Product Service

(1) # EU-Type Examination Certificate

(2) Equipment or Protective Systems Intended for Use in Potentially Explosive Atmospheres – **Directive 2014/34/EU**

(3) EU-Type Examination Certificate Number:

TPS 23 ATEX 095986 0028 X Rev. 01

(4) Equipment: LED Linear Explosion-Proof Light
Type: LLP series

(5) Manufacturer: RED SKY LIGHTING LLC

(6) Address: Room 516, No.8 Hengfei Road
Nanjing Economic and Technological Development Zone
210046 Nanjing, Jiangsu, P.R. China

(7) This equipment or protective system and any acceptable variation thereto are specified in the schedule to this certificate and the documents therein referred to.

(8) TÜV SÜD Product Service GmbH, Notified Body no. 0123, 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 product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products 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 with no. 70.520.24.039.01.

(9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN IEC 60079-0:2018 **EN 60079-1:2014** **EN IEC 60079-7:2015+A1:2018**
EN 60079-18:2015+A1:2017 **EN 60079-31:2014**

(10) If the sign "X" is placed after the certificate number, it indicates that the equipment or protective system is subject to special conditions for safe use specified in the schedule to this certificate.

(11) This EU-Type Examination Certificate relates only to the design and construction of the specified product. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.

(12) The marking of the product shall include the following:

II 2G Ex db eb mb IIC T6/T5 Gb
II 2D Ex tb IIIC T80°C Db

Tamb – See Technical Data

München, 13.03.2024

Ing. Kristof De Gersem, MSc. :

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Certificate History

Revision:	Description:	Report no.:	Issue Date:
Rev. 00	First issue of certificate.	70.520.23.057.05	10.08.2023
Rev. 01	The manufacturer documentation was updated based on the update of model designation.	70.520.24.039.01	13.03.2024

(15) Description of equipment:

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). The first compartment 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 °C to +70 °C and with a tc = 85 °C (Emergency LED drivers) / tc = 90 °C (Normal LED drivers).

The lights comply with the maximum power radiation requirements mentioned in EN 60079-28 (Ex op is).

The power rating is from 20 to 100 W.

(For further technical information about the equipment, see next page)

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Model designation:

$$\frac{\text{LLP}}{1} - \frac{*}{2} - \frac{\text{120-277}}{3} - \frac{*}{4} - \frac{*}{5} - \frac{\text{X1}}{6} - \frac{*}{7} - \frac{*}{8} - \frac{*}{9} - \frac{*}{10}$$

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 assess,
= 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

Model difference:

Structure:

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

Technical data:

Rated power	20 W, 30 W, 40 W, 50 W, 60 W, 80 W, 100 W
Rated voltage	120 to 277 V a.c., 50/60 Hz
Degree of protection	IP66 (tested according to EN IEC 60079-0)

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Ambient temperature	-40 °C ≤ T_{amb} ≤ +55 °C, for non-emergency light -20 °C ≤ T_{amb} ≤ +50 °C, for emergency light with battery backup
Temperature Class	T6, for light with 20 W to 60 W rated power T5, for light with 80 W and 100 W rated power

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

Installation instruction:

See installation instructions provided by the manufacturer and part of this certification.

See also (17) Special conditions for safe use.

(16) Test report(s): 70.520.24.039.01.

Routine tests:

Routine tests on each piece (100%) are required by the manufacturer:

1. Visual inspections are required according to Clause 9.1 of EN 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 EN 60079-18.
3. 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 maybe applied and maintained for at least 100 ms without breakdown or arcing occurs during testing.
4. An electric strength test is required for the LED light according to Clause 6.1 of EN 60079-7. Alternatively, a test shall be carried out at 1.2 times the test voltage, but maintained for at least 100 ms.
5. The clearance and creepage distances are required to be measured according to Clause 7.1 of EN 60079-7. If they are rigidly controlled by tooling in the manufacturing process, this routine test maybe performed on a statistical basis in accordance with ISO 2859-1 with an acceptance quality limit (AQL) of 0,04.

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Document List:

File no.:	Description:	Pages:	Rev:	Date:
NJZ-FEL-G-22-V01.01.00	Assembly drawing	1	A0	2023.05.04
NJZ-FEL-G-22-V01.02.02	Lens gum	1	A0	2023.05.04
NJZ-FEL-G-22-V01.02.03	Lens	1	A0	2023.05.04
NJZ-FEL-G-22-V01.02.04	Lens gasket	1	A0	2023.05.04
NJZ-FEL-G-22-V01.02.05	The lens holder	1	A0	2023.05.04
NJZ-FEL-G-22-V01.02.10	LED indicator	1	A0	2023.05.04
NJZ-FEL-G-22-V01.02.11	Screw	1	A0	2023.05.04
NJZ-FEL-G-22-V01.02.12	Silicone rubber	1	A0	2023.05.04
NJZ-FEL-G-22-V01.02.13	Thickness of compound (40W-60W)	1	A0	2023.05.04
NJZ-FEL-G-22-V01.02.14	Thickness of compound	1	A0	2023.05.04
NJZ-FEL-G-22-V01.02.15	Outline drawing	1	A0	2023.05.04
NJZ-FEL-G-22-V01.02.16	Outline drawing	1	A0	2023.05.04
NJZ-FEL-G-22-V01.02.17	Schematic diagram	2	A0	2023.05.04
NJZ-FEL-G-22-V01.02.18	Schematic diagram	2	A0	2023.05.04
NJZ-FEL-G-22-V01.02.19	PCB	4	A0	2023.05.04
NJZ-FEL-G-22-V01.02.20	PCB	4	A0	2023.05.04
NJZ-FEL-G-22-V01.02.21	Electric Distance	1	A0	2023.05.04
NJZ-FEL-G-22-V01.02.22	Electric Distance	1	A0	2023.05.04
NJZ-FEL-G-22-V01.03	End cover seal ring	1	A0	2023.05.04
NJZ-FEL-G-22-V01.04	End Shield	1	A0	2023.05.04
NJZ-FEL-G-22-V01.05	Terminal cover	1	A0	2023.05.04
NJZ-FEL-G-22-V01.05.01	Electrical clearance and cree page distance	1	A0	2023.05.04
NJZ-FEL-G-22-V01.06	Terminal cover seal ring	1	A0	2023.05.04
NJZ-FEL-G-22-V01.07.02	Nameplate-60W	1	A1	2023.05.04
NJZ-FEL-G-22-V01.07.03	Nameplate -100W	1	A0	2023.05.04
NJZ-FEL-G-22-V01.09	PC cover pressure box	1	A0	2023.05.04
NJZ-FEL-G-22-V02.01.00	Assembly drawing	1	A0	2023.05.04
NJZ-FEL-G-22-V02.09	Silicone rubber	1	A0	2023.05.04
NJZ-FEL-G-22-V03.01.00	Assembly drawing (emergency)	1	A0	2023.05.04
NJZ-FEL-G-40-V01.06	Terminal cover seal ring	1	A0	2023.05.04
NJZ-FEL-G-48-V01.01.00	Assembly drawing	1	A0	2023.05.04
NJZ-FEL-G-48-V01.10	Assembly drawing(Driver 100W)	1	A0	2023.05.04
NJZ-FEL-G-48-V01.11	Label-EM12	1	A0	2023.05.04

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NJZ-FEL-G-48-V01.12	Label-PS040	1	A0	2023.05.04
NJZ-FEL-G-48-V01.13	Label-PS060	1	A0	2023.05.04
NJZ-FEL-G-48-V01.14	Label-PS100	1	A0	2023.05.04
NJZ-FEL-G-48-V01.15	Driver schematic diagram 60W	1	A0	2023.05.04
NJZ-FEL-G-48-V02.01.00	Assembly drawing	1	A0	2023.05.04
NJZ-FEL-G-48-V03.01.00	Assembly drawing (emergency)	1	A0	2023.05.04
NJZ-PS100S-58/IS/RP/DI/041	Fault test report driver 100W	5	-	2020.04.30
LLP EM Series *	User manual of LLP 100W(Emergency)	12	01	2024.02.05
LLP Series *	User manual of LLP 100W(Non-emergency)	12	01	2024.02.05
H05RN-F 3G1.0	Spec sheet cable of driver	1	-	-
NJZ-PS100S-58/IS/RP/DI/041	Spec sheet 100 W driver	13	V1.1	2019/11/15
SFA066	Fuse spec sheet	7	-	-
QS-RD-4-2001.15	Fuse short circuit breaking capacity test report	3	1.0	2019.06.25
D-CD-19160	HIGH TEMPERATURE Ni-CD BATTERIES PRODUCT APPROVAL SHEET	9	3.1	2019.09.04
LLP-EUDoC *	EU Declaration of Comformity	2	02	2024.02.05

Note: An * is included before the title of documents that are new or revised.

A copy of the full documentation is kept confidentially at TÜV SÜD.

(17) Special conditions for safe use:

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 ATEX 2014/34/EU 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 were tested and evaluated with the luminaire. Only these drivers can be used (Manufacturer: Red Sky Lighting LLC).

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(18) Essential health and safety requirements:

Assured by compliance with standards set out in (9).

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