SURE-LITES

DESCRIPTION

PathLinx LED emergency light is aesthetically designed and offers features to reduce egress system cost. The thin profile emergency light unit blends into the environment with expanded egress light spacing between units, which provides a cost effective and unobtrusive emergency egress system. The expanded remote capability with wide coverage pattern and RJ45 connectors allows installers to reduce their cost of equipment, materials, and labor. The external battery disconnect and easy connection features make the PathLinx LED emergency light uncomplicated and efficient throughout installation.

Catalog #		Type
Project		
Comments		Date
Prepared by		

SPECIFICATION FEATURES

Electrical
- Dual Voltage Input 120/277 VAC, 60Hz
- External Battery Disconnect
- Brownout circuit
- Low voltage disconnect
- Overload / Short Circuit protection
- 4.8V Battery back-up
- 1.4W AccuLED optics

Housing Construction
- Components injection molded, color stable, high impact thermoplastic
- White or black textured finish
- Snap-fit construction to facilitate fast installation
- Suitable for wall mount applications
- Universal J-box mounting pattern
- Keyhole mounting slots
- Aesthetically designed with thin profile

Battery
- Sealed Nickel Cadmium
- Sealed Nickel Metal Hydride (LEM4 Only)
- Full Recharge Time, 24 hours (max.)
- 0° to 40°C (32° to 104°F) operating temperature range

Warranty
- Five-year warranty

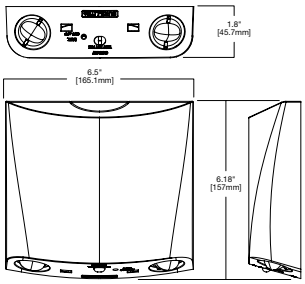
Code Compliance
- UL924 Listed
- Damp Location
- Life Safety NFPA 101
- NEC/OSHA
- Most State & Local Codes
- 0° to 40°C (32° to 104°F) operating temperature range

LEMRO

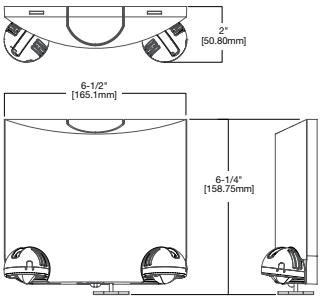
LEM

LEM2 / LEM4

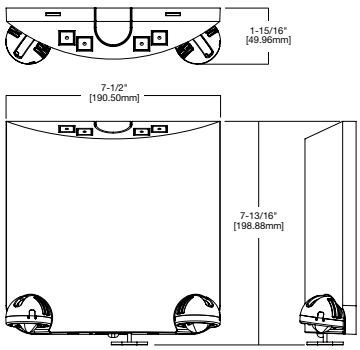
LEMRO



LEM



LEM2 / LEM4



ORDERING INFORMATION

SAMPLE NUMBER: LEM4SD

Emergency Light	Color	Option
LEM=Two head unit; No remote capability **LEM2**=Two head unit; Two head remote capability **LEM4**=Two head unit; Four head remote capability	**[Blank]**=White **BK**=Black	**SD**=Eagle Eye Self Diagnostic*

SAMPLE NUMBER: LEMRO

Emergency Light	Color
LEMRO=Two head unit; No remote capability	**[Blank]**=White

* Self Diagnostic option unit comes with Time Delay capability by following installation instructions.

PathLinx LED Emergency Light LEM

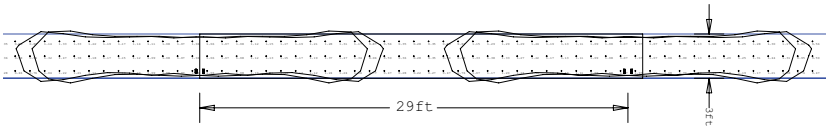
LED Emergency Light
AccuLED Optic
EZ Click - RJ45 connection
Eagle Eye Self Diagnostics

ELECTRICAL DATA

	120V			277V		
Model	**Power (W)**	**Current (A)**	**PF**	**Power (W)**	**Current (A)**	**PF**
LEM	0.52	0.069	0.06	0.64	0.07	0.03
LEMSD	0.534	0.067	0.07	0.67	0.069	0.04
LEM2	0.92	0.146	0.05	1.02	0.138	0.03
LEM2SD	1.12	0.145	0.06	1.19	0.137	0.03
LEM4	1.71	0.25	0.06	1.62	0.213	0.03
LEM4SD	1.96	0.25	0.07	1.81	0.21	0.03
LEMRO	.58	.076	.064	.79	.077	.037

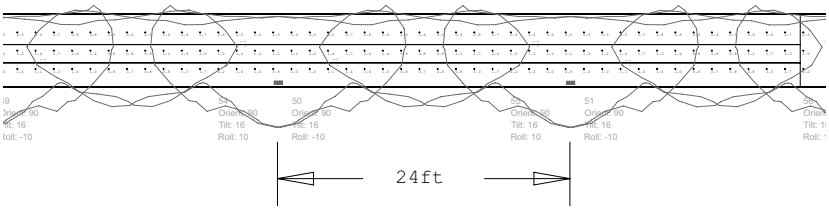
PHOTOMETRY

LEM/LEM2/LEM4



X	Y	Z	Orient	Tilt	Roll
-0.25	0.5	7.5	90	7	1
0.25	0.5	7.5	90	7	-1
28.75	0.5	7.5	90	7	1
29.25	0.5	7.5	90	7	-1
57.75	0.5	7.5	90	7	1
58.25	0.5	7.5	90	7	-1
-29.25	0.5	7.5	90	7	1
-28.75	0.5	7.5	90	7	-1

LEMRO



X	Y	Z
0	0.33	7.5
0.33	0.33	7.5
24.33	0.324	7.5
48.33	0.317	7.5
72.33	0.311	7.5
96.33	0.305	7.5
24	0.323	7.5
48	0.316	7.5
72	0.309	7.5
96	0.302	7.5

***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 7.5 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.

TECHNICAL DATA

AccuLED Optics
The AccuLED precision engineered optics display sharp cutoffs and oval light pattern, which provide a clear path of egress per UL924 standards. The efficient optical design increases spacing distance between units, while providing evenly diffused light pattern throughout the egress path for both 1 foot candle average and 0.1 ft candle minimum. The lens swivel feature within the AccuLED optic provides the opportunity of forward-throw of egress lighting. The LED emergency head rotates 348° and tilts 104° and the AccuLED optic has a full 360° of rotation to provide optimal flexibility.

Mechanical Housing
All components are injection molded with a color stable, high impact thermoplastic resin. The surface is textured to improve aesthetic appearance. The housing construction is designed with snap-fit components and reinforcement ribs to provide maximum strength at minimum installation effort. The mounting hole pattern is universal to junction box requirements and is suitable for both wall and ceiling mount applications.

EZ – Click – Ethernet Connection
The EZ Click Ethernet connection provides an opportunity to reduce the cost of labor and materials by utilizing an internal power connection. The EZ Click allows low voltage DC to be run to remotes and provides and opportunity to avoid the labor and expense associated with conduit and junction box infrastructure. The PathLinx line of remotes can be connected in series via low voltage DC.

EZ Key – External Power Disconnect
The EZ Key is an external power disconnect. The patent-pending EZ Key technology allows installers to externally control the battery connection, which is better than line-latching because it allows installers to choose when the battery is connected to avoid battery damage during a construction cycle.

EZ Hang – Mounting Feature
The hands-free EZ Hang feature allows the installer to hang the emergency light face from the back plate in order to easily and efficiently make the power connections.

Eagle Eye™ Self Diagnostics
The Eagle Eye self-diagnostic software will automatically perform all tests required by UL924, and NFPA101. The system indicates the status of the emergency light at all times using the LED indicator. A 90 minute battery power (emergency mode) simulation test will occur once every 12 months. A 30 second battery power simulation test will occur every 30 days.
The Solid-State microprocessor based system has the ability to accurately detect and warn of system failures, plus it incorporates all of the standard electronic features that sets Sure-Lites apart from its competition. Eagle Eye self diagnostic software automatically performs all testing required by the NFPA 101 Life Safety Code and systematically calibrates itself in the field, reducing installation labor and eliminating manual calibration errors.

Expanded Remote Capability
The PathLinx product line has expanded remote capability up to four additional LED Emergency Light heads. The expanded remote capability reduces the overall cost of installation. A dual head remote emergency light can cost up to 60% less than a corresponding dual head emergency light with battery back-up.
The PathLinx product line utilizes efficient long-life AccuLED optics that exceed the lumen output of the traditional 5.4 watt incandescent heads, while meeting the UL924 standards for egress lighting. Low power consumption means expanded remote capability and significant cost savings.

Low Voltage Disconnect
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.

Brownout Circuit
The brownout circuit on the PathLinx emergency light monitors the flow of AC current to the unit and activates the emergency light heads when a predetermined reduction of AC power occurs.

Warranty
PathLinx units are backed by a five-year warranty on the fixtures and a fifteen-year pro-rata warranty on the NiCad batteries.

SELF DIAGNOSTIC TESTING OPERATIONS

The Sure-Lites Eagle Eye Self Diagnostics is continuously monitoring your emergency fixture, and will signal any failure through the 3 color indicator LED.

Initial Operation:
When the unit is first powered up, it will go into a 24 hour fast charge, indicated by the indicator LED pulsing green. Once the unit has fully charged, it will perform a self calibration, after which the LED will change to steady green, indicating the unit is fully charged and float charging the battery to maintain readiness.

Automatic Testing:
The unit will perform a battery capacity, lamp/LED, and charge circuit test every 30 days for 30 seconds. During this time, the indicator LED will change to a steady yellow. It will perform a full battery capacity (90 minute) test once per year. During this time, the indicator LED will change to a blinking yellow.

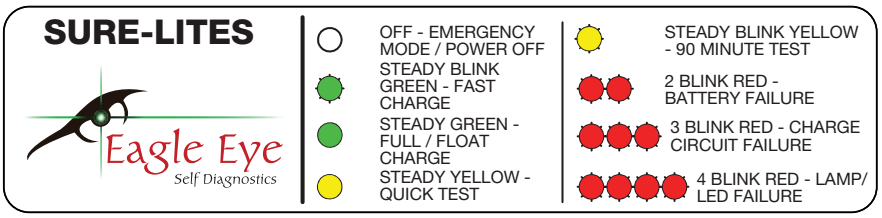
Manual Testing:
- 10 Second “Installation” test – Press and release the test button once during fast charge (blinking green) to initiate a 10 second quick test. The sign will switch to emergency mode for 10 seconds allowing the installer to verify proper installation of the unit, and the LED indicator will turn solid yellow.
- 30 Second Test - Press and release the test button once during float charge (steady green). The indicator LED will turn steady yellow to indicate the unit is performing a 30 second test of the batteries and lamps/LEDs.
- 90 Minute Test - Press and release the test button a second time during a 30 second test (steady yellow) to change to a 90 minute test. During this test, the LED indicator will change to blinking yellow, and the circuit will perform a full battery capacity, charge circuit, and LED test.
- Canceling Test – Press and release the test button during the 90 minute test (flashing yellow) to return the fixture to its original state (fast charge or float charge)

Laser Test:
The LEM SD products are equipped with a Laser Test function, that allows the unit to be manually tested without the need to physically press the test button. Shining a laser pointer in the hole marked “LASER TEST” on the bottom of the unit has the same effect as a press and release of the test button.

Clearing Failure Codes:
- A battery failure (LED two blink red) can be cleared by replacing the battery. Disconnecting the battery and AC power, or performing a full 90 minute discharge, will reset the error code, however, it will return if the battery is faulty
- Charge Circuit (LED three blink red) and lamp/LED failure (LED four blink red) will clear when the unit successfully passes a manual or automatic 30 second test.

Indicators:
- LED Off - No power to unit, emergency mode.
- LED Steady Green - Unit is fully charged and is float charging the battery to maintain readiness.
- LED Green Pulse - Unit is in a 24 hour fast charge of the battery.
- LED Two Blink Red - Battery has failed a capacity test, or the battery is disconnected. See “Clearing Failure Codes” above.
- LED Three Blink Red - Battery charge circuit has failed. See “Clearing Failure Codes” above.
- LED Four Blink Red - Lamps have burned out, or on an EXIT/Combo, 50% or more of the LEDs have failed. See “Clearing Failure Codes” above.
- LED Steady Yellow - 30 second test or 10 second quick test (Fast Charge only).
- LED Blinking Yellow - 90 minute test.

Maintenance:
None required. Replace the batteries as needed according to ambient conditions. However, we recommend that the equipment be tested regularly in accordance with local codes.



SURE-LITES

DESCRIPTION

PathLinx LED emergency light is aesthetically designed and offers features to reduce egress system cost. The thin profile emergency light unit blends into the environment with expanded egress light spacing between units, which provides a cost effective and unobtrusive emergency egress system. The expanded remote capability with wide coverage pattern and RJ45 connectors allows installers to reduce their cost of equipment, materials, and labor. The external battery disconnect and easy connection features make the PathLinx LED emergency light uncomplicated and efficient throughout installation.

Catalog #		Type
Project		
Comments		Date
Prepared by		

SPECIFICATION FEATURES

Electrical
- Dual Voltage Input 120/277 VAC, 60Hz
- External Battery Disconnect
- Brownout circuit
- Low voltage disconnect
- Overload / Short Circuit protection
- 4.8V Battery back-up
- 1.4W AccuLED optics

Housing Construction
- Components injection molded, color stable, high impact thermoplastic
- White or black textured finish
- Snap-fit construction to facilitate fast installation
- Suitable for wall mount applications
- Universal J-box mounting pattern
- Keyhole mounting slots
- Aesthetically designed with thin profile

Battery
- Sealed Nickel Cadmium
- Sealed Nickel Metal Hydride (LEM4 Only)
- Full Recharge Time, 24 hours (max.)
- 0° to 40°C (32° to 104°F) operating temperature range

Warranty
- Five-year warranty

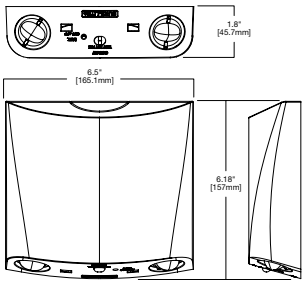
Code Compliance
- UL924 Listed
- Damp Location
- Life Safety NFPA 101
- NEC/OSHA
- Most State & Local Codes
- 0° to 40°C (32° to 104°F) operating temperature range

LEMRO

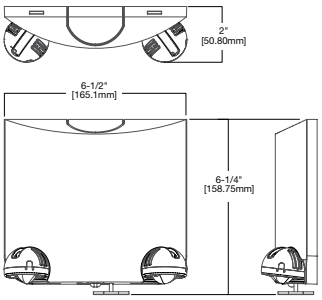
LEM

LEM2 / LEM4

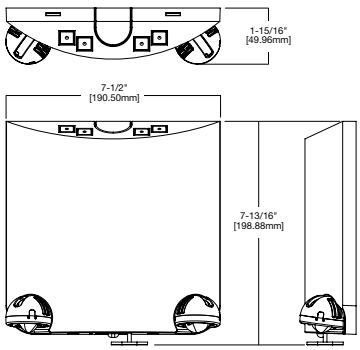
LEMRO



LEM



LEM2 / LEM4



ORDERING INFORMATION

SAMPLE NUMBER: LEM4SD

Emergency Light	Color	Option
LEM=Two head unit; No remote capability **LEM2**=Two head unit; Two head remote capability **LEM4**=Two head unit; Four head remote capability	**[Blank]**=White **BK**=Black	**SD**=Eagle Eye Self Diagnostic*

SAMPLE NUMBER: LEMRO

Emergency Light	Color
LEMRO=Two head unit; No remote capability	**[Blank]**=White

* Self Diagnostic option unit comes with Time Delay capability by following installation instructions.

PathLinx LED Emergency Light LEM

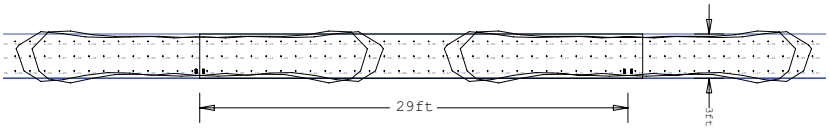
LED Emergency Light
AccuLED Optic
EZ Click - RJ45 connection
Eagle Eye Self Diagnostics

ELECTRICAL DATA

	120V			277V		
Model	**Power (W)**	**Current (A)**	**PF**	**Power (W)**	**Current (A)**	**PF**
LEM	0.52	0.069	0.06	0.64	0.07	0.03
LEMSD	0.534	0.067	0.07	0.67	0.069	0.04
LEM2	0.92	0.146	0.05	1.02	0.138	0.03
LEM2SD	1.12	0.145	0.06	1.19	0.137	0.03
LEM4	1.71	0.25	0.06	1.62	0.213	0.03
LEM4SD	1.96	0.25	0.07	1.81	0.21	0.03
LEMRO	.58	.076	.064	.79	.077	.037

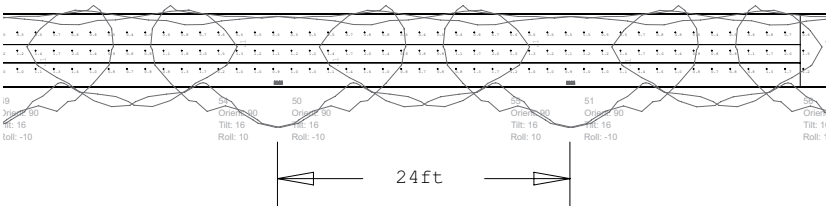
PHOTOMETRY

LEM/LEM2/LEM4



X	Y	Z	Orient	Tilt	Roll
-0.25	0.5	7.5	90	7	1
0.25	0.5	7.5	90	7	-1
28.75	0.5	7.5	90	7	1
29.25	0.5	7.5	90	7	-1
57.75	0.5	7.5	90	7	1
58.25	0.5	7.5	90	7	-1
-29.25	0.5	7.5	90	7	1
-28.75	0.5	7.5	90	7	-1

LEMRO



X	Y	Z
0	0.33	7.5
0.33	0.33	7.5
24.33	0.324	7.5
48.33	0.317	7.5
72.33	0.311	7.5
96.33	0.305	7.5
24	0.323	7.5
48	0.316	7.5
72	0.309	7.5
96	0.302	7.5

***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 7.5 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.

TECHNICAL DATA

AccuLED Optics
The AccuLED precision engineered optics display sharp cutoffs and oval light pattern, which provide a clear path of egress per UL924 standards. The efficient optical design increases spacing distance between units, while providing evenly diffused light pattern throughout the egress path for both 1 foot candle average and 0.1 ft candle minimum. The lens swivel feature within the AccuLED optic provides the opportunity of forward-throw of egress lighting. The LED emergency head rotates 348° and tilts 104° and the AccuLED optic has a full 360° of rotation to provide optimal flexibility.

Mechanical Housing
All components are injection molded with a color stable, high impact thermoplastic resin. The surface is textured to improve aesthetic appearance. The housing construction is designed with snap-fit components and reinforcement ribs to provide maximum strength at minimum installation effort. The mounting hole pattern is universal to junction box requirements and is suitable for both wall and ceiling mount applications.

EZ – Click – Ethernet Connection
The EZ Click Ethernet connection provides an opportunity to reduce the cost of labor and materials by utilizing an internal power connection. The EZ Click allows low voltage DC to be run to remotes and provides and opportunity to avoid the labor and expense associated with conduit and junction box infrastructure. The PathLinx line of remotes can be connected in series via low voltage DC.

EZ Key – External Power Disconnect
The EZ Key is an external power disconnect. The patent-pending EZ Key technology allows installers to externally control the battery connection, which is better than line-latching because it allows installers to choose when the battery is connected to avoid battery damage during a construction cycle.

EZ Hang – Mounting Feature
The hands-free EZ Hang feature allows the installer to hang the emergency light face from the back plate in order to easily and efficiently make the power connections.

Eagle Eye™ Self Diagnostics
The Eagle Eye self-diagnostic software will automatically perform all tests required by UL924, and NFPA101. The system indicates the status of the emergency light at all times using the LED indicator. A 90 minute battery power (emergency mode) simulation test will occur once every 12 months. A 30 second battery power simulation test will occur every 30 days.
The Solid-State microprocessor based system has the ability to accurately detect and warn of system failures, plus it incorporates all of the standard electronic features that sets Sure-Lites apart from its competition. Eagle Eye self diagnostic software automatically performs all testing required by the NFPA 101 Life Safety Code and systematically calibrates itself in the field, reducing installation labor and eliminating manual calibration errors.

Expanded Remote Capability
The PathLinx product line has expanded remote capability up to four additional LED Emergency Light heads. The expanded remote capability reduces the overall cost of installation. A dual head remote emergency light can cost up to 60% less than a corresponding dual head emergency light with battery back-up.
The PathLinx product line utilizes efficient long-life AccuLED optics that exceed the lumen output of the traditional 5.4 watt incandescent heads, while meeting the UL924 standards for egress lighting. Low power consumption means expanded remote capability and significant cost savings.

Low Voltage Disconnect
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.

Brownout Circuit
The brownout circuit on the PathLinx emergency light monitors the flow of AC current to the unit and activates the emergency light heads when a predetermined reduction of AC power occurs.

Warranty
PathLinx units are backed by a five-year warranty on the fixtures and a fifteen-year pro-rata warranty on the NiCad batteries.

SELF DIAGNOSTIC TESTING OPERATIONS

The Sure-Lites Eagle Eye Self Diagnostics is continuously monitoring your emergency fixture, and will signal any failure through the 3 color indicator LED.

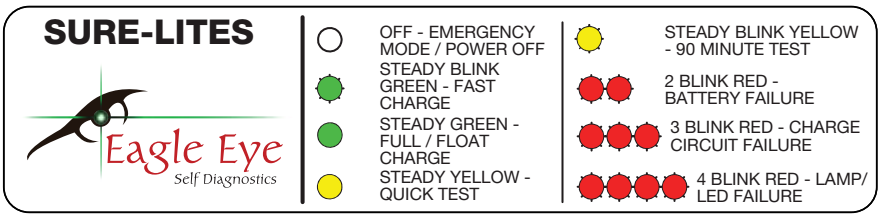
Initial Operation:
When the unit is first powered up, it will go into a 24 hour fast charge, indicated by the indicator LED pulsing green. Once the unit has fully charged, it will perform a self calibration, after which the LED will change to steady green, indicating the unit is fully charged and float charging the battery to maintain readiness.

Automatic Testing:
The unit will perform a battery capacity, lamp/LED, and charge circuit test every 30 days for 30 seconds. During this time, the indicator LED will change to a steady yellow. It will perform a full battery capacity (90 minute) test once per year. During this time, the indicator LED will change to a blinking yellow.

Manual Testing:
- 10 Second “Installation” test – Press and release the test button once during fast charge (blinking green) to initiate a 10 second quick test. The sign will switch to emergency mode for 10 seconds allowing the installer to verify proper installation of the unit, and the LED indicator will turn solid yellow.
- 30 Second Test - Press and release the test button once during float charge (steady green). The indicator LED will turn steady yellow to indicate the unit is performing a 30 second test of the batteries and lamps/LEDs.
- 90 Minute Test - Press and release the test button a second time during a 30 second test (steady yellow) to change to a 90 minute test. During this test, the LED indicator will change to blinking yellow, and the circuit will perform a full battery capacity, charge circuit, and LED test.
- Canceling Test – Press and release the test button during the 90 minute test (flashing yellow) to return the fixture to its original state (fast charge or float charge)

Laser Test:
The LEM SD products are equipped with a Laser Test function, that allows the unit to be manually tested without the need to physically press the test button. Shining a laser pointer in the hole marked “LASER TEST” on the bottom of the unit has the same effect as a press and release of the test button.

Clearing Failure Codes:
- A battery failure (LED two blink red) can be cleared by replacing the battery. Disconnecting the battery and AC power, or performing a full 90 minute discharge, will reset the error code, however, it will return if the battery is faulty
- Charge Circuit (LED three blink red) and lamp/LED failure (LED four blink red) will clear when the unit successfully passes a manual or automatic 30 second test.

Indicators:
- LED Off - No power to unit, emergency mode.
- LED Steady Green - Unit is fully charged and is float charging the battery to maintain readiness.
- LED Green Pulse - Unit is in a 24 hour fast charge of the battery.
- LED Two Blink Red - Battery has failed a capacity test, or the battery is disconnected. See “Clearing Failure Codes” above.
- LED Three Blink Red - Battery charge circuit has failed. See “Clearing Failure Codes” above.
- LED Four Blink Red - Lamps have burned out, or on an EXIT/Combo, 50% or more of the LEDs have failed. See “Clearing Failure Codes” above.
- LED Steady Yellow - 30 second test or 10 second quick test (Fast Charge only).
- LED Blinking Yellow - 90 minute test.

Maintenance:
None required. Replace the batteries as needed according to ambient conditions. However, we recommend that the equipment be tested regularly in accordance with local codes.