



# MAKO LED SERIES

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ARCHITECTURAL / LED LUMINAIRES

# Introducing... **MAKO** LED SERIES

An indoor/outdoor architecturally styled high performance LED Luminaire available with 'normally-on' operation powered by line voltage, emergency operation powered by a Nickel-Cadmium battery source or a combination of both. Low profile, die-cast aluminum housing available in four powder-coated finishes: dark bronze, white, nickel and black.

Three available modes of operation:

### **General Lighting (AC) mode:**

In the AC mode, power is supplied from 120V or 277V AC source and is switched on/off with the built-in photo-sensor or the unit may be switched on/off via wall switch allowing the unit to behave like a typical luminaire.

### **Emergency Lighting (EM) mode:**

Upon failure of normal utility power, the unit will automatically illuminate and provide a minimum of 90 minutes of emergency run-time powered by an internal nickel-cadmium battery. Self-Diagnostics is standard with EM operation.

### **General Lighting & Emergency Mode (ACEM )**

Under normal utility power, the unit will function in AC mode as detailed above. Upon the failure of utility power, the unit will function in EM mode as detailed above.

### **Applications:**

Retail Stores, Hotels, Schools, Restaurants, Office Buildings

### **Available Finishes:**





## Advanced LED technology from Mule Lighting, Inc.... Reinventing path of egress and security luminaires

### Revolutionary.....

There's a revolution under way in the lighting industry. Recent technological break-throughs have resulted in a new generation of high-output LED's that are brighter and whiter than ever before. Now, Mule Lighting, in cooperation with their LEDalux Division, has harnessed the full power of these LED's into an advanced, architecturally pleasing series of luminaires.

### Architectural.....

The MAKO-LED SERIES is an architectural LED light fixture in a low profile, very attractive housing. The sleek design blends seamlessly into any installation and provides a contemporary emergency lighting alternative to typical "bug-eye" units.

The MAKO-LED SERIES is ideal for retail stores, hotels, schools, restaurants and office buildings. Its the perfect solution for both indoor and outdoor applications.



### Going Green

The MAKO-LED provides 50,000 hours of operation, resulting in over 11 years of maintenance-free operation based on 12 hours of usage per day. That's 25 times the life expectancy of incandescent and 5 times that of compact fluorescents with no sacrifice to aesthetics.

The MAKO-LED is far less costly to operate than any comparable light source. It consumes about 75% less energy than incandescent fixtures. The reduction in operating expense is dramatic, but just as important is the contribution of LED lighting to sustaining our planet's resources and protecting the quality of our environment. LED's contain no lead or mercury, and do not have the lamp disposal issues associated with other traditional light sources. LED's are ultra-efficient and an invaluable asset in achieving compliance with energy conservation regulations and the pursuit of increasingly important "green" initiatives.



# ADVANCED ELECTRONICS

## Advanced Thermal Management

The MAKO-LED employs an efficient cast-aluminum heat sink integrated directly with the housing to maintain the LED junction temperature below the manufacturer's published limits indoors and out. At the end of their 50,000 hour rated life, the LEDs can be expected to produce 70% of their initial light output with imperceptible changes in color.

## Performance

- High Output, Long Life LED's
- Wide spacing-to-mounting height ratio
- Maintenance-Free Operation
- Extremely Low Energy Consumption
- Integral and External heat sinking for optimum LED life

## Versatility

- Suitable for Hot and Cold Environments
- Indoor / Outdoor Wall Mountable
- Commercial, Industrial and Institutional Applications

## Warranty

The MAKO-LED fixture provides peace of mind reliability because both the fixture and the LED light engine are backed by a 5 Year Warranty.

## Illumination

The unit is illuminated by a high power 10 watt light emitting diode (LED) assembly with an expected life of up to 50,000 hours. The prismatic polycarbonate lens allows 94% light transmission. The reflector is electro-polished aluminum with 95% reflectance.

## Compliances

The MAKO-LED Series meets or exceeds all performance standards as required by UL 924, UL 1598, UL 8750, NFPA 70, NFPA 101, NEC 700.16, IESNA LM-79, OSHA, RoHS and WEEE.

## General Lighting (AC):

Dual voltage, 120 volt or 277 volt input

## Emergency Lighting (EM & ACEM):

Dual voltage, 120 volt or 277 volt input. Circuit provides automatic brownout, short circuit, and overload protection. A momentary test switch and LED charge indicator are included. Maintenance-free, Nickel Cadmium battery provides an estimated service life of 10 years with an operating temperature range of 0° to 50° C (-30° to 50° C with optional Internal Heater (IH) option).

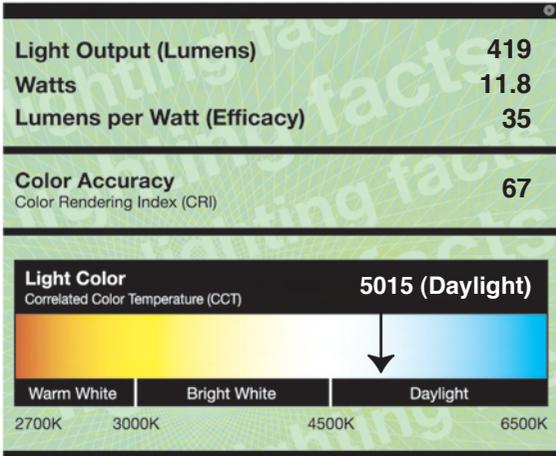
## Self-Diagnostics (Standard on EM & ACEM)

The circuit will continuously monitor the operating condition of the AC power, battery supply voltage, emergency lamp continuity, and charging circuit. If failure occurs, visual status will occur immediately via the dual-colored LED indicator that illuminates until fault has been corrected. The Self-Diagnostics also monitors the transfer circuit and performs automatic code compliant testing. The self-test will operate the equipment in emergency mode one minute every 28 days. A 30 minute full-function test is performed every six months, and a 90 minute full-function test is performed every 12 months. These tests can also be initiated manually by use of the test button.



# lighting facts<sup>CM</sup>

A Program of the U.S. DOE



All results are according to IESNA LM-79-2008: *Approved Method for the Electrical and Photometric Testing of Solid-State Lighting*. The U.S. Department of Energy (DOE) verifies product test data and results.

Visit [www.lightingfacts.com](http://www.lightingfacts.com) for the *Label Reference Guide*.

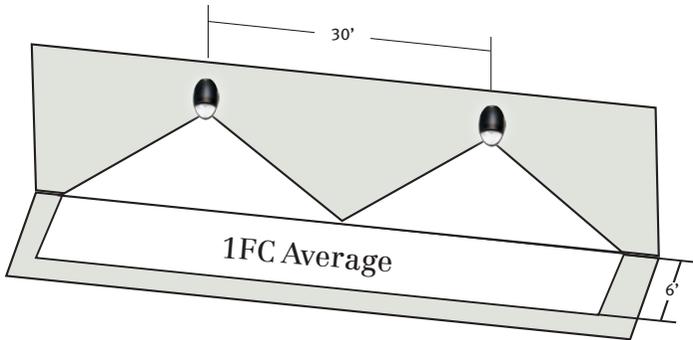
Registration Number: WNH7-CHAVYJ

Model Number: MAKO-LED

Type: Outdoor wall-mounted area fixtures ("wall packs")

## Pathway Illuminance

Meets Life Safety Code standard minimum illuminance of 0.1 fc and average illuminance of 1.0 fc. Illustration shown is a guideline for corridor center-to-center spacing with 9 ft mounting height and Minimum 80-50-20 reflectance values.



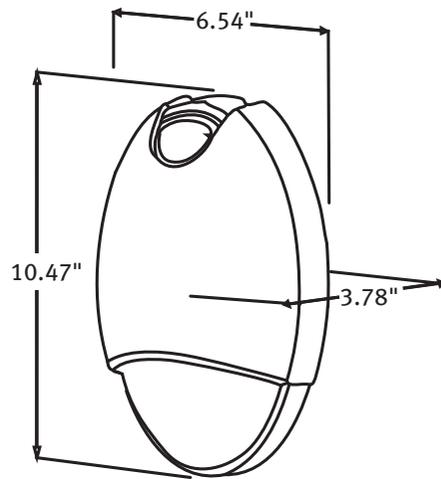
## Construction

Housing and mounting plate are constructed of 1/8" die-cast aluminum and sealed with a 1/8" closed-cell silicone gasket. The prismatic lens allows 94% light transmission. The reflector is electro-polished aluminum with 95% reflectance. Housing finish is powder coated electro deposition paint available in four colors: dark bronze, white, nickel and black.

## Installation

Universal backplate knockouts for mounting to standard 3 1/2", 4" octagonal and 4" square electrical boxes. An adhesive-backed neoprene gasket is provided to ensure a waterproof seal. A 1/2" – 1/4 NPT threaded conduit opening is provided at the top of the enclosure and sealed with a closure plug. The housing "snaps" to the back plate by a "blade and socket" arrangement.

## Dimensions



## ORDERING INFORMATION

MODEL	OPERATION MODE	HOUSING COLOR	OPTIONS
MAKO-LED	AC = General Lighting	DB = Dark Bronze	IH = Internal Battery Heater*
	EM = Emergency Only	WH = White	
	ACEM = General and Emergency	BK = Black	
		NK = Nickel	

Ordering Example: MAKO-LED-ACEM-DB-IH

\*Available only on EM and ACEM models.



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