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:**
- Black
- Silver
- Dark Bronze
- White
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Advanced LED technology from Mule Lighting, Inc. — Reinventing path of egress and security luminaires

Revolutionary.... There’s a revolution underway in the lighting industry. Recent technological breakthroughs have resulted in a new generation of high output LEDs that are brighter and whiter than ever before. Now, Mule Lighting, in cooperation with their LEDalux Division, has harnessed the full power of these LEDs into an advanced, architecturally pleasing series of luminaires.

Architectural.... The MAKO-LED SERIES is an architectural LED fixture in a low profile, very attractive housing. The sleek design blends seamlessly into any installation and provides a contemporary emergency lighting alternative to traditional “bug-eye” units. The MAKO-LED SERIES is ideal for retail stores, hotels, schools, restaurants and office buildings, as the perfect solution for both indoor and outdoor applications.

Going Green.... The MAKO-LED provides 50,000 hours of operation, resulting in over 15 years of maintenance-free operation based on 12 hours of usage per day. That’s 15 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 light 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 5 times that of compact fluorescents with no sacrifice to aesthetics. The MAKO-LED fixture provides peace of mind illumination.

Performance.... The MAKO-LED SERIES meets or exceeds all performance standards as required by UL 924, UL 1598, UL 8750, NFPA 70, NFPA 101, NEC, and 5015 (Daylight).

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 limit. As a result of these 50,000 hour test, the LED fixture can be expected to produce 70% of their initial light output with imperceptible changes in color.

Performance....
- High Output, Long Life LED’s
- Wide spanning 40-watt mounting height ratio
- Maintenance-Free Operation
- Extremely Low Energy Consumption
- Integral and External heat sinking for optimal LED life

Versatility.... The MAKO-LED fixture provides peace of mind illumination.
- Indoor/Indoor Wall Mountable
- Commercial, Institutional and Institutional Applications

Warranty.... The MAKO-LED fixture is covered by a 2 1/2 Year Warranty.

Illumination.... The unit is illuminated by a high power 30 watt output diode LED assembly with an expected life of up to 50,000 hours. The prismatic polycarbonate lens allows 94% light transmission. The reflector is formed of extruded aluminum with 95% reflectance.

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 electo-polished aluminum with 95% reflectance.

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 and audible alarms will be produced. The housing “snaps” to the back per of a “slide and lock” arrangement.

Pathway Illuminance.... The MAKO-LED fixture is covered by a 2 1/2 Year Warranty.

Compliance.... The MAKO-LED SERIES meets or exceeds all performance standards as required by UL 924, UL 1598, UL 8750, NFPA 70, NFPA 101, NEC, 5015 (Daylight), OSHA, ROHS and WEEE.

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 electo-polished aluminum with 95% reflectance.

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 per of a “slide and lock” arrangement.

Dimensions....
- Universal backplate knockouts for mounting to standard 3 1/2", 4" octagonal and 4" square electrical boxes.
- Housing “snaps” to the back per of a “slide and lock” arrangement.

ADVANCED ELECTRONICS....

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.

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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 limit indoors and out. As the result of these 50,000 hour tests, the LED life can be expected to produce 70% of their initial light output with imperceptible changes in color.

Performance
• High Output, Long Life LEDs
• Wide opening to-mounting height ratio
• Maintenance-Free Operation
• Extremely Low Energy Consumption
• Integral and External heat sinking for optimum LED life

Versatility
• 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 30 watt emitting diode (LED) assembly with an expected life of up to 50,000 hours. The prismatic polyacrylate lens allows 94% light transmission. The reflector is electro-polished aluminum with 95% reflectance.

Compliance
The MAKO-LED Series meets or exceeds all performance standards as required by UL 924, UL 1598, UL 570, NFPA 70A, NFPA 101, NEC 701-16, RoHS and WEEE.

ADVANCED ELECTRONICS

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. (80° to 122° F) 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 and audible alarms will occur immediately via the dual-colored LED indicator that illuminates until failure is corrected. The Self-Diagnostics module also monitors the transfer circuit and performs automatic code compliant testing. The Self-test will operate the equipment in emergency mode one minute every 25 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.

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 2.5 times the light 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. LEDs contain no lead or mercury, and do not have the lamp disposal issues associated with other traditional light sources. LEDs are ultra-efficient and an invaluable asset in achieving compliance with energy conservation regulations and the pursuit of increasingly important “green” initiatives.

Construction
Housing and mounting plate are constructed of 1/8” die-cast aluminum and sealed with a closure plug. The housing “snaps” to the back plate by a “blade and socket” arrangement.

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 “snap” to the back plate by a “blade and socket” arrangement.

Pathway Illuminance

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Application Guide
Model  operation mode housing color options
ACEM = General and Emergency
AC = General Lighting
EM = Emergency Only
DB = Dark Bronze
WH = White
BK = Black
NK = Nickel

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

ADVANCED LEd SERIES
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, for the perfect solution for both indoor and outdoor applications.

Lighting Facts

MAKO LED SERIES
Reinventing path of egress and security luminaires

MAKO-LED SERIES
Mule Lighting, Inc.
15015 N. 91st Avenue
Peoria, AZ 85382
Toll-Free: 800-243-0500
Fax: 602-351-0580

SINCE 1923
Mule Lighting, Inc.
Authorized Distributors

Ordering Information
Property Name
Address
Contact Name
Phone
Email

Model
Operation Mode
Housing Color
Optional Items

EM = Emergency Only
WH = White
BK = Black
NK = Nickel
IH = Internal Battery Heater* (Available only on EM and ACEM models.)

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

Dimensions

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<tr>
<th>Overall Width</th>
<th>Overall Height</th>
<th>Overall Depth</th>
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<td>6.54”</td>
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</table>
Advanced LED technology from Mule Lighting, Inc. .... Reinventing path of egress and security luminaires

**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 limit indoors and out. As the result of these 50,000 hour products, the LED can be expected to produce 70% of their initial light output with imperceptible changes in color.

**Performance**

- High Output, Long Life LEDs
- Wide operating 40-degree height ratio
- Maintenance-Free Operation
- Extremely Low Energy Consumption
- Integral and External heat sinking for optimal LED life

**Versatility**

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

**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 are ultra-efficient, 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.

**Pathway Illuminance**

- Meets Life Safety Code standard minimum illuminance of 0.75 fc and average illuminance of 1.0 fc. Illustration shown for MAKO-LED WNH7-CHAVYJ.
- 11.8 lumens per watt.
- 5015 (Daylight)
- 350 mcd.
- 90 CRI.
- 4.8" x 6.0" dimensions
- Recessed wall-mounted area fixtures (“wall packs”)
- 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, REXA 52142, OSHA, RoHS and WEEE.

**Lighting Facts**

- 1/2” – 1/4” NPT threaded conduit opening
- A 1/2” – 1/4” NPT threaded conduit opening
- Universal backplate knockouts for mounting into electrical boxes. An adhesive-backed neoprene gasket is provided to ensure a waterproof seal.
- The housing “snaps” to the back plate by a “blade and socket” arrangement.

**Installation**

Unveiled 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.

**Pathway Illuminance**

- Housing and mounting plate are constructed of 1/8” die-cast aluminum and sealed with a closure plug. The housing “snap” to the back plate by a “blade and socket” arrangement.

**Construction**

- Housing and mounting plate are constructed of 1/8” die-cast aluminum and sealed with a closure plug. The housing “snap” to the back plate by a “blade and socket” arrangement.

**Warranty**

- 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 and audible signals will occur immediately via the dual-colored LED indicator that illuminates until failure is corrected.
- The housing “snap” to the back plate by a “blade and socket” arrangement.

**Ordering Information**

- MAKO-LED = General Lighting
- BK = Black
- WH = White
- BK = Black
- AK = Aluminized Knurl
- EM = Emergency Only
- DB = Dark Bronze
- IH = Internal Battery Heater

**Dimensions**
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:
Black, Silver, Dark Bronze, White

Introducing... Mako LED Series

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