

UK Type Examination Certificate CML 23UKEX3247X Issue 0

United Kingdom Conformity Assessment

- 1 Product or Protective System Intended for use in Potentially Explosive Atmospheres UKSI 2016:1107 (as amended) – Schedule 3A, Part 1
- 2 Equipment **SPARTAN LED Street Luminaire type SPX**
- 3 Manufacturer **Raytec Ltd.**
- 4 Address **Unit 15 Wansbeck Business Park,
Rotary Parkway, Ashington,
Northumberland, NE63 8QW, UK**

5 The equipment is specified in the description of this certificate and the documents to which it refers.

6 Eurofins E&E CML Limited, Newport Business Park, New Port Road, Ellesmere Port, CH65 4LZ, United Kingdom, Approved Body Number 2503, in accordance with Regulation 42 of the Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres Regulations 2016, UKSI 2016:1107 (as amended), certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment intended for use in potentially explosive atmospheres given in Schedule 1 of the Regulations.

The examination and test results are recorded in the confidential reports listed in Section 12.

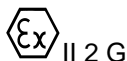
7 If an 'X' suffix appears after the certificate number, it indicates that the equipment is subject to specific conditions of use (affecting correct installation or safe use). These are specified in Section 14.

8 This UK Type Examination certificate relates only to the design and construction of the specified equipment. Further requirements of the Regulations apply to the manufacturing process and supply of the product. These are not covered by this certificate.

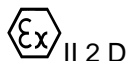
9 Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the confidential report, has been demonstrated through compliance with the following documents:

EN IEC 60079-0:2018 EN IEC 60079-7:2015+A1:2018 EN IEC 60079-18:2015+A1:2017
EN 60079-31:2014

10 The equipment shall be marked with the following:



Ex eb mb IIC T4 Gb
Ta = -40 °C to +50 °C



Ex tb IIIC T80°C Db
Ta = -40 °C to +50 °C





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11 Description

The SPARTAN LED SPX Street Luminaires are luminaires intended for mount on either a vertical or horizontal pole that provides downward illumination in Zone 1 and Zone 21 Gas and Dust explosive atmospheres.

The luminaires consist of an aluminium housing containing the Light Engine, LED Driver, and connection facilities. The housing is mounted using a pole entry that permits the assembly to be mounted on either a vertical or horizontal pole with a downward illumination with an orientated angle up to a maximum +/-15° from the horizontal of the glass window.

The Main Body housing is constructed using a cast/extruded aluminium body that is common with separate Driver/Connection and Light Engine compartments.

A cast/extruded aluminium Lid with recessed Silicone Sponge gasket bolts to the Main Body housing to form and seal the Driver/Connection compartment. The compartment contains a Stainless Steel /Steel / Aluminium chassis plate mounted with LED Driver and terminal blocks that provide connections for internal and external wiring. Field wiring enters via a cable entry with a suitably certified Cable Gland.

The Light Engine carrier assembly is constructed using 96 LEDs mounted on an Insulated Metal Substrate (IMS) Printed circuit Board (PCB). The LEDs are mounted in 6 separate segments, each containing 16 LED's. Each segment is fitted with an optic/lens bolted to the PCB then covered with polycarbonate cover secured to the PCB using silicone adhesive.

The PCB assembly is fitted inside an aluminium carrier that is filled with Silicone Elastomer around the polycarbonate covers. The complete carrier assembly is bolted to the Main Body

The PSU compartment contains an encapsulated LED Driver and, certified terminal blocks for connection of field using a certified cable entry, and internal wiring between the LED Driver and Light Engine. The LED Driver and certified terminal blocks are mounted on either a stainless steel or aluminium chassis plate.

The units have an environmental rating of IP64. The equipment may also be marked with the manufacturer's ingress protection rating of IP66. An ingress protection rating of IPX6 has not been verified under the CML certification.

Rating

Input	Maximum Power
110 V to 254 V	60 W



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Components covered by Ex Certificates

Component	Manufacture	Certificate	Standards Applied
862 SERIES	WAGO	PTB 03ATEX1189U Issue 01	EN IEC 60079-0:2018 EN 60079-7:2015+A1:2018
MK6 SERIES BK SERIES MK3 SERIES	WEIDMULLER	TUV 18ATEX8209U Issue 02	EN IEC 60079-0:2018 EN 60079-7:2015+A1:2018

12 Certificate history and evaluation reports

Issue	Date	Associated report	Notes
0	08 Jun 2023	R15842A/00	Issue of Prime Certification

Note: Drawings that describe the equipment or component are listed in the Annex.

13 Conditions of Manufacture

The following conditions are required of the manufacturing process for compliance with the certification.

- i. Where the product incorporates certified parts or safety critical components, the manufacturer of the product defined on this certificate shall continually monitor these parts/components for any modifications introduced by the manufacturer(s) of these constituent parts. If the manufacturer of any constituent part introduces any changes which affect the compliance of the certified product that is the subject of this certificate, the manufacturer is required to have this certificate updated. The manufacturer shall supply copies of instructions for all certified Ex-Equipment and Ex-Components fitted.
- ii. The LED driver and encapsulated LED assembly shall each be subjected to an electric strength test in accordance with IEC/EN60079-18 Clause 9.2 using a test voltage of 1500Vac applied between the terminals and the surface of the encapsulant (covered in foil), for a period of 1 second.

Alternatively:
 - a) voltage of 20% higher may be applied for 0.1 second, or
 - b) d.c. test voltage at 170% of the specified a.c. r.m.s. test voltage.

There shall be no flashovers.
- iii. The encapsulated LED driver and encapsulated LED assembly shall each be visually inspected. No damage shall be evident, such as cracks in the compound, exposure of encapsulated parts, flaking, inadmissible shrinkage, swelling, decomposition, failure of adhesion, or softening. The encapsulated LED Driver shall only be used for temperature class T4, EPL Gb applications.
- iv. The equipment shall be subjected to an electric strength test in accordance with the requirements of IEC/EN60079-7 Clause 6.1 using a test voltage of 1500Vac applied between the supply terminals and frame, for a period of 1 second.



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Alternatively, a d.c. test voltage is allowed as an alternative to the a.c. test voltage and shall be 170% of the specified a.c. r.m.s. test voltage.

- v. The manufacturer shall ensure that requirements for suitable glands for use with this equipment are included in the instructions supplied with all equipment.

14 Specific Conditions of Use (Special Conditions)

The following conditions relate to safe installation and/or use of the equipment.

- i. Equipment must only be installed in a position that satisfies a low risk of mechanical danger from impact. (4 J).

Certificate Annex

Certificate Number CML 23UKEX3247X
Equipment SPARTAN LED Street Luminaire type SPX
Manufacturer Raytec Ltd.



The following documents describe the equipment defined in this certificate:

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Drawing No	Sheets	Rev	Approved date	Title
1286-SD-00001	1 of 3	B	08 Jun 2023	Spartan Street General Construction Detail
1286-SD-00001	2 of 3	B	08 Jun 2023	Spartan Street Power Supply and Light Engine Detail
1286-SD-00001	3 of 3	B	08 Jun 2023	Spartan Street Typical Wiring Diagram and Pole Mount Orientations