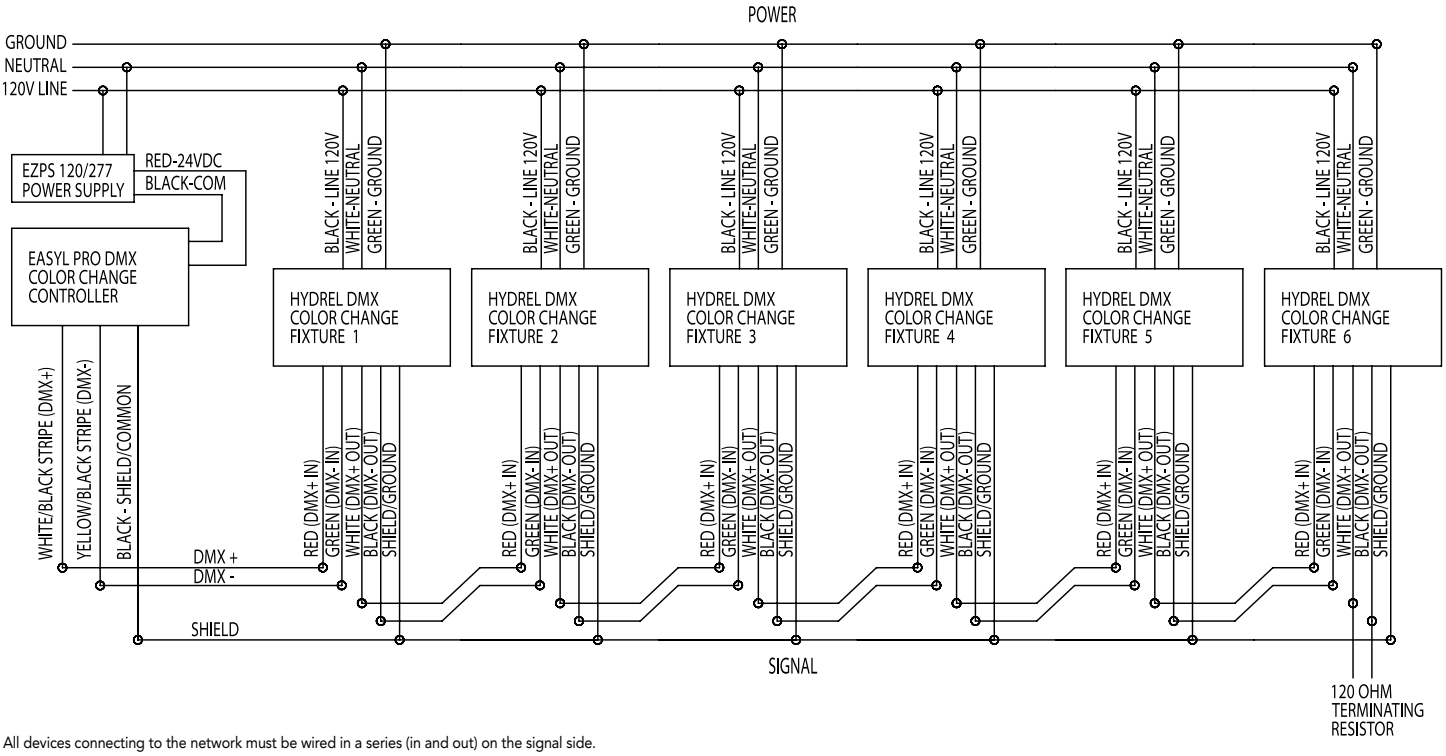
See page 2 for detailed wiring diagrams inside of luminaire or junction box

Power (120-277VAC)

Notes:
1 MDMX512 signal cable must be terminated by a 120 ohm resistor.
2 Signal cable by others, cable must be two-pair with a maximum capacitance of 12.8 pF/ft. and a impedance of 120 ohm.

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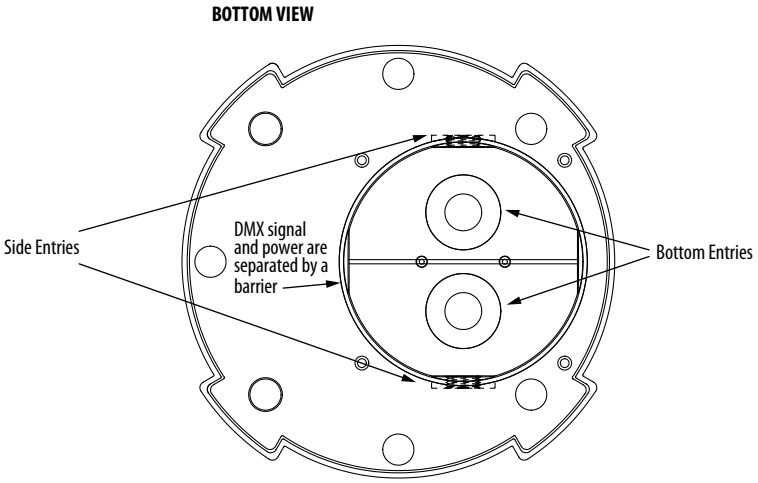
DMX CONNECTION AND TERMINATION — WIRING DIAGRAM

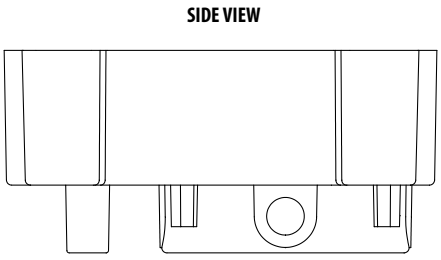


All devices connecting to the network must be wired in a series (in and out) on the signal side.
T taps or branches in the network are not permitted.

JUNCTION BOX DETAIL:

Junction box is segregated by a barrier separating the DMX signal side (low voltage) and the inline power side (120-277 volt). Each half of the junction box has a side and a bottom conduit for in and out feeds. This fixture is suitable for "daisy-chaining" within the junction box.





SPECIFICATIONS AND FEATURES

DOOR MATERIAL: Cast aluminum, cast bronze or stainless steel.

ROUGH-IN SECTION: Injection molded polymer with integral junction box for thru-branch wiring. The housing is U.V. stabilized, impact and corrosion resistant for use in all types of environments. The rough-in houses the LED and power module components and top door finishing section. Potting compound (PC21) recommended for junction box splices. PC21 sold separately.

CONDUIT ENTRIES: Two (2) bottom and two (2) side entries available in 1/2" NPT, 3/4" NPT or 25mm openings.

FINISHING SECTION: Door assembly with 360° Aim-Lock™ module support ring. Module indexing provides easy maintenance and relamping without re-aiming. Door trim locks into position with two stainless steel captive, tamper-resistant fasteners. Double lens design includes door assembly with 360°Aim-Lock™ module support and tilt ring that allows 15° of aiming. Active optical lenses are also available.

LED MODULE: Stainless steel housing, factory-sealed and purged of all moisture for longer component life. Lens is sealed with silicone gasket and stainless steel clamp band assembly with single fastener. Electrical connection to LED module is done through a submersible quick disconnect plug connector with gold-plated contacts.

LIGHT ENGINE: 47 Watt RGB LED array. Heat generated by LEDs is dissipated into and through the fixture housing, and adds less than 15°C to steady state operating lens temperature. For example, in a typical 25°C (77°F) operating environment, lens temperature would not exceed 40° C (104°F).

OPTICS: NEMA Flood (2x2 through 6x6), horizontal spot, horizontal flood. Led module has 360° of rotation. Aiming is done using 10° or 20° optical tilt lenses.

POWER MODULE: Driver and controller are housed in a bronze junction box. Module is provided with submersible rated cord leads for connection to integral junction box and lamp module.

ELECTRICAL: 47 watt Integral ELDO RGB power driver MVOLT (120-277) 50/60Hz LED power supply dims to zero. THD <20%, class 2 driver with 100% to 0% dimming.

VOLTAGE: MVOLT 120-277 volt 50/60HZ.

CONTROL: DMX512. Color control is achieved through standard DMX512 hardware, at a maximum of 44 frames per second. All channels have logarithmic power for finer color and intensity control. Compatible with the Easyl and Fresco controllers from Acuity. Controllers must be ordered separately.

FINISH: Finish is natural aluminum or bronze. Stainless steel door is brushed finish. Aluminum doors may be painted.

LISTING: cCSAus, suitable for wet locations, laboratory tests conducted by CSA to UL Standard UL-1598 and UL-8750

GOVERNMENT PROCUREMENT
BAA – Buy America(n) Act: Product qualifies as a domestic end product under the Buy American Act as implemented in the FAR and DFARS. Product also qualifies as manufactured in the United States under DOT Buy America regulations.
BABA – Build America Buy America: Product qualifies as produced in the United States under the definitions of the Build America, Buy America Act.
Please refer to www.acuitybrands.com/resources/buy-american for additional information.

WARRANTY: 5-year limited warranty. This is the only warranty provided and no other statements in this specification sheet create any warranty of any kind. All other express and implied warranties are disclaimed. Complete warranty terms located at:
www.acuitybrands.com/support/warranty/terms-and-conditions

Consult factory for details.

NOTE: Actual performance may differ as a result of end-user environment and application. All values are design or typical values, measured under laboratory conditions at 25 °C. Specifications subject to change without notice.

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