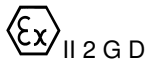




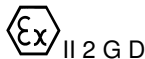
## EC Type Examination Certificate    CML 14ATEX3020X    Issue 0

- 1    Equipment intended for use in Potentially Explosive Atmospheres Directive 94/9/EC
- 2    Equipment    **Lumenox Floodlights**
- 3    Manufacturer    **Lumenox Limited**
- 4    Address    **Oxalis House  
Masons Road  
Stratford Upon Avon  
Warwickshire CV37 9NB**
- 5    The equipment is specified in the schedule of this certificate and the documents to which it refers.
- 6    Certification Management Limited, Unit 1 Newport Business Park, New Port Road, Ellesmere Port CH65 4LZ, UK, Notified Body Number 2503, in accordance with Article 9 of Directive 94/9/EC, 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 is subject to conditions of safe use (affecting correct installation or safe use). These are specified in Section 14.
- 8    This EC Type Examination certificate relates only to the design and construction of the specified equipment or component. Further requirements of Directive 94/9/EC Article 8 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 60079-0:2012+A11:2013    EN 60079-7:2007    EN 60079-18:2009    EN 60079-31:2014
- 10    The equipment shall be marked with the following:



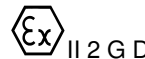
II 2 G D

Ex e mb IIC T6 Gb  
Ex tb IIIC T85°C Db  
Ta= -20°C to +40°C



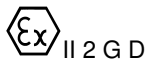
II 2 G D

Ex e mb IIC T5 Gb  
Ex tb IIIC T100°C Db  
Ta= -20°C to +40°C



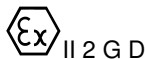
II 2 G D

Ex e mb IIC T4 Gb  
Ex tb IIIC T135°C Db  
Ta= -20°C to +60°C



II 2 G D

Ex e mb IIC T4 Gb  
Ex tb IIIC T135°C Db  
Ta= -20°C to +65°C



II 2 G D

Ex e mb IIC T4 Gb  
Ex tb IIIC T135°C Db  
Ta= -20°C to +70°C



**CML 14ATEX3020X  
Issue 0**

## **11 Description**

The Lumenox Floodlights are a range of luminaires fitted with LED's and operating at a rated voltage of 110v to 240v. The enclosures are available in 3 sizes (LFX3, LFX6 and LFX12) and two colours (grey or black), all of which have internal and external earth, a number of cable entry points and mounting brackets. The mounting bracket enables the luminaires to be fixed in an orientation pointing down, through 90°, lamp beam horizontal.

The enclosures comprise an aluminium base (housing the LED board, driver board, power supply and connection terminals) and an aluminium lid with toughened glass window and stainless steel or aluminium access panel. The lid and base are fixed together using M6 bolts which pass through the lid and into threaded holes in the base.

The base of the enclosure has a silicone seal permanently fixed into a groove using a silicone adhesive. The top half of the base enclosure houses the LED board/boards and the driver board/boards, which is covered with a black epoxy resin encapsulate. The lower half houses the connection terminals, wiring and the separately potted (black epoxy resin) power supply unit/units. This separately potted PSU may be fitted remotely from the luminaire where appropriate.

The lid has a toughened glass window and stainless steel access panel both secured by screws. Underneath the window and the access panel is a silicone seal permanently fixed into a groove using a silicone adhesive. There are clearance holes to allow fixing to the base and a ridge to allow compression of the seal in the base.

There are 2 size LED boards available 3x3 (9 LEDs) and 4x4 (16 LEDs) each LED is fitted with an individual optic, these optics are available in a range of beam patterns (narrow, medium and wide) to suit the end user application. Each LED inside each optic is separately potted with a transparent silicone encapsulant.

All units available may be supplied with a current of 300mA or 350mA. A complete list of available variants is shown in the table below.



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Model	Type Identifier	Board	Board Qty	Beam Pattern	Current	Ambient	T Class	T Rating
<b>+40 Ambient / 300mA</b>								
LFX12	Floodlight	4 x 4	2	Narrow	300mA	-20 to +40	T6	T85 C
LFX12	Floodlight	4 x 4	2	Medium		-20 to +40	T6	T85 C
LFX12	Floodlight	4 x 4	2	Wide		-20 to +40	T6	T85 C
LFX6	Floodlight	4 x 4	1	Narrow		-20 to +40	T5	T100 C
LFX6	Floodlight	4 x 4	1	Medium		-20 to +40	T5	T100 C
LFX6	Floodlight	4 x 4	1	Wide		-20 to +40	T6	T85 C
LFX3	Floodlight	3 x 3	1	Narrow		-20 to +40	T6	T85 C
LFX3	Floodlight	3 x 3	1	Medium		-20 to +40	T6	T85 C
LFX3	Floodlight	3 x 3	1	Wide	-20 to +40	T6	T85 C	
<b>+40 Ambient / 350mA</b>								
LFX12	Floodlight	4 x 4	2	Narrow	350mA	-20 to +40	T5	T100 C
LFX12	Floodlight	4 x 4	2	Medium		-20 to +40	T5	T100 C
LFX12	Floodlight	4 x 4	2	Wide		-20 to +40	T6	T85 C
LFX6	Floodlight	4 x 4	1	Narrow		-20 to +40	T5	T100 C
LFX6	Floodlight	4 x 4	1	Medium		-20 to +40	T5	T100 C
LFX6	Floodlight	4 x 4	1	Wide		-20 to +40	T5	T100 C
LFX3	Floodlight	3 x 3	1	Narrow		-20 to +40	T6	T85 C
LFX3	Floodlight	3 x 3	1	Medium		-20 to +40	T6	T85 C
LFX3	Floodlight	3 x 3	1	Wide	-20 to +40	T6	T85 C	
<b>+65 or +70 Ambient / 300mA</b>								
LFX12	Floodlight	4 x 4	2	Narrow	300mA	-20 to +70	T4	T135 C
LFX12	Floodlight	4 x 4	2	Medium		-20 to +70	T4	T135 C
LFX12	Floodlight	4 x 4	2	Wide		-20 to +70	T4	T135 C
LFX6	Floodlight	4 x 4	1	Narrow		-20 to +65	T4	T135 C
LFX6	Floodlight	4 x 4	1	Medium		-20 to +65	T4	T135 C
LFX6	Floodlight	4 x 4	1	Wide		-20 to +65	T4	T135 C
LFX3	Floodlight	3 x 3	1	Narrow		-20 to +70	T4	T135 C
LFX3	Floodlight	3 x 3	1	Medium		-20 to +70	T4	T135 C
LFX3	Floodlight	3 x 3	1	Wide	-20 to +70	T4	T135 C	
<b>+60 or +70 Ambient / 350mA</b>								
LFX12	Floodlight	4 x 4	2	Narrow	350mA	-20 to +60	T4	T135 C
LFX12	Floodlight	4 x 4	2	Medium		-20 to +60	T4	T135 C
LFX12	Floodlight	4 x 4	2	Wide		-20 to +60	T4	T135 C
LFX6	Floodlight	4 x 4	1	Narrow		-20 to +60	T4	T135 C
LFX6	Floodlight	4 x 4	1	Medium		-20 to +60	T4	T135 C
LFX6	Floodlight	4 x 4	1	Wide		-20 to +60	T4	T135 C
LFX3	Floodlight	3 x 3	1	Narrow		-20 to +70	T4	T135 C
LFX3	Floodlight	3 x 3	1	Medium		-20 to +70	T4	T135 C
LFX3	Floodlight	3 x 3	1	Wide	-20 to +70	T4	T135 C	



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## 12 Certificate history and evaluation reports

Issue	Date	Associated report	Notes
0	31 Oct 2014	R117A/00	Initial Issue

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.

- 13.1 A visual inspection shall be carried out on the encapsulated parts to check for damage, in accordance with EN 60079-18:2009, clause 9.1.

## 14 Special Conditions for Safe Use (Conditions of Certification)

The following conditions relate to safe installation and/or use of the equipment.

- 14.1 Mounting orientation - Luminaires may only be mounted with lamp beam facing down, through 90° to lamp beam horizontal.

# Certificate Annex



**Certificate Number** CML 14ATEX3020X  
**Equipment** LFX Range of Floodlights  
**Manufacturer** Lumenox Limited

The following documents describe the equipment or component defined in this certificate:

## Issue 0

Drawing No	Sheets	Rev	Approved Date	Title
LF3 GEN	1	002	31 Oct 2014	LFX3 General Assembly
LFX3LM	1	002	31 Oct 2014	3 series front cover
LFX3BM	1	002	31 Oct 2014	Housing 3 series
LF31-00003	1	001	31 Oct 2014	3 series glass window
LF6 GEN	1	002	31 Oct 2014	LFX6 General Assembly
LFX6LM	1	002	31 Oct 2014	6 series front cover
LFX6BM	1	002	31 Oct 2014	Housing 6 series
LF61-00001	1	001	31 Oct 2014	6 series glass window
LF12 GEN	1	002	31 Oct 2014	LFX12 General Assembly
LFX12LM	1	002	31 Oct 2014	12 series front cover
LFX12BM	1	002	31 Oct 2014	Housing 12 series
LF12-00001	1	001	31 Oct 2014	12 series glass window
LFXG01	1	001	31 Oct 2014	Typical gasketing for LFX Range
LFX-01 CERTLABEL	1	002	31 Oct 2014	LFX Range certification LABEL
LF02-00043	1	002	31 Oct 2014	3, 6 & 12 series terminal cover
3OPTIC	1	002	31 Oct 2014	3 optical assembly
612OPTIC	1	002	31 Oct 2014	6 & 12 optical assembly
LFX3612DLA	1	002	31 Oct 2014	LED board & driver assembly
LF02-00106	1	001	31 Oct 2014	3, 6 & 12 series power supply casting
LFX3612PS	1	002	31 Oct 2014	3, 6 & 12 series power supply
LFX3612EA	1	001	31 Oct 2014	Earth stud
LF3DB	1	002	31 Oct 2014	3 x 3 Driver Board
LF612DB	1	002	31 Oct 2014	4 x 4 Driver Board
ECP150 Critical Components List (2)	7	001	31 Oct 2014	PSU Critical component list
ECP150PS Schematic V1.1	1	001	31 Oct 2014	PSU Schematic
4-Channel LED Driver Schematic (1)	1	005	31 Oct 2014	4 Channel Driver board schematics