



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 TPS 23.0021X** Page 1 of 6 Certificate history:
Status: **Current** Issue No: 1 Issue 0 (2023-08-14)
Date of Issue: 2024-03-13
Applicant: **Red Sky Lighting LLC**
Room 516, No.8 Hengfei Road, Nanjing Economic and Technological Development Zone, Nanjing, Jiangsu, China
Nanjing 210046
China
Equipment: **LED Linear Explosion-Proof Light, Model LLP series**
Optional accessory:
Type of Protection: **Flameproof enclosures "d", increased safety "e", encapsulation "m", dust ignition protection by enclosure "t"**
Marking: Ex db eb mb IIC T6/T5 Gb
Ex tb IIIC T80°C Db
Tamb (See Technical Data)

Approved for issue on behalf of the IECEx
Certification Body:

Ing. Kristof De Gersem, MSc.

Position:

Technical Certifier

Signature:
(for printed version)

Date:
(for printed version)

13.03.2024

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Germany



Product Service



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Manufacturer: **Red Sky Lighting LLC**
Room 516, No.8 Hengfei Road, Nanjing Economic and Technological Development Zone, Nanjing, Jiangsu, China
Nanjing 210046
China

Manufacturing locations: **Red Sky Lighting LLC**
Building C8, Zhongnan Zhigu Industrial
Park, No. 8, Xiaoqi Road, Xiongzhou
Street, Luhe District, Nanjing, Jiangsu,
China
Nanjing 211500
China

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:

[DE/TPS/ExTR23.0023/00](#)

Quality Assessment Report:

[DE/TPS/QAR17.0003/08](#)



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EQUIPMENT:

Equipment and systems covered by this Certificate are as follows:

General product information

The LLP series LED Linear Explosion-Proof Lights are suitable for use in Zone 1 IIB/Zone 2 IIC and Zone 21 IIIB/Zone 22 IIIC Explosive Gas and Dust Atmospheres.

The lights are made of two chambers (compartments). One is the wiring compartment which is in Explosion Protection type Ex eb. The 2nd compartment is the light compartment, with the LED array and its connections in Explosion Protection type Ex eb and with and LED lens in Explosion Protection type Ex db. The LED drivers are in Explosion Protection type Ex mb. The light transmitting cover is made of PC, that is surrounded by stainless steel press plate. The enclosure of the light is made of aluminium.

All the LED drivers are in protection type Ex mb IIC Gb with a service temperature range of $-40\text{ }^{\circ}\text{C}$ to $+70\text{ }^{\circ}\text{C}$ and with a $t_c = 85\text{ }^{\circ}\text{C}$ (Emergency LED drivers) / $t_c = 90\text{ }^{\circ}\text{C}$ (Normal LED drivers).

The lights comply with the maximum power radiation requirements mentioned in IEC 60079-28 (Ex op is). The power rating is from 20 to 100W.

Technical Data

Rated Voltage 120 to 277 Va.c., 50 or 60 Hz
Rated Power 20 W, 30 W, 40 W, 50 W, 60 W, 80 W, 100 W
Degree of protection IP66

Ambient temperature
 $-40\text{ }^{\circ}\text{C} \leq T_{amb} \leq +55\text{ }^{\circ}\text{C}$, for non-emergency light
 $-20\text{ }^{\circ}\text{C} \leq T_{amb} \leq +50\text{ }^{\circ}\text{C}$, for emergency light with battery backup

Temperature Class
T6, for light with 20W to 60W rated power
T5, for light with 80W and 100W rated power

SPECIFIC CONDITIONS OF USE: YES as shown below:

1. To minimize the risk of electrostatic discharge, only clean the enclosure with a wet cloth.
2. Suitable entry devices or blanking elements shall be selected according to the threads of cable entries and the cable diameter. These devices shall be in compliance with the requirements for Ex protection type by increased safety "e"(EPL Gb), dust ignition protection by enclosure "t"(EPL Db) as per IECEX Scheme and a minimum protection degree of IP66 for IP code.
3. For Emergency Function Light applications, a Ni-Cd (Nickel-Cadmium) battery is used and can only be replaced under supervision of the manufacturer RED SKY LIGHTING LLC (Battery Type: KRH26/51(C)2500TX8-9.6V).
4. The LED drivers are tested and evaluated together with the the luminaire. Only these drivers can be used (Manufacturer: RED SKY LIGHTING LLC).



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Equipment (continued):

Model designation

LLP - * - 120-277 - * - * - X1 - * - * - * - *

1 2 3 4 5 6 7 8 9 10

1 Designate factory code (company brand)

= LLP

2 Rated wattage

= 20 W, 30 W, 40 W, 50 W, 60 W, 80 W, 100 W

3 Rated voltage

= 120-277 V a.c.

4 CCT

= 65K - 6500K, 57K - 5700K, 5K - 5000K,

4K - 4000K, 3K - 3000K, 27K - 2700K,

RD - Red, GN - Green, BU - Blue, AM - Amber

5 Internal code

= Blank

= HAR or XXX - custom. Each "X" stands any one from A to Z

6 Rating

= X1 - Zone1, 21

7 Lens:

= CP - Clear PC,

= DP - Diffuse PC

8 Wiring

= 1A - single access,

= 2A - dual access

9 Battery

= Blank - non-emergency

= EM6 - 6W 180mins

= EM12 - 12W 90mins

10 Cable entries

= M20 - 4 X M20 X 1.5

= M25 - 4 X M25 X 1.5

= N12 - 4 X NPT 1/2

= N34 - 4 X NPT 3/4



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Model difference

1/ For the short-length structure equipped with only a light-source cover, the maximum power of the LED linear light is 40W. For the long-length structure equipped with two light-source covers, the maximum power of the LED linear light is 100W.

2/ There are two wiring connection methods. The linear light is equipped with one connection chamber in one side or two connection chambers in both sides.

Warning label

WARNING – DO NOT OPEN WHEN AN EXPLOSIVE ATMOSPHERE IS PRESENT

WARNING – DO NOT OPEN WHEN ENERGIZED

WARNING – POTENTIAL ELECTROSTATIC CHARGING HAZARD – SEE INSTRUCTIONS

Routine tests

1/ Visual inspections are required according to Clause 9.1 of IEC 60079-18. No damage to the compound that could impair the type of protection shall be visible.

2/ A dielectric strength test is required for the LED drivers according to Clause 9.2 of IEC 60079-18.

A dielectric strength test between the driver input and the enclosure/earth, between the drive output and the enclosure/earth, between the driver input and output shall be carried out at min.1500V r.m.s. for at least 1 s without breakdown or arcing occurs during testing.

Alternatively,

1.2 times the test voltage may be applied and maintained for at least 100 ms without breakdown or arcing occurs during testing.

3/ An electric strength test is required for the LED light according to Clause 6.1 of IEC 60079-7. Alternatively, a test shall be carried out at 1.2 times the test voltage, but maintained for at least 100 ms.

4/ The clearance and creepage distances are required to be measured according to Clause 7.1 of IEC 60079-7. If they are rigidly controlled by tooling in the manufacturing process, this routine test may be performed on a statistical basis in accordance with ISO 2859-1 with an acceptance quality limit (AQL) of 0,04.



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DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)

- Model designation.
(Addition of internal code for different market representation.)
- The manufacturer documentation was updated based on the update of model designation.