



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 EXV 19.0079X** Page 1 of 3 [Certificate history:](#)

Status: **Current** Issue No: 0

Date of Issue: 2021-09-13

Applicant: **Wolf Safety Lamp Co. Limited**
Saxon Road Works
Sheffield, S8 0YA
United Kingdom

Equipment: **LFX & LHX series Luminaires**

Optional accessory:

Type of Protection: **Increased safety, encapsulation, and dust**

Marking: Ex eb mb IIC T4 Gb
Ex tb IIIC T110°C Db
 T_a -50°C to +45°C up to +65°C (*dependent on model type*)

Approved for issue on behalf of the IECEx
Certification Body:

Sean Clarke CEng MSc FIET

Position:

Certification Manager

Signature:
(for printed version)

Date:

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:

ExVeritas Limited
Units 16-18 Abenbury Way
Wrexham Ind. Est.
Wrexham LL 139UZ
United Kingdom





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Date of issue: 2021-09-13

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Manufacturer: **Wolf Safety Lamp Co. Limited**
Saxon Road Works
Sheffield, S8 0YA
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 60079-0:2011 Explosive atmospheres - Part 0: General requirements
Edition:6.0

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/EXV/ExTR19.0086/00](#)

Quality Assessment Report:

[GB/BAS/QAR06.0017/10](#)



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EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

The LFX and LHX Luminaires are LED floodlight luminaires for Group IIC gas and Group IIIC dust hazardous atmospheres. The equipment comprises an aluminium enclosure with gland apertures at one end. The cover incorporates a sealed glass window and the entire cover is removed to provide access to the user wiring terminals. The enclosures are IP66/67 rated.

Internally, the luminaire contains LED drivers, one or two LED light engines, and terminal blocks for user connections. Cable entry into the equipment is via suitably certified cable glands (not considered as part of this equipment). Feed through terminals are provided for ease of connection of multiple units.

The equipment is available in two sizes, each with two LED light engine options and each with two LED current options. See Annex for full product range.

SPECIFIC CONDITIONS OF USE: YES as shown below:

- Cable entries into the equipment shall utilise suitably certified cable glands and shall provide a minimum degree of protection of IP66 or IP67 (dependent on the installation environment).
- Unused cable entry apertures shall be closed with suitably certified blanking plugs which provide a minimum degree of protection of IP66 or IP67 (dependent on the installation environment).
- When used in potentially hazardous dust atmospheres, the equipment shall be installed so as to minimize the risk from electrostatic discharge. In particular, the equipment shall not be installed where there is a likelihood of there being a static generating mechanism, such as steam generation or fast moving particles over the surface of the equipment.
- The equipment shall only be used with a power source having a prospective short circuit current which does not exceed 1500 A.
- The equipment shall only be installed with the window of the luminaire facing horizontally ('wall' mounted) or vertically downwards ('ceiling' mounted) or at any angle in between. When mounted with window facing horizontally ('wall mounted'), the equipment shall be installed with the cable entry at the bottom.

Annex:

[IECEX EXV 19.0079X Annex LFX.pdf](#)

Description Continued:**Model range and ratings:**

	LFX1S-12-65-230 LHX1S-12-65-230	LFX1S-12-55-230 LHX1S-12-55-230	LFX1S-16-55-230 LHX1S-16-55-230	LFX1S-16-45-230 LHX1S-16-45-230
Input Voltage Range	180 - 277 VAC			
Input Power	50 W	70 W	62.5 W	95 W
Max. Input Current	0.3 A	0.45 A	0.4 A	0.6 A
Frequency	50 - 60 Hz			
Power Factor	> 0.95			
Enclosure Size	Small			
Lumen Output	4,500	6,700	6,000	8,900
LEDs	12 LED	12 LED	16 LED	16 LED
Beam Angles	23 °, 32 °, 71 °, 91 °			
Gas Temperature Class	T4			
Dust Surface Temperature	T110 °C			
Lower Temperature Limit	-50 °C			
Upper Temperature Limit	65 °C	55 °C	55 °C	45 °C

	LFX2S-24-60-230 LHX2S-24-60-230	LFX2S-24-50-230 LHX2S-24-50-230	LFX2S-32-55-230 LHX2S-32-55-230	LFX2S-32-50-230 LHX2S-32-50-230
Input Voltage Range	180 - 277 VAC			
Input Power	92.5 W	140 W	122.5 W	185 W
Max. Input Current	0.6 A	0.9 A	0.8 A	1.2 A
Frequency	50 - 60 Hz			
Power Factor	> 0.95			
Enclosure Size	Large			
Lumen Output	9,000	13,400	12,000	17,900
LEDs	24 LED	24 LED	32 LED	32 LED
Beam Angles	23 °, 32 °, 71 °, 91 °			
Gas Temperature Class	T4			
Dust Surface Temperature	T110 °C			
Lower Temperature Limit	-50 °C			
Upper Temperature Limit	60 °C	50 °C	55 °C	50 °C

	LFX1S-12-65-110 LHX1S-12-65-110	LFX1S-16-55-110 LHX1S-16-55-110	LFX2S-24-60-110 LHX2S-24-60-110	LFX2S-32-55-110 LHX2S-32-55-110
Input Voltage Range	88 - 140 VAC			
Input Power	66 W	88 W	132 W	176 W
Max. Input Current	0.6 A	0.8 A	1.2 A	1.6 A
Frequency	50 - 60 Hz			
Power Factor	> 0.95			
Enclosure Size	Small		Large	
Lumen Output	9,000	13,400	12,000	17,900
LEDs	12 LED	16 LED	24 LED	32 LED
Beam Angles	23 °, 32 °, 71 °, 91 °			
Gas Temperature Class	T4			
Dust Surface Temperature	T110 °C			
Lower Temperature Limit	-50 °C			
Upper Temperature Limit	65 °C	55 °C	60 °C	55 °C

Routine Tests:

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

- 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.
- Each encapsulated LED assembly shall be subjected to a visual inspection. No damage shall be evident, such as cracks in the compound, exposure of the encapsulated parts, flaking, inadmissible shrinkage, swelling, decomposition, failure of adhesion (separation of any adhered parts) or softening.
- Each encapsulated LED assembly shall be subjected to an electric strength test in accordance with EN 60079-18, Clause 9.2, using a test voltage of:
 - 500 Vac applied between the LED connection leads and the rear aluminium surface, for a period of 1 second.
 - Alternatively, a test voltage of 20% higher may be applied for 0.1 seconds.
 - A DC test voltage is allowed as an alternative to the AC test voltage and shall be 140% of the specified AC r.m.s. test voltage.
 - No flashover or breakdown shall occur.

- The equipment shall be subjected to an electric strength test in accordance with EN 60079-7, Clause 6.1, using a test voltage of 1554 Vac applied between supply connections and frame, for a period of 60 secs. Alternatively, a test voltage of 20% higher may be applied for 0.1 seconds.

A DC test voltage is allowed as an alternative to the AC test voltage and shall be 140% of the specified AC r.m.s. test voltage.

No flashover or breakdown shall occur.

Manufacturer's documents:

Title:	Drawing No.:	Rev	Sheets	Date:
LD0203 - Encapsulated Light Engine Construction	LD-0203	03	1	10/03/2021
LD0204 - Small Floodlight Enclosure Construction	LD-0204	04	2	23/12/2020
LD0205 - Large Floodlight Enclosure Construction	LD-0205	04	2	15/03/2021
LD0206 – LFX12 LHX12 General Assembly	LD-0206	04	1	19/07/2021
LFX16 LHX16 General Assembly	LD-0207	04	1	28/02/2021
LD0208 – LFX24 LHX24 General Assembly	LD-0208	04	1	28/02/2021
LFX32 LHX32 General Assembly	LD-0209	04	1	28/02/2021
LE0006 PCB Layout	LD0210	2	1	12/03/2021
LE0007 PCB Layout	LD0211	2	1	12/03/2021
LD0212 Floodlight Lids General Assemblies	LD-0212	04	2	23/12/2020
Small Enclosure Floodlight Wiring Diagrams	LD-0213	04	1	20/01/2021
Large Enclosure Floodlight Wiring Diagrams	LD-0214	04	1	20/01/2021
LE0006 PCB Schematic	LD0218	2	1	12/03/2021
LE0007 PCB Schematic	LD0219	2	1	12/03/2021
LFX LHX Cert Label Drawings	LD-0220	05	2	02/08/2021
LFX Floodlight & LHX High Bay Technical Manual	LD-0242	04	16	06/09/2021