



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

Certificate No.: **IECEX CML 15.0001**

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Certificate history:

Status: **Current**

Issue No: 14

Issue 13 (2022-08-24)

Issue 12 (2021-06-29)

Issue 11 (2021-03-10)

Issue 10 (2020-02-06)

Issue 9 (2018-04-05)

Issue 8 (2017-10-04)

Issue 7 (2017-09-22)

Issue 6 (2017-04-04)

Issue 5 (2016-07-13)

Issue 4 (2016-06-27)

Date of Issue: 2023-02-03

Applicant: **Raytec Limited**
Unit 15 Wansbeck Business Park
Rotary Parkway
Ashington
Northumberland
NE63 8QW
United Kingdom

Equipment: **Spartan LED Linear Luminaire**

Optional accessory:

Type of Protection: **Increased Safety Ex "eb", Encapsulation Ex "mb", Dust Protection by Enclosure Ex "tb"**

Marking: **Standard**

II 2 GD
Ex eb mb IIC T5 Gb
Ex eb mb IIC T4 Gb
Ex tb IIIC T80°C Db
Ta= -40°C to +60°C

II 2 GD
Ex eb mb IIC T6 Gb
Ex tb IIIC T65°C Db
Ta= -40°C to +45°C

Emergency

II 2 GD
Ex eb mb IIC T5 Gb
Ex eb mb IIC T4 Gb
Ex tb IIIC T76°C Db
Ta= -20°C to +50°C

II 2 GD
Ex eb mb IIC T6 Gb
Ex tb IIIC T66°C Db
Ta= -20°C to +40°C

Approved for issue on behalf of the IECEx
Certification Body:

L A Brisk

Position:

Certification Officer

Signature:
(for printed version)

Date:
(for printed version)

2023-02-03

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting 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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Date of issue: 2023-02-03

Issue No: 14

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

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 Reports:

[GB/CML/ExTR15.0001/00](#)
[GB/CML/ExTR16.0013/00](#)
[GB/CML/ExTR17.0047/00](#)
[GB/CML/ExTR18.0066/00](#)
[GB/CML/ExTR21.0135/00](#)

[GB/CML/ExTR15.0023/00](#)
[GB/CML/ExTR16.0083/00](#)
[GB/CML/ExTR17.0160/00](#)
[GB/CML/ExTR20.0007/00](#)
[GB/CML/ExTR22.0193/00](#)

[GB/CML/ExTR15.0039/00](#)
[GB/CML/ExTR16.0095/00](#)
[GB/CML/ExTR17.0178/00](#)
[GB/CML/ExTR21.0046/00](#)
[GB/CML/ExTR23.0013/00](#)

Quality Assessment Report:

[GB/SIR/QAR13.0018/11](#)



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EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

The Spartan LED Linear Luminaires are a range of LED luminaires. There are four luminaire sizes available varying in length WL84, WL84-1200, WL168 and WL168-1500. LV (Low Voltage) or HV (High Voltage) variants are available with the following ratings. The HV luminaires may also be supplied with a battery pack and inverter to enable operation in 'emergency' mode.

See Annex for full description and Conditions of Manufacture.

SPECIFIC CONDITIONS OF USE: NO



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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)

Issue 1

This Issue introduced the following change:

1. To allow a Lower -40°C ambient range for the standard variant model

Issue 2

This Issue introduced the following change:

1. To permit the use of alternative terminal blocks

Issue 3

This Issue introduced the following changes:

1. Allow transparent antistatic film to be fitted the lens across the range.
2. Add a variant WL168-1500 standard & emergency.
3. Add a variant W84-1200 standard & emergency.
4. Allow end blanking cover to be fitted to WL84 standards and WL84-1200 standard.

Issue 4

This Issue introduced the following changes:

1. To allow WL168 and WL168-1500 mains powered (HV) standard variants to be fitted with an alternative dual channel power supply

Issue 5

This Issue introduced the following changes:

1. To increase the voltage range for the low voltage options. The product description was updated to reflect the changes made by this variation

Issue 6

This Issue introduced the following changes:

1. To assess the product against IEC 60079-28:2015
2. To include Ex op is marking in line with IEC 60079-28:2015
3. Drawing 980-SD-0023 removed from controlled drawings.

Issue 7

This Issue introduced the following changes:

1. To allow an alternative label to be fitted, the equipment is marketed under the product range name 'Wadco Bosse LED'
2. To allow the use of alternative model names

Issue 8

This Issue introduced the following changes:

1. Replace discrete logic components with microprocessor system.
2. Addition of 3 indication LEDS

Issue 9

This Issue introduced the following changes:

1. To include a change of address
2. To include a minor change to the component values on the Dual PSU circuit
3. To include a DC option (HV Standard and Dual PSU)
4. Minor change to marking T4/T5
5. The description, Conditions of manufacture and marking has been modified in accordance with all the allowable options and the modifications above

Issue 10

This Issue introduced the following changes:

1. To implement minor changes to the PSU electronic circuit
2. To remove IEC 60079 28:2015 from scope



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Issue 11

This Issue introduced the following changes:

1. To update to the latest edition of the standard
2. To permit alternate LED arrangement
3. To permit the inclusion of LED optics
4. To permit alternate LED driver use with WL84
5. To permit a change to diffuser lens design
6. To update terminal certificate numbers
7. To assess and permit a non-metallic paint layer (applied externally to the equipment)
8. To remove reference to alternative labels Wadco Bosse LED's
9. To update the description in line with the above modifications
10. To update marking in line with latest standards (Ex e to Ex eb)
11. To update maximum ambient from +55°C to +60°C
12. To remove condition of manufacture

Issue 12

This Issue introduced the following changes:

Alternative electronic components for power supply unit.

1. Alternative Nermalux nameplate is added.
2. Correction of typographical errors on schedule drawings.

Issue 13

This Issue introduced the following changes:

1. To introduce a Universal Power Supply.
2. To introduce a High Output (HO) variant of the Spartan LED Linear Luminaires

Issue 14

This Issue introduced the following changes:

1. To provide clarification on product specification on certification documents.
2. To introduce a High Output Emergency variant of the luminaire.

Annex:

[IECEX CML 15.0001 Issue 14 Annex.pdf](#)

Annexe to: IECEx CML 15.0001 Issue 14
Applicant: Raytec Ltd
Apparatus: Spartan LED Linear Luminaire

Description

The Spartan LED Linear Luminaires are a range of LED luminaires. There are four luminaire sizes available varying in length WL84, WL84-1200, WL168 and WL168-1500. LV (Low Voltage) or HV (High Voltage) variants are available with the following ratings. The HV luminaires may also be supplied with a battery pack and inverter to enable operation in 'emergency' mode.

Power Supply Variant	Ratings
HV Standard	110-280 VAC and 154 – 355 VDC
HV Emergency	110-280 VAC
LV Standard	18-48 VAC
HV Dual	110-280 VAC and 154 – 355 VDC
LV DC	18-48 VAC and 18-68 VDC
HV Intelligent Emergency	110-280 VAC

The Spartan LED linear Luminaire enclosure is made from extruded aluminium with a transparent polycarbonate lens. The aluminium enclosure has cast aluminium end sections fitted with cast aluminium covers.

The equipment utilises silicone sponge gaskets to seal the external lens and end covers to the main enclosure and maintain the IP66 rating. Samples of the luminaire have also been independently tested against the requirements of IEC 60529 Ed 2.1 and have passed IPX6 and IPX7.

The end sections house separately certified terminals and a maximum of two separately certified cable entries per end. The end covers house either the encapsulated power supply or the optional emergency mode battery. The covers are fixed to the end sections using two M6 bolts per cover. Alternatively, an option of fitting a blanking cover at one end to provide two cables entries at one end can be used on WL84 and WL84-1200 standard variants only.

The main section of the luminaire is fitted with an encapsulated light engine. This light engine is an extruded aluminium frame fitted with a PCB containing up to 80 surface mounted LED's.

These LED's are fitted with transparent polycarbonate lenses, each lens covering up to 16 LED's. The PCB; complete with fitted lenses, is encapsulated securing the lenses in place and coating the PCB up to the walls of the light engine.

The WL84 and WL84-1200 variants are fitted with one light engine and one external lens. The WL168 and WL168-1500 variants are fitted with two light engines and two external lenses.

The LED's are available in white, coloured or infra-red. The enclosure has fixing holes to the rear, the size, pitch and quantity can be customised to suit customer needs.



Certificate Annex IECEx
 Version: 9.0 Approval: Approved

Eurofins E&E CML Limited
 Newport Business Park
 New Port Road
 Ellesmere Port
 CH65 4LZ

T +44 (0) 151 559 1160
 E info@cmllex.com

www.cmllex.com

Company Reg No. 8554022 VAT No. GB163023642



All enclosures offer internal and external earthing facilities. An optional replaceable antistatic lens film is available across the range.

Variants of the standard mains voltage luminaires can be supplied to deliver an increased light output, these are designated WL84-HO and WL168-HO and can have a maximum power of 46W and 92W respectively. Additionally, an increased light output emergency model WL84-HO-EM (alternately marked WL84-HO-EMX) is available with a maximum power of 60W and battery pack.

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. A dielectric strength test shall be carried out on all units manufactured in accordance with IEC 60079-7:2017 clause 7.1 and IEC 60079-18:2014+A2:2017, clause 9.2, depending on the power supply type and rating at the voltages and durations shown in the following table:

Power Supply Type/ Rating	110 to 280 Vac		154 to 355Vdc
HV	1560V AC for 1 minute	1810 V for 100ms	2111 Vdc for 1 minute
Power Supply Type/ Rating	18 to 48 Vac		28 to 68 Vac
LV	500 Vac for 1 minute		700 V for 1 minute

No breakdown shall occur. Tests shall be carried out between each circuit and earth.

- iii. A visual inspection shall be carried out on the encapsulated parts to check for damage, in accordance with IEC 60079-18:2014+A2:2017, clause 9.1.
- iv. When fitted with universal PSU module, equipment shall only be marked T4 for Gb applications.

Specific Conditions of Use

None.

Components covered by Ex Certificates issued to older editions of Standards

None.