



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 CSAE 25.0031X** Page 1 of 3 [Certificate history:](#)

Status: **Current** Issue No: 0

Date of Issue: 2025-07-02

Applicant: **National Lighting Co. Ltd.**
Street 77, 2nd Industrial City,
Dammam- 31411
Saudi Arabia

Equipment: **LED Explosion-proof Light - NLC EXP-**W-L*C-*-Z**

Optional accessory:

Type of Protection: **Flameproof 'd', Increased Safety 'e', Encapsulation 'm', Enclosure 't'**

Marking:

Model LS:
Ex db eb mb IIC T6/T5 Gb
Ex tb IIIC T80°C/T95°C Db
IP 66
Or
Ex db ec IIC T6/T5 Gc
Ex tc IIIC T80°C/T95°C Dc
IP 66

Model LI :
Ex db eb mb IIC T6/T5 Gb
Ex tb IIIC T80°C/T95°C Db
IP 66
Or
Ex db ec IIC T6/T5/T4 Gc
Ex tc IIIC T80°C/T95°C/T100°C Dc
IP 66

Model LJ:
Ex db eb mb IIC T6/T5 Gb
Ex tb IIIC T80°C/T95°C Db
IP 66
Or
Ex db ec IIC T6/T5/T4 Gc
Ex tc IIIC T80°C/T95°C/T105°C Dc
IP 66

Refer to annexe for ambient temperature.

Approved for issue on behalf of the IECEx
Certification Body:

Michelle Halliwell

Position:

Senior Director of Operations

Signature:
(for printed version)

Date:
(for printed version)

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Certificate issued by:

CSA Group Testing UK Ltd
Unit 6, Hawarden Industrial Park
Hawarden, Deeside CH5 3US
United Kingdom





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Manufacturing
locations: **National Lighting Co. Ltd.**
Street 77, 2nd Industrial City,
Dammam- 31411
Saudi Arabia

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 60079-1:2014](#) Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"
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 Report:

[GB/CSAE/ExTR25.0051/00](#)

Quality Assessment Report:

[US/UL/QAR24.0012/00](#)



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EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

Model LS LED Explosion-proof light:

The NLC EXP-**W-L*C*-Z series, model LS LED Explosion-proof light consists of a plastic cover, a stainless-steel body, and the LED sources are encapsulated by K-5312T compound on LED light board when the product is for Zone 1 explosion atmosphere, and the LED sources without K-5312T compound on LED light board when the product is for Zone 2 explosion atmosphere. The plastic cover is secured with the stainless-steel body by the special clamping jaw, the LED source board are fixed by M3 screw. There is a flame-proof enclosure in the light, and the driver circuit, protection circuit and battery pack are located in the flame-proof enclosure as a driver. The battery pack is made of three Li-ion cells in series. The LED light board is for "mb" or "ec" protection type, the driver is for "db" protection type and light enclosure is for "eb" and "tb" or "ec" and "tc" protection type. The NLC EXP-**W-L*C*-Z series, model LS LED Explosion-proof light can be separate LS02 and LS04 series base on external length, the enclosure construction is same, but the power, size and LED source amount are difference. The maximum power of LS04 series is 60W and the maximum power of LS02 series is 40W.

There are two cable entries are at each side wall of stainless-steel body which are used to install M25 or M20 certified cable glands or stopping plugs with suitable IP code.

Model LI LED Explosion-proof light:

The NLC EXP-**W-L*C*-Z series, model LI LED Explosion-proof light consists of a plastic cover, an alloy steel body with 0.2mm painting, and the LED light board construction is same with model LI02/LI04 LED Explosion-proof light. The plastic cover is secured with the alloy steel body by the M5 screw, the LED light board are fixed by M3 screw. There is a flame-proof enclosure driver in model LI LED Explosion-proof light, and the driver enclosure is same with model LS02/LS04 LED Explosion-proof light. The driver circuit, protection circuit and battery pack are located in the flame-proof enclosure as a driver. The battery pack is made of two Li-ion cells in series, and after the assembly battery pack, driver circuit and protection circuit, the potting compound is filled to remaining volume of flame-proof enclosure of driver. The LED light board is for "mb or ec" protection type, the driver is for "db" protection type and light enclosure is for "eb" and "tb" or "ec" and "tc" protection type. The NLC EXP-**W-L*C*-Z series, model LI LED Explosion-proof light can be separate model LI02 and model LI04 base on external length, the enclosure construction is same, but the power, size and LED source amount are difference. The maximum power of model LI04 is 180W and the maximum power of model LI02 is 90W.

There are four cable entries are at wall of luminaire body which are used to install M20 certified cable glands or stopping plugs with suitable IP code.

Model LJ LED Explosion-proof light:

The NLC EXP-**W-L*C*-Z series, model LJ LED Explosion-proof light consists of a glass or plastic cover, an aluminium alloy body with 0.2mm painting, PC body or stainless steel body, and the LED light board construction is same with model LS02/LS04 LED Explosion-proof light. The luminaire cover is secured with the alloy steel body by the mounting plate with M4 screw, the LED light board are fixed by M3 screw. There is a flame-proof enclosure driver in model LJ LED Explosion-proof light, and the driver enclosure is same with model LS02/LS04 LED Explosion-proof light. The driver circuit, protection circuit and battery pack are located in the flame-proof enclosure as a driver. The battery pack is made of two Li-ion cells in series, and after the assembly battery pack, driver circuit and protection circuit, the potting compound is filled to remaining volume of flame-proof enclosure of driver. The LED light board is for "mb or ec" protection type, the driver is for "db" protection type and light enclosure is for "eb" and "tb" or "ec" and "tc" protection type. The NLC EXP-**W-L*C*-Z series, model LJ LED Explosionproof light can be separate model LJ02, model LJ04 and model LJ05 base on external length, the enclosure construction is same, but the power, size and LED source amount are difference. The maximum power of model LJ05 and model LJ04 are 120W and the maximum power of model LJ02 is 60W.

There are three cable entries are at luminaire body which are used to install M20 certified cable glands or stopping plugs with suitable IP code.

Refer to annexe for further information.

SPECIFIC CONDITIONS OF USE: YES as shown below:

Refer to annexe for Specific Conditions of Use.

Annex:

[IECEx CSAE 25.0031X Iss 0 Annexe.pdf](#)

Annexe to: IECEx CSAE 25.0031X Iss 0

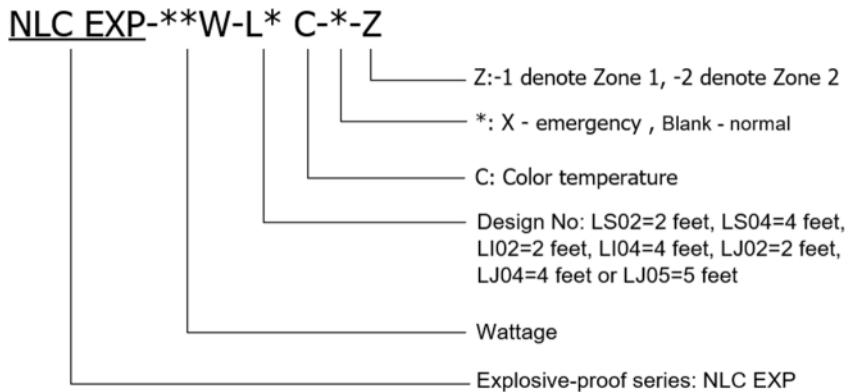
Applicant: National Lighting Co. Ltd.

Apparatus: LED Explosion-proof Light - NLC EXP-**W-L*C-*-Z



Equipment Continued

Model Designation of the NLC EXP-**W-L*C-*-Z series Explosion-proof Light is as follows:



Note: The details designation of model LS, LI or LJ LED Explosion-proof light, please refer to instruction.

Marking Continued

Model LS:

-40°C - +45°C for T6/T80°C

-40°C - +60°C for T5/T95°C

Model LS, Emergency:

-10°C - +45°C for T6/T80°C

-10°C - +60°C for T5/T95°C

Model LI for Zone 1/21, Normal:

-40°C - +45°C for T6/T80°C

-40°C - +60°C for T5/T95°C

Model LI for Zone 1/21, Emergency:

-10°C - +45°C for T6/T80°C

-10°C - +60°C for T5/T95°C

Model LI for Zone 2/22, Normal:

-40°C - +40°C for T6/T80°C

-40°C - +55°C for T5/T95°C

-40°C - +60°C for T4/T100°C

Model LI for Zone 2/22, Emergency:

-10°C - +40°C for T6/T80°C

-10°C - +55°C for T5/T95°C

-10°C - +60°C for T4/T100°C

Model LJ for Zone 1/21, Normal:

-40°C - +45°C for T6/T80°C

-40°C - +60°C for T5/T95°C

Model LJ for Zone 1/21, Emergency:

-10°C - +45°C for T6/T80°C

-10°C - +60°C for T5/T95°C

Date: 02 July 2025

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Annexe to: IECEx CSAE 25.0031X Iss 0

Applicant: National Lighting Co. Ltd.



Apparatus: LED Explosion-proof Light - NLC EXP-**W-L*C-* -Z

Model LJ for Zone 2/22, Normal:

-40°C - +35°C for T6/T80°C
-40°C - +50°C for T5/T95°C
-40°C - +60°C for T4/T105°C

Model LJ for Zone 2/22, Emergency:

-10°C - +35°C for T6/T80°C
-10°C - +50°C for T5/T95°C
-10°C - +60°C for T4/T105°C

Specific Conditions of Use

- i. The non-metallic enclosure LED Explosion-proof Light shall not be installed in a location where the external conditions are conducive to the build-up of electrostatic charge on such surfaces. In addition, the equipment shall only be cleaned with a damp cloth.
- ii. The LED Explosion-proof Light shall be installed such that the supply cable is protected from mechanical damage. The cable shall not be subjected to tension or torque. If the cable is to be terminated within an explosive atmosphere, then the free end shall be terminated in a suitably certified termination facility.
- iii. Use only replaceable battery pack "18650-2000mAh" for model LS LED Explosion-proof light AND "32700/6.4V6000mAh-2S1P" for model LI and LJ LED Explosion-proof light.
- iv. Clean the luminaire regularly to prevent dust accumulation.
- v. The installer shall ensure that the cable is effectively clamped to prevent pulling and twisting after installation. And users shall provide additional clamping of the cable to ensure that pulling is not transmitted to the terminations.
- vi. The glass window of model FLB luminaire was tested in according with a low risk of mechanical danger, therefore high risk mechanical impact in normal use shall be avoided.
- vii. The maximum temperature of branching point and entry point are 76.9°C and 68.2°C for model LI LED Explosion-proof light.
- viii. Temperature code depends on ambient temperature as follows:

Type	T-code	Ambient Temperature
Model LS LED Explosion-proof light		
Normal	T6/T5 and T80°C/T95°C	-40°C to +45°C/60°C
Emergency	T6/T5 and T80°C/T95°C	-10°C to +45°C/60°C
Model LI LED Explosion-proof light		
Normal for Zone 1/21	T6/T5 and T80°C/T95°C	-40°C to +45°C/60°C
Emergency for Zone 1/21	T6/T5 and T80°C/T95°C	-10°C to +45°C/60°C
Normal for Zone 2/22	T6/T5/T4 and T80°C/T95°C/T100°C	-40°C to +40°C/55°C/60°C
Emergency for Zone 2/22	T6/T5/T4 and T80°C/T95°C/T100°C	-10°C to +40°C/55°C/60°C
Model LJ LED Explosion-proof light		
Normal for Zone 1/21	T6/T5 and T80°C/T95°C	-40°C to +45°C/60°C
Emergency for Zone 1/21	T6/T5 and T80°C/T95°C	-10°C to +45°C/60°C
Normal for Zone 2/22	T6/T5/T4 and T80°C/T95°C/T105°C	-40°C to +35°C/50°C/60°C
Emergency for Zone 2/22	T6/T5/T4 and T80°C/T95°C/T105°C	-10°C to +35°C/50°C/60°C

Date: 02 July 2025

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CSA Group Testing UK Ltd.
Unit 6 Hawarden Industrial Park,
Hawarden Deeside CH5 3US, UK.

Annexe to: IECEx CSAE 25.0031X Iss 0

Applicant: National Lighting Co. Ltd.



Apparatus: LED Explosion-proof Light - NLC EXP-**W-L*C-* -Z

Conditions of Manufacture

- i. The encapsulated parts of the LED light board shall be subjected to a visual inspection. No visible damage of the compound shall be evident, such as cracks, exposure of the encapsulated parts, flaking, impermissible shrinkage, discoloration, swelling decomposition or softening, as required by IEC 60079-18:2017, Clause 9.1.
- ii. The LED light board of equipment shall be subjected to a dielectric strength test with 500 Vac for at least 60 s without dielectric breakdown occurring between input terminal of LED light board and the earthing. Alternatively, the test may be carried out at 600 Vac for at least 100 ms, 700 Vdc for at least 60 s or 840 Vdc for at least 100 ms. Between input terminal of LED light board and the earthing. The testing base on clause 9.2 of IEC 60079-18:2017 and clause 7.1 of IEC 60079-7:2017.
- iii. The equipment shall be subjected to a dielectric strength test at 1554 Vac for at least 60 s without dielectric breakdown occurring between input terminal of luminaire and the earthing, and between circuits and the non-metallic surface of the equipment (either a non-metallic enclosure or the surface of the compound). Alternatively, the test may be carried out at 1865 Vac for at least 100 ms, 2198 Vdc for at least 60 s or 2638 Vdc for at least 100 ms. Between input terminal of luminaire and the earthing, and between circuits and the non-metallic surface of the equipment (either a non-metallic enclosure or the surface of the compound). The testing base on clause 7.1 of IEC 60079-7:2017.
- iv. The driver flame proof enclosure shall be conduct overpressure 1.74MPa with 12s. the enclosure shall not have permanent deformation and damage.