

UK Type Examination Certificate CML 21UKEX1102 Issue 2**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 **HP Spartan LED Luminaire**
- 3 Manufacturer **Raytec Ltd**
- 4 Address **Unit 15 Wansbeck
Business Park
Rotary Parkway
Ashington
Northumberland
NE63 8QW**
- 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 60079-1:2014 EN IEC 60079-7:2015+A1:2018
EN 60079-18:2015+A1:2017 EN 60079-31:2015
- 10 The equipment shall be marked with the following:

 II 2 G D

Ex db eb mb IIB+H2 T4 Gb

Ex db eb mb IIB T4 Gb

Ex tb IIIC T104°C Db

Ta = -50°C to +50°C



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11 Description

The HP Spartan LED Luminaire are a Floodlight and Highbay luminaire that are suitable for installation in either Gas or Dust environments with different mounting arrangements and orientations.

The encapsulated LED Head assembly contains up to 2 x 12 LED circuits protected by encapsulation, located behind a glass window. The LED Head connects to either:

- A combined flameproof PSU and increased safety JB assembly, or
- An increased safety JB assembly;

The combined flameproof PSU and increased safety JB assembly, consists of separate enclosures containing LED Driver circuits and suitably certified Ex component terminals for connection of internal and field wiring using suitably certified cable glands. The two enclosures are separated using a suitably certified bushing.

The increased safety JB assembly consisting of a single enclosure containing suitably certified Ex Component terminals for connection of internal and field wiring using suitably certified cable glands. The combined assembly is used with a separately mounted combined flameproof PSU and increased safety JB assembly, connected using suitably certified cable glands.

The combined or separate assemblies have an environmental rating of IP 66.

A maximum of two cable entries can be supplied with each luminaire. Suitably certified cable entries may be various thread types up to a maximum diameter of 25 mm.

The equipment is also marked with an ingress protection rating of IP67. An ingress protection rating of IPX7 has not been verified under the CML certification.

An optional self-adhesive anti-static film can be fitted over the glass externally.

Operating voltage may be 150-264V AC/DC or 110V-264V AC/DC with a maximum wattage of 300W.

Variation 1

This variation introduces the following modifications:

- Increase the flamepath gap on IIB variants from 0.1mm to 0.2mm
- To update conditions of manufacture
- To update the product description
- To provide clarification on product specification on certification documents

Variation 2

This variation introduces the following modifications:

- Minor changes to LED board

12 Certificate history and evaluation reports

Issue	Date	Associated report	Notes
0	26 Mar 2021	R13817A/00	Issue of prime certification
1	23 Jan 2023	R16084A/00	Issue of variation 1
2	24 May 2023	R16358A/00	Issue of variation 2

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



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13 Conditions of Manufacture

- 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.
- ii. The manufacturer shall fit only the certified Ex Components listed in the certification documentation and the manufacturer's instructions. All Special Conditions of Certification/ Special Conditions for Safe Use/ Schedule of Limitations shall be satisfied for each part fitted.
- iii. If the terminals or components are fitted with cables/wiring by the manufacturer; all cables/wires shall be suitable for rated voltage and current of each separate circuits and Ex Components to which they are connected
- iv. All creepage and clearance distances as defined in IEC 60079-7 Table 2 shall be observed for the voltage rating marking.
- v. The routine overpressure test shall be carried out in accordance with the static method (IEC 60079-1, clause 15.1.3.1) at the following pressures:

Type	Test Pressure
MMX-HP (Zone 1/ 21 Group IIB + H2 Version)	7.61 bar x 1.5 = 11.42 bar
MMX-HP (Zone 1/ 21 Group IIB Version)	6.73 bar x 1.5 = 10.10 bar

- vi. All "m" equipment shall be subjected to a visual inspection. No damage shall be evident, such as cracks in the compound, exposure of the encapsulated parts, flaking, inadmissible shrinkage, swelling, decomposition, failure of adhesion (separation of any adhered parts) or softening.
- vii. A dielectric strength test shall be carried out on all units manufactured in accordance with EN 60079-7, clause 7.1 and EN 60079-18, clause 9.2, at 1508 V for 1 minute, or alternatively at 1.2 times this test voltage for 100 ms. No breakdown shall occur. Tests shall be carried out between each circuit and earth.
- viii. The Line Bushing shall be suitable for service temperature range of at least -50°C to +85°C
- ix. Where the LEDs are configured in a single string of 12 connected in series, only the XLamp LEDs are to be used.

14 Specific Conditions of Use

None.

Certificate Annex

Certificate Number CML 21UKEX1102
Equipment HP Spartan LED Luminaire
Manufacturer Raytec Ltd



The following documents describe the equipment defined in this certificate:

Issue 0

Drawing No	Sheets	Rev	Approved date	Title
1050-SD-0034	2 of 4	D	26 Mar 2021	SPARTAN HIGH POWER LED FLOODLIGHT/HIGHBAY
1050-SD-0034	4 of 4	D	26 Mar 2021	SPARTAN HIGH POWER LED FLOODLIGHT/HIGHBAY

Issue 1

Drawing No	Sheets	Rev	Approved date	Title
1050-SD-00034	1 of 4	D	23 Jan 2023	Spartan High Power LED Floodlight/Highbay
1050-SD-00034	2 of 4	E	23 Jan 2023	Spartan High Power LED Floodlight/Highbay

Issue 2

Drawing No	Sheets	Rev	Approved date	Title
1050-SD-00034	2 of 4	F	24 May 2023	SPARTAN HIGH POWER LED FLOODLIGHT/HIGHBAY
1050-SD-00034	3 of 4	E	24 May 2023	SPARTAN HIGH POWER LED FLOODLIGHT/HIGHBAY