

# COOPER LIGHTING - SURE-LITES®

## DESCRIPTION

The Sure-Lites Architectural Emergency Light is designed to provide superior illumination while blending into the surrounding space. The housing is constructed of die-cast aluminum with an integral refractive polycarbonate lens. The emergency light's advanced optical design in conjunction with high output Xenon lamps provide maximum path of egress lighting performance. The Sure-Lites Architectural Emergency Light is listed for temperatures between -20°C and 40°C (-4°F and 104°F) and has silicone gaskets that provide protection from moisture and rain. [Remote unit temperature range: -40°C and 65°C (-40°F and 149°F)] Standard features include Watchguard EMS self-diagnostic system which meets NFPA 101 testing requirements and a FasTest photocell which enables remote testing of the emergency light.

Catalog #	Type
Project	
Comments	
Prepared by	Date

## SPECIFICATION FEATURES

### Electrical

Watchguard EMS Self-Diagnostic System  
 Dual Voltage Input, 120/277 VAC, 60Hz  
 Isolation Transformer  
 Line-latching  
 Solid-state Voltage Limited Charger  
 Low Voltage Disconnect  
 Brownout Circuit  
 Overload/Short Circuit Protection  
 Test Switch/Power Indicator Light  
 Photocell Test Switch (requires accessory LASER for activation)  
 Fully Recharged in 24 hours

### Housing Construction

Die-cast Aluminum Housing  
 Universal Pattern Knockouts on rear of housing for direct mounting to junction box  
 1/2" Threaded Conduit Access on top surface  
 Powder Coat Paint Finish  
 UV Stable Polycarbonate Lens  
 Silicone Gaskets

### NEC/OSHA

Most State and Local Codes

### Battery

Sealed Nickel Cadmium  
 Maintenance Free, Long Life  
 Full Recharge Time, 24 hrs

### Lamp Data

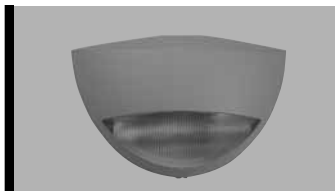
Three 6V 6W High output Xenon lamps

### Code Compliance

UL924 Listed, Self-Diagnostics  
 UL Outdoor Wet Location Listed (suitable for wet and damp locations)  
 Life Safety NFPA 101

### Warranty

Unit - 1 Year  
 Battery - 15 year pro rata

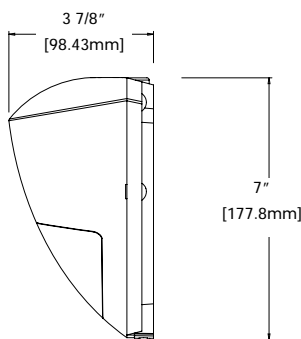
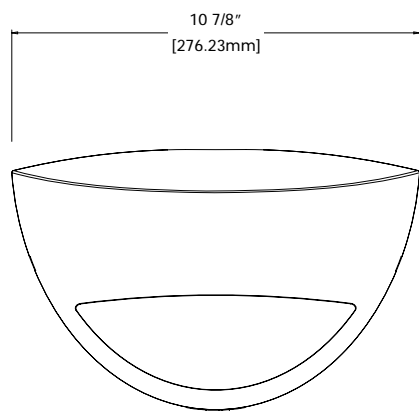


## ARCHITECTURAL EMERGENCY LIGHT SERIES

DIE-CAST ALUMINUM  
 SURFACE MOUNT  
 NICKEL CADMIUM BATTERY  
 XENON LAMPS

WATCHGUARD EMS  
 Self-Diagnostic System  
 FasTest Laser Test

Emergency Lighting  
 Patents Pending



Sure-Lites® 023-414	
<b>WatchGuard EMS</b>	
Indicator	Meaning
● Steady	Float Charge
● Pulse	High Charge
● - ●	Battery Failure
● - ● - ●	Circuit Failure
● - ● - ● - ●	Lamp Failure
TEST	INDICATOR

TOTALLY PREDICTABLE  
**RELIABILITY**

## ELECTRICAL RATINGS

### Rated Wattage to 87 1/2% of Rated D.C. Voltage

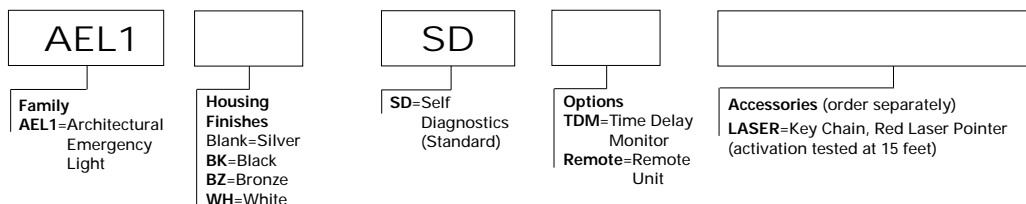
Model	DC Voltage	1 1/2 Hours
AEL1SD	6	18

### Lamp Information

Type	Wattage	Number	Spacing <sup>1</sup>
Xenon	6 each	11549423	30'

## ORDERING INFORMATION

SAMPLE NUMBER: AEL1SD



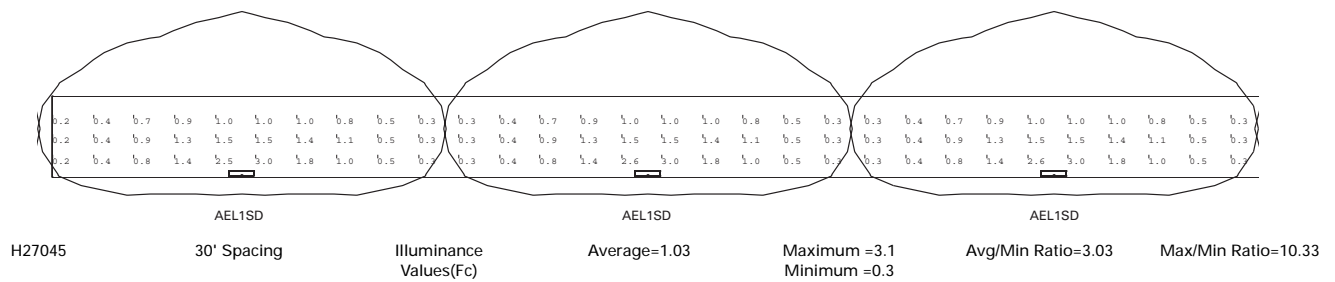
<sup>1</sup>The "Rule of Thumb" spacing guidelines are designed to achieve 1 foot-candle average and 0.1 foot-candle minimum with a 40:1 maximum/minimum ratio. The corridor used is 100 feet long, 9 foot ceiling with a 6 foot wide walkway and 3 foot path of egress. The reflectances are 80% ceiling, 50% walls and 20% floors. The fixture mounting height is 8.5 feet. Cooper Lighting assumes no responsibility for local requirements or specific project variables. This is a guideline to be used as a design aid, not as guarantee of any code compliance.

## ENERGY DATA

Sealed Nickel Cadmium Battery

AEL1SD  
 Input Current:  
 120V = .10A  
 277V = .07A

PHOTOMETRICS



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TECHNICAL DATA

<p><b>Lamps</b> The AEL1SD utilizes 6V 6W high output Xenon lamps standard. The Xenon lamps provide maximum illumination along the emergency path of egress.</p>	<p>A 30 second battery power simulation test will occur every 30 days. The charger function is tested upon initial power-up and after every battery discharge cycle thereafter. The AC/DC power transfer circuit is monitored continuously.</p>	<p>charge circuit reacts to the condition of the battery in order to maintain peak battery capacity and maximize battery life. Solid-state construction recharges the battery following a power failure in accordance with UL 924.</p>	<p>system when a predetermined reduction of AC power occurs. This dip in voltage will cause most ballasted fixtures to extinguish causing loss of normal lighting even though a total power failure has not occurred.</p>
<p><b>Housing</b> Die-cast aluminum with a powder coat painted finish. Universal pattern knockouts are located on the back housing for direct mounting to the junction box. Threaded conduit entry provided on the top surface of the housing. UV stable, polycarbonate lens and vacuum-metallized reflector provide efficient optical control.</p>	<p>The charging mode is also monitored. The unit goes into a high charge mode for 24 hours the first time AC power is applied and when a discharge causes the battery voltage to fall below its nominal value. Pressing the test switch causes the unit to use battery power and test the battery capacity for 30 seconds.</p>	<p><b>Solid-State Transfer</b> The emergency light incorporates solid-state switching which eliminates corroded and pitted contacts or mechanical failures associated with relays. The switching circuit is designed to detect a loss of AC voltage and automatically energizes the lamps using DC power. Upon restoration of AC power, the DC power will be disconnected and the charger will automatically recharge the battery.</p>	<p><b>Test Switch/Power Indicator Light</b> A test switch located on the inside cover of the unit permits the activation of the emergency circuit for a complete operational systems check. The Power Indicator Light provides visual assurance that the AC power is on.</p>
<p><b>Electronics</b> Dual voltage input 120/277 VAC is standard. Nickel cadmium battery is standard. All battery and electrical components are enclosed within the housing.</p>	<p>The LED indicator is off when the unit is in the emergency mode and on continuously when the unit is fully charged. The LED blinks when the unit is in the high charge mode. It blinks twice (then repeats) when the battery needs to be replaced, or if it is disconnected. It blinks three times if there is a circuit board (charger or AC/DC transfer function) failure, and four times if there is a lamp failure.</p>	<p><b>Low Voltage Disconnect</b> When the battery's terminal voltage falls, the low voltage circuitry disconnects the lighting load. The disconnect remains in effect until normal utility power is restored, preventing deep battery discharge.</p>	<p><b>Sealed Nickel Cadmium Battery</b> Sure-Lites sealed nickel cadmium batteries are maintenance free with a life expectancy of 15 years. The sealed rechargeable nickel cadmium battery offers high discharge rates and stable performance over a wide range of temperatures. The specially designed resealable vent automatically controls cell pressure, assuring safety and reliability. This battery is best suited for harsh ambient temperatures because the electrolyte is not active in the electrochemical process.</p>
<p><b>Photocell Test Switch</b> Allows verification of proper operation of the transfer circuit and emergency lamps with a laser pointer (laser is sold as an accessory). The emergency lamps will test for 30 seconds when activated.</p>	<p><b>Line-Latched</b> Sure-Lites line-latched electronic circuitry makes installation easy and economical. A labor efficient AC activated load switch prevents the lamps from turning on during installation to a non-energized AC circuit. Line-latching eliminates the need for a contractor's return to a job site to connect the batteries when the building's main power is turned on.</p>	<p><b>Overload and Short Circuit Protection</b> The solid-state overload monitoring device in the DC circuit disconnects the lamp load from the battery should excessive wattage demands be made and automatically resets when the overload or short circuit is removed. This overload current protective feature eliminates the need for fuses or circuit breakers for the DC load.</p>	<p><b>Warranty</b> The Sure-Lites Architectural Emergency Light is backed by a firm one (1) year warranty against defects in material and workmanship. Maintenance free, long life, sealed nickel cadmium batteries carry a fifteen-year pro-rata warranty.</p>
<p><b>Self-Diagnostics</b> The self-diagnostic unit will automatically perform all tests required by UL924, and NFPA 101. The system indicates the status of the unit at all times using the LED indicator near the test switch on the bottom of the unit. A 90 minute battery power (emergency mode) simulation test will occur randomly once every six months.</p>	<p><b>Solid-State Charger</b> Supplied with a 120/277 VAC, voltage regulated solid-state charger, the battery is recharged immediately upon restoration of AC current after a power failure. The</p>	<p><b>Brownout Circuit</b> The brownout circuit on Sure-Lites exits monitors the flow of AC current to the unit and activates the emergency lighting</p>	

NOTES: Specifications and Dimensions subject to change without notice.