Type Examination Certificate CML 17ATEX4149 Issue 5

1 Equipment intended for use in Potentially Explosive Atmospheres Directive 2014/34/EU

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 CML B.V., Chamber of Commerce No 67386717, Koopvaardijweg 32, 4906CV Oosterhout, The Netherlands, 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 Annex II of Directive 2014/34/EU.

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 conditions of safe use (affecting correct installation or safe use). These are specified in Section 14.

8 This Type Examination certificate relates only to the design and construction of the specified equipment or component. Further requirements of Directive 2014/34/EU Annex VIII apply to the manufacture of the equipment or component and are separately certified.

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 60079-7:2015+A1:2018 EN IEC 60079-15:2019

EN 60079-31:2014

10 The equipment shall be marked with the following:

II 3 G D

Ex ec nR IIC T4 Gc

Ex tc IIIC T104°C Dc

IP66

Ta = -50°C to +50°C

Ben Trafford
Certification Officer

11 Description

The combined restrictive breathing 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 restrictive breathing 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:

i. To allow a 110V-264V AC/DC supply rating option, in addition to the existing 150V-264V AC/DC option. The supply voltage rating is dependent on the power supply fitted.
ii. To permit the use of an optional self-adhesive anti-static film which can be fitted over the glass externally.
iii. The description on the certificate has been updated to show details of the above modifications.
iv. Compiling of all drawings from the previous certificate issue into one complete list of current drawings.
v. Change to the Condition of Manufacture defining the service temperature range of the line bushings.

Variation 2

This variation introduces the following modifications:

i. To update and review the product against the latest editions of the standards.
ii. To remove the type of protection ‘op is’ and standard IEC/EN 60079-28 from the certification.
iii. To assess and confirm the toughened glass window assembly meets the high risk level impact energy (7J).
iv. To amend the certification by including the latest component certification for the BK and MK series terminal blocks and remove the old versions.
v. To transfer the ATEX certification from CML UK to CML B.V.
vi. Clarification regarding the marked current rating.
vii. Changes to the ingress protection rating specified on the marking and the addition of information to the product description, also relating to the marked IP rating.
viii. The introduction of an alternative LED.

Variation 3

This variation introduces the following modifications:

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

Variation 4

This variation introduces the following modifications:

i. Minor change to LED Board

Variation 5

This variation introduces the following modifications:

i. Minor change to LED Board

12 Certificate history and evaluation reports

Issue	Date	Associated report	Notes
0	24 Jul 2017	R1722A/00	First issue
1	15 Jun 2018	R11782A/00	Introduction of Variation 1
2	27 Oct 2020	R13535A/00	Introduction of Variation 2
3	24 Jan 2023	R16084A/00	Introduction of Variation 3
4	10 Mar 2023	R16318A/00	Introduction of Variation 4
5	24 May 2023	R16358A/00	Introduction of Variation 5

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.

ii. Where the product incorporates certified parts or safety critical components, the manufacturer shall ensure that any changes to those parts or components do not affect the compliance of the certified product that is the subject of this certificate.

iii. 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.

iv. 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.

v. All creepage and clearance distances as defined in IEC 60079-7 Table 2 shall be observed for the voltage rating marking.

vi. A dielectric strength test shall be carried out on all units manufactured in accordance with EN 60079-7 clause 7.1, 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.

vii. The Line Bushing shall be suitable for a service temperature range of at least -50°C to +85°C

14 Specific Conditions of Use (Special Conditions)

None.

Certificate Annex

Certificate Number	**CML 17ATEX4149**
Equipment	**HP Spartan LED Luminaire**
Manufacturer	**Raytec Ltd**

The following documents describe the equipment or component defined in this certificate:

Issue 0

Drawing No	Sheets	Rev	Approved date	Title
1050-SD-00034	1 of 4	A	24 Jul 2017	General Construction Details
1050-SD-00034	2 of 4	A	24 Jul 2017	Power Supply, Bushing, Flamepaths and Notes
1050-SD-00034	3 of 4	A	24 Jul 2017	Light Engine Details
1050-SD-00034	4 of 4	A	24 Jul 2017	Nameplate, Wiring etc..
1050-SD-0001	1 to 5	A	24 Jul 2017	HPFL FMEA Dated 22-05-2017
1050-SD-0002	1 of 1	A	24 Jul 2017	HP Flood Protection circuit schematic
1050-SD-0003	1 of 1	A	24 Jul 2017	Protection circuit parts list

Issue 1

Drawing No	Sheets	Rev	Approved date	Title
1050-SD-00034	1 to 4	B	15 Jun 2018	Spartan High Power LED Floodlight/Highbay
1050-SD-0001	1 to 5	A	15 Jun 2018	HPFL FMEA Dated 22-05-2017
1050-SD-0002	1 of 1	A	15 Jun 2018	HP Flood Protection circuit schematic
1050-SD-0003	1 of 1	A	15 Jun 2018	Protection circuit parts list
1050-SD-0006	1 of 1	A	15 Jun 2018	Wadco Bosse HP LED Luminaire Zone 1 nameplate

Note: The above complete list of drawings supersedes the drawing lists from the previous certificate issue.

Issue 2

Drawing No	Sheets	Rev	Approved date	Title
1050-SD-00034	1 to 4	C	26 Oct 2020	Spartan High-Power LED Floodlight/Highbay

Note: Previously approved drawing number 1050-SD-0006 has been removed from the certification

Issue 3

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

Certificate Annex

Certificate Number	**CML 17ATEX4149**
Equipment	**HP Spartan LED Luminaire**
Manufacturer	**Raytec Ltd**

Issue 4

Drawing No	Sheets	Rev	Approved date	Title
1050-SD-00034	3 of 4	D	10 Mar 2023	SPARTAN HIGH POWER LED FLOODLIGHT/HIGHBAY

Issue 5

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