

LED FLASHLIGHT, Model 3315RZ0 & 3335RZ0

Tested under

UL 913 8th Edition, Intrinsically Safe Apparatus and Associated Apparatus for Use in Class I, II, and III, Division I, Hazardous (Classified) Locations, Issued 2013/12/06

CAN/CSA C22.2 No. 60079-0, Explosive Atmospheres – Part 0: Equipment – General Requirements, Issued: 01-Oct-2015

CAN/CSA C22.2 No. 60079-11, Explosive Atmospheres – Part 11: Equipment Protection by Intrinsic Safety ‘i’, Issued: 01-Feb-2014

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MET Report: 120448

Approved: October 14, 2022

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- ☐ MET Listing for Canada
- ☐ MET-C Recognition
- ☐ MET-C Classification

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Change Record

Change Number	Description	Approval Date	Project Number	Amendment Engineer	Engineer Initials
-					

Description

Product(s) Covered:

- LED Flashlight, Models 3315RZ0 & 3335RZ0
- For use in:
 - Class I, Division 1, Groups A, B, C, D
 - Ex ia IIC T4 Ga
 - Temperature Code: T4
 - Ambient Temperature Range: -20°C to +40°C
- The '3315R Flashlight' and '3335R Flashlight' have a battery compartment which can accept a single rechargeable cell which are suitably approved depending on the model type below.

Device (Part number)	Battery charger (Part number)	Battery type
3315R	3318	LG INR18650 F1L Panasonic UR18650-ZY
3335R	CHG05	Tenergy IFR-18650 (model 30064-0)

Product Description:

- The product is an intrinsically safe flashlight. The flashlight uses a single secondary Li-FePO₄ (3315RZ0) or Li-Ion (3335RZ0) size 18650 cell as the power source. The enclosure is made of non-metallic material. The flashlight is intended to be recharged only in a nonhazardous area. The maximum U_m that can be applied to the charger port is $U_m = 4.2V$. The flashlight can come with an optional right angle adapter fitting for the lens.

Model Differences:

- Both variants of the device are identical except the '3335R Flashlight' charging input has a different geometry (rotated 90 degrees compared with 3315R) to ensure charging is done with the correct charger for that variant. Each device therefore has its own unique charger.

Electrical Rating:

- $U_m = 4.2V$ (Must be Supplied From an Approved SELV Power Supply)

Engineering Considerations (Not For Field Representative's Use):

- The LED Flashlight, Models 3315RZ0 & 3335RZ0 have been investigated in accordance with UL 913, CAN/CSA C22.2 No. 60079-0 and CAN/CSA C22.2 No. 60079-11.
- This product must be installed in accordance with all codes applicable to the location of the installation and in accordance with its instructions for use.

Description (Continued)

Note to Field Representative:

- A sample of each component listed below and a purchase order for the work described below at the current hourly rate shall be submitted to:*

Eurofins E&E NA, Inc.
914 West Patapsco Avenue
Baltimore, Maryland 21230-3432

for reassessment processed under job #xxxxx for verification of construction against the associated drawings also listed below. The component(s) shall be subjected to an annual audit for continued compliance. The annual re-verification is a client incurred expense to be assessed at the current hourly rate at the time of the test. The estimated time for re-verification is also listed below.

Figure/ Item #	Component	Controlled Document Number	Re-Verification Type	Re-verification Maximum Estimated time (hours)
-	None			

*Alternatively: If the evaluation is performed by the Eurofins E&E NA representative's lab other than the location above or by the MET representative during the Follow-up inspection, all data shall be returned to the Baltimore office listed above for surveillance tracking under the assigned job number mentioned above.

- The above inspections are a client incurred cost and will be billed at the hourly rate in place at the time of the inspection.

General Requirements

Scope of Requirements: The requirements contained within this section apply to all products contained within this Follow-Up Service Report File where applicable.

Definitions: *(as defined or used in the context of the standard)*

Term	Definitions
SELV:	Safety Extra Low Voltage
PCB:	Printed Circuit Board
TNV:	Telecommunications Network Voltage
Listed/Recognized Component:	A component evaluated to the applicable U.S. standards by a Nationally Recognized Testing Laboratory (NRTL).
Certified Component:	A component evaluated to the applicable Canadian standards by a Certification Organization (CO).
Listee:	Applicant

Measurements: All dimensions indicated in the body of this report are approximations unless otherwise indicated.

Corrosion Protection: All corrosive metals shall be provided with a means to protect from corrosion. Acceptable methods include painting, plating and galvanizing. Dissimilar metals shall not be employed where reliable continuity is required.

Soldered Connections: All soldered connections shall be made mechanically secure before soldering. Tack soldering is not acceptable. Acceptable forms of mechanical securement include:

- A) Lead is inserted through an eyelet or opening of a terminal block prior to soldering.
- B) Lead is inserted into a U or V shaped slot in the terminal prior to soldering.
- C) Lead is wrapped around a terminal post prior to soldering.
- D) Lead is tied to adjacent lead with wire tie-wrap near termination point.

Electrical Connections: All electrical connections other than soldering shall be provided with positive detent, crimp type insulated Recognized Component connectors suitable for the voltage and temperatures involved. They shall be sized for the wire and mounting terminations. Where hazardous voltage or energy is involved, all wire connections to connectors shall employ a recognized method of double securement. Where fork-type lugs are used, they shall be snap-on or up-turned lug type.

Mechanical Assembly: All parts shall be secured by welding, bolts/nuts with lock or star washers, or thread forming screws.

Creepage and Clearances: Shall be in accordance with the evaluated product standards.

General Requirements (Continued)

Where present, the following items are required.

Internal Plastics: Shall be a Recognized/Certified Component, Plastic, rated minimum 94V-2.

PCB: Shall be a Recognized Component, rated minimum 94V-2 and 105°C.

Tubing and Sleeving: Shall be a Listed/Recognized/Certified Component, rated minimum 300V, 80°C minimum, 94V-2, unless otherwise noted.

Wire Connectors: (Various crimp-type) Shall be Listed/Recognized/Certified Components sized for the wire and mounting terminations. Both the wire insulation and the conductor shall be crimped.

Fuseholder: Operator accessible fuseholders, when provided, are connected to the ungrounded conductor(s) of the primary circuit.

Internal Wiring: All internal wiring and connections are properly jacketed or enclosed within the equipment. Wiring is routed and secured to reduce the possibility of stress being transmitted to electrical connections, as necessary. All internal conductors in the secondary circuits are routed away from primary circuit conductors and from uninsulated live parts. There is no internal wiring subject to contact by the user when the product is employed as intended. The internal wiring is acceptable for conditions of service to which it will be subjected. Internal conductors consist of Recognized Component AWM insulated individual conductors; sized in accordance with the National Electric code and Canadian Electrical code, as may be applicable for the current expected in the conductor, rated VW-1, 300V, 90°C, and signal level ribbon wiring of flammability rating VW-1.

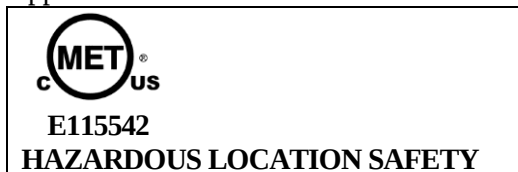
Interconnecting Cords and Cables: Flexible telecommunication cord and cable assemblies employed for interconnection between components are to be rated for and comply with temperatures, exposure to oil or grease and other conditions of service within the environment the product is to be utilized.

Markings

Etching, molding, die-stamping, silk-screening, stamped-, or etched-metal labels secured by rivets or screws are considered permanent. Recognized/Certified Component, Marking and Labeling Systems, and/or labels tested and deemed suitable for the surface to which it is applied is also considered permanent. Per the Canadian Electrical Code described in CSA C22.2 No. 0 General Requirements, Canadian product certification requires warning/cautionary markings in both English and French languages. It is the Applicant's responsibility to provide the listed Bilingual Markings shown below in accordance with the Canadian regulatory requirements. Each product is to be permanently marked with the following information:

- a. The MET Mark (refer to MET Applicant Contract), with the applicant/listee name or alternate listee name as identified within this report, trade name or trade mark, product model number, and a date of manufacture or serial number

- b. Method of applying the MET Mark:
☒ Direct Imprinting
☐ Purchasing Labels from Eurofins E&E NA
 Approved MET Mark:



- c. Signal words such as "CAUTION" or "WARNING" shall be legible and applied in accordance with the standard.
- d. The following markings are required on the product in operator line-of sight during normal use:

- Cl. I, Div. 1, GP. ABCD T4
- Ex ia IIC T4 Ga
- Ambient Range: $-20^{\circ}\text{C} \leq T_{\text{amb}} \leq +40^{\circ}\text{C}$

Cautionary Markings English:

- "INTRINSICALLY SAFE APPARATUS"
- "REFER TO THE INSTRUCTION MANUAL FOR WARNINGS"

Cautionary Markings French:

- "APPAREILS DE SECURITE INTRINSQUE"
- "REPORTEZ-VOUS AU MANUEL D'INSTRUCTION POUR LES AVERTISSEMENTS"

Manual/Service Instructions

- Operations and Service instructions are provided with the equipment.

Alternate Listee Information

Alternate listees and product names or model numbers: None

Applicant's Responsibilities

Product Modifications:

Minor product modifications by the manufacturer may be allowed using the following guidelines:

1. Components identified in this report as "Listed, Recognized, or Certified" and **NOT** identified with a manufacturer name or part number may be exchanged with an alternate "Listed, Recognized, or Certified" component of equivalent value.

Example: Appliance Inlet Connector - Listed/Certified Component, IEC 320 style male connector, rated 250 volts and 20 amperes. Mechanically secured to the front panel with screws and locking washers.

- This inlet connector may be replaced with any Listed/Certified inlet connector with the same ratings as stated and where mechanical securement is maintained.

2. Components identified by a manufacturer name, part number, or with specific comments, (such as AC only, indoor use only, approved for use in this product only), may **NOT** be replaced or modified without prior approval from MET Laboratories.

Example: Circuit Breaker - Recognized/Certified Component, ABCD Co. P/N XYZ123, rated 250 volts maximum, 50/60 Hz, 25 full-load amperes, 31.3 trip amperes. Toggle handle marked with IEC on/off symbols. Mechanically secured to the front panel with screws and locking washers.

- This circuit breaker can **NOT** be modified or changed without prior approval by Eurofins E&E NA, Inc.

This product was tested for use in **Hazardous Locations**.
The manufacturer **may not** make any modifications without prior approval of
Eurofins E&E NA, Inc.

All critical spacings related to intrinsic safety shall be maintained as follows: Between and around protective component pads: > 0.5mm.

Applicant's Responsibilities (Continued)

Project Amendments:

For any changes related to product construction, manufacturing locations, if the product is intended to be marketed/sold under an alternate name or model number than that originally listed, or any issues which would require notification or change in the status of this file, please complete the form and return to Eurofins E&E NA following the instructions provided on the form.

For your convenience a Project Amendment Request (PAR) form is available for download at <http://corp.metlabs.com/safetyreq/> Alternatively, please provide it to your local Eurofins office or Eurofins Partner Representative.

If you are terminating or temporarily suspending production of this product for an extended period, please send a letter on company letterhead to:

Eurofins E&E NA, Inc.
Attn: Follow Up Services Department
914 West Patapsco Avenue
Baltimore, Maryland 21230
USA
Fax: (410) 354-3313

Applicant's Responsibilities (Continued)

Manufacturing and Production-Line Tests and Documentation.

This product is exempt from production line testing.

Critical Components

Figure/ item No.	Object/ Parts No.	Manufacturer/ Trademark	Type/ Model	Technical Data	Standard (Edition / year)	Mark(s) of Conformity	Secured Method
1/1	Enclosure Body	Pelican	03315R-6000- 000-39-D1	Material: RTP- 2099X134682 IM PC/PBT Color: Yellow or Black Constructed per Drawing No. 03315R-6000- 000- 39-D1	N/A	N/A	N/A
1/2 Not shown	Enclosure Body Contact Pin	Pelican	03315R-6000- 000-02	Material: SUS 301 Stainless Steel Constructed per Drawing No. 03315R-6000- 000- 02	N/A	N/A	N/A
1/3	Switch Boot	Pelican	03315R-6000- 000-01	Material: Silicone Rubber 60±5A Color: Black or Grey. Constructed per Drawing No. 03315R-6000- 000- 01	N/A	N/A	N/A
1/4	Switch Boot Holder	Pelican	03315R-6000- 000-43	Material: RTP- 2099X134682 IM PC/PBT Color: Yellow or Black Constructed per Drawing No. 03315R-6000- 000- 43	N/A	N/A	N/A
2/5	Shroud	Pelican	03315R-6000- 000-38	Material: RTP- 2099X134682 IM PC/PBT Color: Yellow or Black Constructed per Drawing No. 03315R-6000- 000- 38	N/A	N/A	N/A
2/6 Not shown	Gasket (Lens)	Pelican	03315R-6000- 000-26	Material: NBR 60±5A Color: Black Constructed per Drawing No. 03315R-6000- 000- 26	N/A	N/A	N/A
2/7	Lens	Pelican	03315R-6000- 000E-23	Material: SCME Antistatic PC Plate Constructed per Drawing No. 03315R-6000- 000E-23	N/A	N/A	N/A

Critical Components (Continued)

Figure/ item No.	Object/ Parts No.	Manufacturer/ Trademark	Type/ Model	Technical Data	Standard (Edition / year)	Mark(s) of Conformity	Secured Method
2/8 Not shown	Gore Vent	Pelican	03315R-6000- 000-14	Material: ePTFE (polytetrafluoroeth ylene) Color: White Constructed per Drawing 03315R-6000-000- 14	N/A	N/A	N/A
2/9 Not shown	PCM Board	Pelican	03315R-6000- 000-25	PCB Layout and Bill of Materials. Constructed per Drawing No. 03315R-6000- 000- 25	N/A	N/A	N/A
2/10 Not shown	R-Limited Board	Pelican	03315R-6000- 000-25	PCB Layout and Bill of Materials. Constructed per Drawing No. 03315R-6000- 000- 25	N/A	N/A	N/A
3/11	LED Driver Board	Pelican	03315R-6000- 000-20	PCB Layout and Bill of Materials. Constructed per Drawing No. 03315R-6000- 000- 20	N/A	N/A	N/A
3/12 Not shown	LED Board	Pelican	03315R-6000- 000-40	PCB Layout and Bill of Materials. Constructed per Drawing No. 03315R-6000- 000- 40	N/A	N/A	N/A
2/13 Not shown	Right Angle Adapter	Pelican	03315R-6000- 000-42	Material: RTP- 2099X134682 IM PC/PBT Color: Black Constructed per Drawing No. 03315R-6000- 000- 42	N/A	N/A	N/A
2/14	Battery	Tenergy	30064-0 IFR- 10650	Cell Size - 18650 Chemical Makeup - LiFePO ₄ or Li- Ion. Nominal Voltage: 3.8V	N/A	cURus	N/A
		LG	INR18650 F1L				
		Panasonic	UR18650-ZY				

Critical Components (Continued)

Figure/ item No.	Object/ Parts No.	Manufacturer/ Trademark	Type/ Model	Technical Data	Standard (Edition / year)	Mark(s) of Conformity	Secured Method
2/15	LED	Luxeon	L1T2- 6570000000000	Forward Voltage: 2.5V Minimum to 3.0V Maximum (2.8V Typical) Forward Current: 1050mA Minimum to 1500mA Maximum (1200mA Typical) Color Temperature: 5900K to 7000K Maximum Junction Temperature: +135°C	N/A	N/A	N/A
		CREE	XPGBWT-L1- 0000-00K51	Forward Voltage: 2.8V to 3.1V Typical Forward Current: 350mA Minimum to 1500mA Maximum Color Temperature: 6100K to 7100K Maximum Junction Temperature: +150°C	N/A	N/A	N/A

Critical Drawings

Title:	Drawing No.:	Rev. Level:	Date:
PELICAN 3315R C1D1 LIGHT ASSEMBLY	03315R-6000- 000-D1	D	2/10/2020
PELICAN 3315R C1D1 BODY	03315R-6000- 000-39-D1	A	07-22-2016
PELICAN 3315R C1D1 Approval Insert	03315R-001-D1	A	07-25-2016
SHROUD, PELICAN	03315R-6000- 000-38	A	07-25-2016
SWITCH BOOT HOLDER, PELICAN	03315R-6000- 000-43	A	07-25-2016
BODY CONTACT PIN	03315R-6000- 000-02	B	05-17-2016
SWITCH BOOT	03315R-6000- 000-01	B	05-17-2016
PELICAN, 3315R LED WITH MCPCB	03315R-6000- 000-40	A	07-25-2016
GORE VENT	03315R-6000- 000-14	A	07-21-2015
3315RLED DRIVER PCBA, LIFEPO4	03315R-6000- 000-20	A	06-21-2016
BATTERY PACK, PELICAN 3315R & PELI 3315R Z0	03315R-6000- 000-25	C	09-11-2019
LENS, ANTI-STATIC	03315R-6000- 000E-23	A	04-23-2015
GASKET, LENS	03315R-6000- 000-26	A	04-23-2015
RIGHT ANGLE ADAPTER	03315R-6000- 000-42	B	10-10-2016
SAFETY/INSTRUCTION MANUAL	003315-3140- 000	B	05-09-2017
3335R Pelican Light	03335R-6000-000-AP	A	09-09-21
Pelican 3335R C1D1 approval insert	03335R-001	A	12-20-21
Instruction manual	03335R-3110-000	A	01-20-22

Figures

Figure 1.



Figure 2.



Figures (Continued)

Figure 3.



Illustrations

None

Testing Considerations

A sample of the LED Flashlight was subjected to the following test program with satisfactory results. All tests were conducted in accordance with UL60079-0/CSA C22.2 No. 60079-0.

Only these tests were considered necessary due to engineering considerations. Detailed test results are on file at MET Laboratories under project number 120448.

TESTS CONDUCTED:

1. Maximum Surface Temperature Measurement

Conclusion

The product(s) covered by this report have been tested, examined, and found to comply with the applicable requirements of UL 913, CSA C22.2 No. 60079-0 and CSA C22.2 No. 60079-11. This certification has been granted under a System 3 program as defined in ISO/IEC 17067.

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