



# IECEX Certificate of Conformity

## INTERNATIONAL ELECTROTECHNICAL COMMISSION IEC Certification System for Explosive Atmospheres

for rules and details of the IECEx Scheme visit [www.iecex.com](http://www.iecex.com)

Certificate No.: **IECEX CML 21.0037** Page 1 of 3 [Certificate history:](#)  
Status: **Current** Issue No: 0  
Date of Issue: 2021-10-20  
Applicant: **Raytec Ltd**  
Unit 15 Wansbeck Business Park  
Rotary Parkway  
Ashington  
Northumberland  
NE63 8QW  
**United Kingdom**  
Equipment: **SPARTAN Mid Power Floodlight/Highbay**  
Optional accessory:  
Type of Protection: **Increased Safety "eb", Encapsulation "mb", Dust Ignition "tb"**  
Marking: Ex eb mb IIC T4 Gb  
Ex tb IIC T90°C Db  
Ta= -40°C to +60°C

Approved for issue on behalf of the IECEx  
Certification Body:

**R C Marshall**

Position:

**Operations Manager**

Signature:  
(for printed version)

Date:

2021-10-20

1. This certificate and schedule may only be reproduced in full.
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3. The Status and authenticity of this certificate may be verified by visiting [www.iecex.com](http://www.iecex.com) or use of this QR Code.



Certificate issued by:

**Eurofins E&E CML Limited**  
**Unit 1, Newport Business Park**  
**New Port Road**  
**Ellesmere Port, CH65 4LZ**  
**United Kingdom**





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Page 2 of 3

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Manufacturer: **Raytec Ltd**  
Unit 15 Wansbeck Business Park  
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Ashington  
Northumberland  
NE63 8QW  
**United Kingdom**

Additional  
manufacturing  
locations:

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements. This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended

#### STANDARDS :

The equipment and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards

**IEC 60079-0:2017** Explosive atmospheres - Part 0: Equipment - General requirements  
Edition:7.0

**IEC 60079-18:2017** Explosive atmospheres - Part 18: Protection by encapsulation "m"  
Edition:4.1

**IEC 60079-31:2013** Explosive atmospheres - Part 31: Equipment dust ignition protection by enclosure "t"  
Edition:2

**IEC 60079-7:2017** Explosive atmospheres - Part 7: Equipment protection by increased safety "e"  
Edition:5.1

This Certificate **does not** indicate compliance with safety and performance requirements other than those expressly included in the Standards listed above.

#### TEST & ASSESSMENT REPORTS:

A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in:

Test Report:

[GB/CML/ExTR21.0070/00](#)

Quality Assessment Report:

[GB/SIR/QAR13.0018/08](#)



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Page 3 of 3

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**EQUIPMENT:**

Equipment and systems covered by this Certificate are as follows:

The Spartan Mid Power Floodlight/Highbay are suitable for installation in Zone 1 environments with different mounting arrangements and orientations

Refer to Annex for full description and conditions of manufacture.

**SPECIFIC CONDITIONS OF USE: NO**

TBD

**Annex:**

[IECEX CML 21.0037 Iss. 0 Certificate Annex.pdf](#)

**Annexe to:** IECEx CML 21.0037 Iss. 0  
**Applicant:** Raytec Ltd.  
**Apparatus:** SPARTAN Mid Power  
Floodlight/Highbay



## Description

The Spartan Mid Power Floodlight/Highbay are suitable for installation in Zone 1 environments with different mounting arrangements and orientations

The encapsulated LED assembly contains up to 48 LED circuits protected by encapsulation, located behind a glass window.

The assembly consists of a single enclosure containing suitably certified Ex Component terminals for connection of internal and field wiring using suitably certified cable glands. The window casting consists of diecast aluminium and glass.

Inside the enclosure consists of an encapsulated terminal board for supply and internal connections

The equipment will deliver between 5000 and 15000 lumens over a 110 to 277V range. Various beam patterns are available and also an emergency option. External mounting brackets will determine if it is a floodlight or Highbay luminaire.

## Conditions of Manufacture

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

- i. 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) a voltage of 20% higher may be applied for 0.1 second
  - b) 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. There shall be no flashovers.
- ii. The 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.
- iii. 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.  
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.
- iv. The manufacturer shall ensure that requirements for suitable glands for use with this equipment are included in the instructions supplied with all equipment.

## Specific Conditions of Use

None.

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