EU Type Examination Certificate CML 14ATEX3119 Issue 19

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, United Kingdom

5 The equipment is specified in the description of this certificate and the documents to which it refers.

6 Eurofins CML B.V., Chamber of Commerce No 67386717, 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		**Emergency**	
Ex II 2 GD	Ex II 2 GD	Ex II 2 GD	Ex II 2 GD
Ex eb mb IIC T5 Gb	Ex eb mb IIC T6 Gb	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 eb mb IIC T4 Gb	Ex tb IIIC T66°C Db
Ex tb IIIC T80°C Db	Ta= -40°C to +45°C	Ex tb IIIC T76°C Db	Ta= -20°C to +40°C
Ta= -40°C to +60°C		Ta= -20°C to +50°C	

11 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
HV Universal	110-254V AC and DC
HV Universal DALI Dimmable and Extended Input Voltage	110-277V AC and DC

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

The equipment utilises silicone sponge gaskets to seal the external lens/glass 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.

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.

Additional separately certified components:

Terminal Type	Manufacturer	Certificate No.	Temperature Range
MK6/MK3/BK	Weidmuller	TUV 18 ATEX 8209U IECEx TUR 18.0019U	II 2 G Ex eb IIC Gb -60°C to +130°C
862 Series	Wago	PTB 03ATEX1189U IECEx PTB 05.0003U	II 2 G Ex eb IIC Gb, Ex eb I Mb -55 °C to +105°C

Variation 1
This variation introduces the following modifications:

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 11
This variation introduces the following modification:

i. Re-issued to correct a typographic error to the marking.

Variation 12
This variation introduces the following modification:

i. Re-issued to correct a typographic error to the marking.

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

Variation 15
This variation introduces the following modifications:
i. To assess the Universal Power Supply.
ii. To assess the High Output variant of the Spartan LED Linear Luminaires

Variation 16
This variation introduces the following modifications:
i. To provide clarification on product specification on certification documents.
ii. To introduce a High Output Emergency variant of the luminaire

Variation 17
This variation introduces the following modifications:
i. Assessment of Extended Input Voltage Universal PSU.
ii. Assessment of DALI dimmable Universal PSU.

Variation 18
This variation introduces the following modifications:
i. To permit updated power supply table within description.
ii. Clerical certificate number correction.

Variation 19
This variation introduces the following modifications:
i. To assess and permit an alternative non-metallic paint layer (applied externally to the equipment).
ii. To update the label details to remove the UKEX markings.
iii. To introduce an optional flat glass version.
iv. To remove the reference to WAGO 262 & 264 terminal blocks

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

Issue	Date	Associated report	Notes
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
15	24 Aug 2022	R15050A/00	The issue of variation 15
16	03 Feb 2023	R16135A/00	The issue of variation 16
17	16 Apr 2024	R17429A/00	The issue of variation 17
18	07 Feb 2025	R18347A/00	The issue of variation 18
19	13 Aug 2026	R21580A/00	The issue of variation 19

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. 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, Universal, Extended universal, DALI	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.

iv. When fitted with universal PSU module, equipment shall only be marked T4 for Gb applications

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 Feb 2015	Spartan Linear Assembly Drawing
910-SD-0002	1 of 2	B	25 Feb 2015	HV & HV Emergency PSU Schematics
910-SD-0003	1 to 5	A	25 Feb 2015	HV PSU Fault Assy
910-SD-0004	1 of 5	B	25 Feb 2015	HV Emergency PSU Fault Assy
910-SD-0004	2 of 5	A	25 Feb 2015	HV Emergency PSU Fault Assy
910-SD-0004	3 of 5	B	25 Feb 2015	HV Emergency PSU Fault Assy
910-SD-0004	4 of 5	A	25 Feb 2015	HV Emergency PSU Fault Assy
910-SD-0004	5 of 5	B	25 Feb 2015	HV Emergency PSU Fault Assy
910-SD-0005	1 of 2	A	25 Feb 2015	HV & Emergency PSU Component Tolerance List
910-SD-0005	2 of 2	B	25 Feb 2015	HV & Emergency PSU Component Tolerance List
910-SD-0009	1 of 1	A	25 Feb 2015	LV PSU Schematics
910-SD-0010	1 to 5	A	25 Feb 2015	LV PSU Fault Assy
910-SD-0011	1 of 1	A	25 Feb 2015	LV PSU Component Tolerance List
910-SD-0001	2 of 4	C	25 Feb 2015	Spartan SPX FL assy Dwg

Issue 1

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

Issue 2

Drawing No	Sheets	Rev	Approved Date	Title
910-SD-0012	1 of 1	A	15 May 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 Feb 2016	Spartan Linear Assembly Drawing
920-SD-0007	2 of 4	C	04 Feb 2016	Spartan Linear Assembly Drawing
920-SD-0007	3 of 4	B	04 Feb 2016	Spartan Linear Assembly Drawing
920-SD-0007	4 of 4	A	04 Feb 2016	Spartan Linear Assembly Drawing

Issue 4

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

Issue 5

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

Issue 6

Drawing No	Sheets	Rev	Approved Date	Title
920-SD-0007	1 of 4	D	03 Apr 2017	Spartan Linear Ex em
920-SD-0007	2 of 4	E	03 Apr 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 Sep 2017	WADCO LINEAR CERTIFICATION NAMEPLATE

Issue 8

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

Issue 9

Drawing No	Sheets	Rev	Approved date	Title
920-SD-0007	1 of 4	E	05 Apr 2018	Spartan LED Linear- Ex em
920-SD-0007	2 of 4	A	05 Apr 2018	Spartan LED Linear- Ex em
920-SD-0027	1 of 1	B	05 Apr 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 Feb 2020	Spartan LED Linear- Ex em
910-SD-0051	1 of 1	A	03 Feb 2020	Spartan Standard Power Supply PCB Schematic
910-SD-0052	1 to 6	A	03 Feb 2020	FMEA Spartan Standard Power Supply
910-SD-0053	1 of 1	A	03 Feb 2020	Parts List Spartan Standard Power Supply
910-SD-0054	1 of 1	A	03 Feb 2020	Spartan Emergency Power Supply PCB Schematic
910-SD-0055	1 to 5	A	03 Feb 2020	FMEA Spartan Emergency Power Supply
910-SD-0056	1 of 1	A	03 Feb 2020	Parts List Spartan Emergency Power Supply
910-SD-0057	1 to 2	A	03 Feb 2020	Spartan Dual Power Supply PCB Schematic
910-SD-0058	1 to 7	A	03 Feb 2020	FMEA Spartan Dual Power Supply
910-SD-0059	1 of 1	A	03 Feb 2020	Parts List
910-SD-0060	1 of 1	A	03 Feb 2020	Spartan Encapsulated Power Supply With Minor Modifications

Certificate Annex

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

Issue 11
None.

Issue 12
None.

Issue 13

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

Issue 14

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

Issue 15

Drawing No.	Sheets	Rev	Approved date	Title
920-SD-0035	2 of 4	C	24 Aug 2022	SPARTAN LED LINEAR – GEN 2
920-SD-0035	4 of 4	C	24 Aug 2022	SPARTAN LED LINEAR – GEN 2
SB SD 4 C 145 75 0	1 to 10	0	24 Aug 2022	Safety assessment for LED ECG 4 C 145 75 0
70.03-01	1 to 7	0	24 Aug 2022	Test Report - LED Control Gear (Parts List 4 C 145 75 0 Rev 0)
BOM 4 C 145 75 0	1 to 2	0	24 Aug 2022	LED Control Gear 700 mA, 45 W, 110 - 254 V
BOM S 002 88 0	1 to 3	0	24 Aug 2022	SMD LED Control Gear 700 mA, 45 W, 110 - 254 V
BOM 5 A 003 44 1	1 of 1	0	24 Aug 2022	Lighting, Z.-Nr.: 7 E 00 187 01 0

Certificate Annex

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Equipment Spartan LED Linear Luminaire

Manufacturer Raytec Ltd

Drawing No.	Sheets	Rev	Approved date	Title
BOM 5 A 003 44 2	1 of 1	0	24 Aug 2022	Lighting, Z.-Nr.: 7 E 00 187 01 0
BOM 5 A 003 44 3	1 of 1	0	24 Aug 2022	Lighting, Z.-Nr.: 7 E 00 187 01 0
BOM 5 A 003 44 4	1 of 1	0	24 Aug 2022	Lighting, Z.-Nr.: 7 E 00 187 01 0
BOM 5 A 003 44 5	1 of 1	0	24 Aug 2022	Lighting, Z.-Nr.: 7 E 00 187 01 0
NP2021-15414	1 to 3	G	24 Aug 2022	ICT Approval Application EFD25/16/9 X'Fmr

Issue 16

Drawing No.	Sheets	Rev	Approved date	Title
920-SD-0035	1 of 4	B	03 Feb 2023	Spartan LED Linear – Gen 2
920-SD-0035	2 of 4	D	03 Feb 2023	Spartan LED Linear – Gen 2
920-SD-0035	3 of 4	B	03 Feb 2023	Spartan LED Linear – Gen 2
920-SD-0035	4 of 4	D	03 Feb 2023	Spartan LED Linear – Gen 2

Issue 17

Drawing No.	Sheets	Rev	Approved date	Title
920-SD-0035	1 to 4	B	16 Apr 2024	SPARTAN LED LINEAR - GEN 2

Issue 18

None.

Issue 19

Drawing No	Sheets	Rev	Approved date	Title
920-SD-0035	1 of 4	C	13 Aug 2026	SPARTAN LED LINEAR - GEN 2
920-SD-0035	2 of 4	E	13 Aug 2026	SPARTAN LED LINEAR - GEN 2
920-SD-0035	3 of 4	B	13 Aug 2026	SPARTAN LED LINEAR - GEN 2
920-SD-0035	4 of 4	F	13 Aug 2026	SPARTAN LED LINEAR - GEN 2