EU Type Examination Certificate CML 14ATEX3119 Issue 14

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

2 Equipment **Spartan LED Linear Luminaire**

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 CML B.V., Chamber of Commerce No 6738671, Koopvaardijweg 32, 4906CV Oosterhout The Netherlands, Notified Body Number 2776, in accordance with Article 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26 February 2014, 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 to the Directive.

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 EU Type Examination certificate relates only to the design and construction of the specified equipment or component. Further requirements of Directive 2014/34/EU Article 13 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 IEC 60079-7: 2015+A1:2018 EN 60079-18: 2015+A1:2017

EN 60079-31:2014

10 The equipment shall be marked with the following:

Standard

Ex II 2 GD	Ex II 2 GD
Ex eb mb IIC T5 Gb	Ex eb mb IIC T6 Gb
Ex eb mb IIC T4 Gb	Ex tb IIIC T65°C Db
Ex tb IIIC T80°C Db	Ta= -40°C to +45°C
Ta= -40°C to +60°C	

Emergency

II 2 GD	II 2 GD
Ex eb mb IIC T5 Gb	Ex eb mb IIC T6 Gb
Ex eb mb IIC T4 Gb	Ex tb IIIC T66°C Db
Ex tb IIIC T76°C Db	Ta= -20°C to +40°C
Ta= -20°C to +50°C	

11 Description

The Spartan LED Linear Luminaires are a range of LED luminaires. There are four luminaires 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 to16 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.

All enclosures offer internal and external earthing facilities.

An optional replaceable antistatic lens film is available across the range.

Variation 1
The following modifications to the original assessment have been addressed:

i. Standard variant only now offered at lower ambient of -40°C
ii. New lower ambient amended on label drawing

Variation 2
This variation introduces the following modification:

i. To permit the use of alternative terminal blocks

Variation 3
This variation introduces the following modifications:

i. Allow transparent antistatic film to be fitted the lens across the range.
ii. Add a variant WL168-1500 standard & emergency
iii. Add a variant W84-1200 standard & emergency
iv. Allow end blanking cover to be fitted to WL84 standards and WL84-1200 standard.
v. The product description was updated to reflect the changes made by this variation

Variation 4
This variation introduces the following modifications:

i. To allow WL168 and WL168-1500 mains powered (HV) standard variants to be fitted with an alternative dual channel power supply.
ii. To update certificate to reference the 2014/34/EU Directive.

Variation 5
This variation introduces the following modifications:

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

Variation 6
This variation introduces the following modifications:

i. To assess the product against EN 60079-28:2015.
ii. To include Ex op is marking in line with EN 60079-28:2015.
iii. To update EN 60079-18:2009 to EN 60079-18:2015.
iv. To update the conditions of manufacture to reflect updated standards and clause numbers.
v. Drawing 980-SD-0023 removed from controlled drawings.

Variation 7
This variation introduces the following modifications:

i. To allow an alternative label to be fitted, the equipment is marketed under the product range name ‘Wadco Bosse LED’.
ii. To allow the use of alternative model names

Variation 8
This variation introduces the following modifications:

i. Replace discrete logic components with microprocessor system.
ii. Addition of 3 indication LEDS.

Variation 9
This variation introduces the following modifications:

i. To include a change of address
ii. To include a minor change to the component values on the Dual PSU circuit
iii. To include a DC option (HV Standard and Dual PSU)
iv. Minor change to marking T4/T5
v. The description, Conditions of Manufacture and marking have all been modified in accordance with te allowable options and the modifications above.

Variation 10
This variation introduces the following modifications:

i. To implement minor changes to the PSU electronic circuit that do not affect the types of protection.
ii. To remove EN 60079-28:2015 / IEC 60079 28:2015 Ed. 2 from the scope and to amend the marking to remove “op is”.
iii. To transfer the CML UK ATEX Certificates to CML BV

Variation 13
This variation introduces the following modifications:

i. To update to the latest edition of the standard
ii. To permit alternate LED arrangement
iii. To permit the inclusion of LED optics
iv. To permit alternate LED driver use with WL84
v. To permit a change to diffuser lens design
vi. To update terminal certificate numbers
vii. To assess and permit a non-metallic paint layer (applied externally to the equipment).
viii. To remove reference to alternative labels Wadco Bosse LED’
ix. To update the description in line with the above modifications
x. To update marking in line with latest standards (Ex e to Ex eb)
xi. To update maximum ambient from +55°C to +60°C
xii. To remove condition of manufacture

Variation 14
This variation introduces the following modifications:

i. Alternative electronic components for power supply unit.
ii. Alternative Nemalux nameplate is added.
iii. Correction of typographical errors on schedule drawings.

12 Certificate history and evaluation reports

Issue	Date	Associated report	Notes
0	25 Feb 2015	R325A/00	Certificate release
1	20 Mar 2015	R325A/01 R501A/00	To recognise report R325A/01 which was amended. To include R501A/00 for Variation 1
2	15 May 2015	R589A/00	The issue of variation 2
3	04 Feb 2016	R1022A/00	The issue of variation 3
4	23 Jun 2016	R1203A/00	The issue of variation 4
5	13 July 2016	R1424A/00	The issue of variation 5
6	03 Apr 2016	R1869B/00	The issue of variation 6
7	22 Sep 2017	R11340A/00	The issue of variation 7
8	04 Oct 2017	R1870A/00	The issue of variation 8
9	05 Apr 2018	R11641A/00	The issue of variation 9
10	03 Feb 2020	R12972A/00	The issue of variation 10
11	30 Apr 2020	-	Re-issued to correct a typographic error to the marking
12	02 Dec 2020	R12972A/01	Re-issued to correct a typographic error to the marking
13	10 Mar 2021	R13683A/00	The issue of variation 13
14	29 Jun 2021	R14354A/00	The issue of variation 14

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 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.

ii. A dielectric strength test shall be carried out on all units manufactured in accordance with EN 60079-7:2015+A1:2018 clause 7.1 and EN 60079-18:2015+A1:2017, 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 EN 60079-18:2015+A1:2017, clause 9.1.

14 Specific Conditions of Use (Special Conditions)

None

Certificate Annex

Certificate Number	**CML 14ATEX3119**
Equipment	**Spartan LED Linear 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
920-SD-0007	1 to 3	A	25/02/2015	Spartan Linear Assembly Drawing
910-SD-0002	1 of 2	B	25/02/2015	HV & HV Emergency PSU Schematics
910-SD-0003	1 to 5	A	25/02/2015	HV PSU Fault Assy
910-SD-0004	1 of 5	B	25/02/2015	HV Emergency PSU Fault Assy
910-SD-0004	2 of 5	A	25/02/2015	HV Emergency PSU Fault Assy
910-SD-0004	3 of 5	B	25/02/2015	HV Emergency PSU Fault Assy
910-SD-0004	4 of 5	A	25/02/2015	HV Emergency PSU Fault Assy
910-SD-0004	5 of 5	B	25/02/2015	HV Emergency PSU Fault Assy
910-SD-0005	1 of 2	A	25/02/2015	HV & Emergency PSU Component Tolerance List
910-SD-0005	2 of 2	B	25/02/2015	HV & Emergency PSU Component Tolerance List
910-SD-0009	1 of 1	A	25/02/2015	LV PSU Schematics
910-SD-0010	1 to 5	A	25/02/2015	LV PSU Fault Assy
910-SD-0011	1 of 1	A	25/02/2015	LV PSU Component Tolerance List
910-SD-0001	2 of 4	C	25/02/2015	Spartan SPX FL assy Dwg

Issue 1

Drawing No	Sheets	Rev	Approved Date	Title
920-SD-0007	1 of 3	B	20/03/2015	Spartan Linear Assembly Drawing
920-SD-0007	2 of 3	B	20/03/2015	Spartan Linear Assembly Drawing

Issue 2

Drawing No	Sheets	Rev	Approved Date	Title
910-SD-0012	1 of 1	A	15/05/2015	Alternative Mains Terminal Block for Spartan Product Range of LED Luminaires

Certificate Annex

Certificate Number	**CML 14ATEX3119**
Equipment	**Spartan LED Linear Luminaire**
Manufacturer	**Raytec Ltd.**

Issue 3

Drawing No	Sheets	Rev	Approved Date	Title
920-SD-0007	1 of 4	C	04/02/2016	Spartan Linear Assembly Drawing
920-SD-0007	2 of 4	C	04/02/2016	Spartan Linear Assembly Drawing
920-SD-0007	3 of 4	B	04/02/2016	Spartan Linear Assembly Drawing
920-SD-0007	4 of 4	A	04/02/2016	Spartan Linear Assembly Drawing

Issue 4

Drawing No	Sheets	Rev	Approved Date	Title
920-SD-0007	2 of 4	D	23/06/2016	Spartan LED Linear Ex m assembly drawing
920-SD-0007	4 of 4	B	23/06/2016	Spartan LED Linear Ex m assembly drawing
920-SD-0026	1 to 4	A	23/06/2016	Dual PSU Circuit diagram
920-SD-0027	1 of 1	A	23/06/2016	Spartan Dual Certification Parts List
920-SD-0028	1 to 5	A	23/06/2016	Dual PSU FMEA
980-SD-0023	1 of 1	B	23/06/2016	Spartan LED Linear Zone 2

Issue 5

Drawing No	Sheets	Rev	Approved Date	Title
920-SD-0007	2 of 4	D	13/07/2016	Spartan Linear Assembly Drawing
920-SD-0030	1 to 2	A	13/07/2016	18-48 AC/18-68V DC PSU Circuit diagram
920-SD-0031	1 of 1	A	13/07/2016	Component Tolerance LV Power Supply
920-SD-0032	1 to 4	A	13/07/2016	LV PSU Parts List/FMEA

Issue 6

Drawing No	Sheets	Rev	Approved Date	Title
920-SD-0007	1 of 4	D	03/04/2017	Spartan Linear Ex em
920-SD-0007	2 of 4	E	03/04/2017	Spartan Linear Ex em

Certificate Annex

Certificate Number **CML 14ATEX3119**

Equipment **Spartan LED Linear Luminaire**

Manufacturer **Raytec Ltd.**

Issue 7

Drawing No	Sheets	Rev	Approved Date	Title
920-SD-00034	1 of 1	A	22/09/2017	WADCO LINEAR CERTIFICATION NAMEPLATE

Issue 8

Drawing No	Sheets	Rev	Approved date	Title
910-SD-0047	1 of 1	A	04/10/2017	SPARTAN INTELLIGENT EMERGENCY PCB SCHEMATIC.
910-SD-0048	1 of 1	A	04/10/2017	PARTS LIST SPARTAN INTELLIGENT EMERGENCY POWER SUPPLY
910-SD-0049	1 to 8	A	04/10/2017	FMEA SPARTAN INTELLIGENT EMERGENCY POWER SUPPLY

Issue 9

Drawing No	Sheets	Rev	Approved date	Title
920-SD-0007	1 of 4	E	05/04/2018	Spartan LED Linear- Ex em
920-SD-0007	2 of 4	A	05/04/2018	Spartan LED Linear- Ex em
920-SD-0027	1 of 1	B	05/04/2018	Spartan Dual Certification Parts List Component Tolerance Standard PCB

Issue 10

Drawing No	Sheets	Rev	Approved date	Title
920-SD-0007	1 of 1	F	03/02/2020	Spartan LED Linear- Ex em
910-SD-0051	1 of 1	A	03/02/2020	Spartan Standard Power Supply PCB Schematic
910-SD-0052	1 to 6	A	03/02/2020	FMEA Spartan Standard Power Supply
910-SD-0053	1 of 1	A	03/02/2020	Parts List Spartan Standard Power Supply
910-SD-0054	1 of 1	A	03/02/2020	Spartan Emergency Power Supply PCB Schematic
910-SD-0055	1 to 5	A	03/02/2020	FMEA Spartan Emergency Power Supply
910-SD-0056	1 of 1	A	03/02/2020	Parts List Spartan Emergency Power Supply
910-SD-0057	1 to 2	A	03/02/2020	Spartan Dual Power Supply PCB Schematic
910-SD-0058	1 to 7	A	03/02/2020	FMEA Spartan Dual Power Supply

910-SD-0059	1 of 1	A	03/02/2020	Parts List
910-SD-0060	1 of 1	A	03/02/2020	Spartan Encapsulated Power Supply With Minor Modifications

Issue 11

No new drawings

Issue 12

No new drawings

Issue 13

	Drawing No.	Sheets	Rev	Approved /issued date	Title
01	920-SD-0035	1 to 4	A	10/03/2021	Spartan Linear Gen 2
02	920-SD-036	1 to 2	A	10/03/2021	Schematic single stage power supply
03	920-SD-037	1 to 5	A	10/03/2021	FMEA single stage power supply

Issue 14

	Drawing No.	Sheets	Rev	Approved /issued date	Title
01	920-SD-0035	1 of 4	A	29-06-2021	Spartan LED Linear GEN 2
01	920-SD-0035	2 of 4	B	29-06-2021	Spartan LED Linear GEN 2
01	920-SD-0035	3 of 4	A	29-06-2021	Spartan LED Linear GEN 2
01	920-SD-0035	4 of 4	B	29-06-2021	Spartan LED Linear GEN 2
02	910-SD-0057	1 to 3	B	29-06-2021	Spartan dual power supply PCB Schematic
03	910-SD-0058	1 to 7	B	29-06-2021	FMEA Spartan dual power supply
04	910-SD-0059	1 of 1	B	29-06-2021	Part list spartan dual power supply
05	920-SD-0037	Sheet 5	B	29-06-2021	FMEA other spartan single stage power supply