

TYPE-EXAMINATION CERTIFICATE

- 1. Type-examination Certificate (Module A)
- 2. Equipment or Protective System intended for use in potentially explosive atmospheres (Directive 2014/34/EU)
- 3. Type examination certificate Nr ITS-I 20 ATEX 251401X R.2
- 4. Product: Led Luminaires, Model RINOLED-EX RL-Z2
- 5. Manufacturer: Palazzoli S.p.A.
- 6. Address: Via Federico Palazzoli, 31 25128 Brescia BS Italy
- 7. This product and any acceptable variation thereto are specified in the schedule to this certificate and therein referred to.
- 8. INTERTEK ITALIA S.p.A., certifies that the equipment or protective system has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective system intended for use in potentially explosive atmosphere, given in Annex II of the Directive.

The examination and tests results are recorded in confidential technical evaluation Intertek Report Nr. 200025140UDI-ATXa, Nr. 200025140UDI-ATXa rev1 and Intertek Report Nr 200030241UDI-ATXa

- 9. Compliance with the Essential Health and Safety Requirements has been assured by compliance with EN IEC 60079-0:2018, EN IEC 60079-7:2015/A1:2018 and EN 60079-18:2015/A1:2017 except in respect of those requirements referred to at item 16 of the Schedule
- 10. If the sign X is placed after the certificate number, it indicates that the product is subject to Special Conditions for Safe Use specified in the schedule to this certificate.
- 11. This 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 3G Ex ec mc IIC Tx Gc Tamb: For Emergency version (EXE1 and EXE3 models, digit [aaaa]):0°C up to +45°C For non-Emergency version (EXN0 models digit [aaaa]): minimum ambient temperature is: -40°C or -35°C; maximum ambient temperature is: +55°C or +60°C

Certificate issue date

Alessandro Savio Certification Officer Intertek Italia S.p.A.



This Certificate is for the exclusive use of Intertek's client and is provided pursuant to the agreement between Intertek and its Client. Intertek's responsibility and liability are limited to the terms and conditions of the agreement. Intertek assumes no liability to any party, other than to the Client in accordance with the agreement, for any loss, expense or damage occasioned by the use of this Certificate. Only the Client is authorized to permit copying or distribution of this Certificate and then only in its entirety. Any use of the Intertek name or one of its marks for the sale or advertisement of the tested material, product or service must first be approved in writing by Intertek.

Intertek Italia S.p.A. Via Miglioli, 2/A - 20063 Cernusco sul Naviglio, Milano - Italy







TYPE EXAMINATION CERTIFICATE NUMBER: ITS-I 20 ATEX 251401X R.2

13. DESCRIPTION OF THE EQUIPMENT OR PROTECTIVE SYSTEM

The equipment is a Waterproof LED light fixtures with metal body, glass diffuser and electronic Control gear for LED modules (Driver) and Electronic Control gear for emergency lighting (Inverter). The body of the enclosure can be made of stainless steel AISI 304, 316L or painted steel.

Temperature class is in accordance with the table below:

Model	Max ambient	Temperature	
Model	temperature range	С	lass
	[°C]	Gas	Dust
RINOLED-	EX RL-Z2:		
EXE version	+35° or +45°C	T6	T85°C
EXN0 version with	+60°C	T5	T85°C
LED driver output current < 400 mA	+00 C	15	165 C
EXN0 version with	+55°C T5 T8		T85°C
LED driver output current \geq 400 mA	nA 755 15		

The type code of product is RINOLED-EX RL-Z2-aaaa-bb-ccc-ddd-eeee-fff-gg-hh-ii-jjj-kkk-llll-mmmm-nnn, where:

digit	Meaning			
RINOLED-EX	Commercial product name			
RL-Z2-aaaa	 Version RL-Z2 where aaaa is: EXNO: ATEX light fixture - Non-Emergency for Ex Zones 2 EXE1: ATEX light fixture - Emergency 1h for Ex Zones 2 EXE3: ATEX light fixture - Emergency 3h for Ex Zones 2 			
bb	Length: • 69: Length 690 mm • 13: Length 1300 mm			
ссс	Diffuser material: • TGL: Transparent Glass • OGL: Opal Glass (Satin finished)			
ddd	Body material: • 304: AISI 304 • 316: AISI 316L • PSG: Painted Galvanised Steel			
ееее	Ambient temperature: See table below			
fff	Number of LED: • 048: 1 x 48 LED (only for Length 690 mm) • 072: 1 x 72 LED (only for Length 690 mm) • 096: 2 x 48 LED (only for Length 1300 mm) • 144: 2 x 72 LED (only for Length 1300 mm)			
gg	Dimming type: 00: No dimming			





TYPE EXAMINATION CERTIFICATE NUMBER: ITS-I 20 ATEX 251401X R.2

hh	Colour rendering index (CRI):
	 80: Ra ≥ 80 (typical)
	 hh: Other values ≠ 80
ii	Colour temperature:
	• 40: 4000K
	 Other values between 3000 K (ii = 30) to 6500 K (ii = 65)
jij	LED driver output current:
	• jjj: 325 mA to 500 mA with step of 25 mA
kkk	Optic Type:
	• 000: No lens (Extra wide beam distribution 110°)
	• WBC: Wide beam comfort distribution (88°)
	 MBD: Medium beam distribution (60°)
	 NBD: Narrow beam distribution (30° x 90°)
	Three digit to identify the other type of optic
1111	Type of cable gland:
	• PL20: M20 Plastic cable gland (*)
	• PL25: M25 Plastic cable gland (*)
	 BR20: M20 Nickel plated cable gland (*)
	 BR25: M25 Nickel plated cable gland (*)
	 AR20: M20 Nickel plated cable gland for armoured cable (*)
	AR25: M25 Nickel plated cable gland for armoured cable (*)
mmmm	Number of cable entry:
	• 1000: 1 entry (Mains)
	• 1100: 2 entries at Mains side
	 1110: 2 entries at Mains side + 1 entry at other side
	 1111: 2 entries at Mains side + 2 entries at other side
	mmmm: Other combinations of entries
nnn	Custom characteristics:
	000: Standard version
	nnn: Code to handle special versions such as pre-mounted supply cable
	with or without plug/connector, different external colour, etc.

(*) With plastic cable gland, ta min. = -35 °C

With Nickel-plated brass cable gland, ta min= -40°C

Ambient temperature range table, only for RINOLED-EX RL- Z2 is

Ambient temperatures ("eeee" field of Z2-EX versions)							
Code	ta range	ta range Version		N. LED	LED Driver output current		
"eeee"	tarange	VEISION	Length	N. LED	(mA)		
			690				
0045	0 °C +45 °C	Z2-EXE1	1300	All	325 500		
0045	0 C +45 C	Z2-EXE3	690		525 500		
		ZZ-ENES	1300				
3555			55 -35 °C +55 °C Z2-E	72 EVNO	690	All	425 500
3333	-35 C +55 C	+55 C ZZ-EXINU	1300	All	423 300		
3560	-35 °C +60 °C	72 EVNO	690	- All 325 40	325 400		
3300	-35 C +00 C	ZZ-EXINU	1300	All	525 400		





TYPE EXAMINATION CERTIFICATE NUMBER: ITS-I 20 ATEX 251401X R.2

ĺ	4055			690	All	425 500
	4055 -40 °C +55 °C Z2-EX	ZZ-EXINU	1300	All	425 500	
			690	All	225 400	
	4060	-40 C +60 C	ZZ-EXINU	1300	All	325 400

14. DRAWINGS AND DOCUMENTS

TITLE	DOCUMENT Nr	LEVEL	DATE
* Technical File Waterproof light fixtures RINOLED-EX series Type of protection Ex eb mb IIC / Ex tb IIIC - Ex ec mc IIC / Ex tb IIIC	Doc. N. 423	01	2022-08-25
*ATEX LIGHTING LED FIXTURES for fixed installation – Safety instructions Series RINO LED-EX	C010268	00	2022-08-10
*ATEX LIGHTING LED FIXTURES for fixed installation – Safety instructions Series RINO LED-EX	C010269	01	2022-08-10
* Cover page of Annex 01 (Datasheets) of the Technical File	Annex 01TF Doc. N. 423	01	2022-09-08
* Annex 04 of Technical File - Explanation of the markings	Annex 04TF Doc. N. 423	01	2022-08-10
* Cover page of Annex 02 of Technical File Materials Technical Datasheets	Annex 02TF Doc. N. 423	01	2022-08-10
* Cover page of Annex 03 of Technical File Drawings and schemes	Annex 03TF Doc. N. 423	01	2022-08-25
Istruzione fissaggio guarnizioni sul corpo plafoniera inox standard e atex	N° 137	02	24-06-2015
Definizione spessore del rivestimento superficiale, tipologia di vernice a polvere, caratteristiche di adesione e resistenza, pretrattamento.	N° 104	7	03/04/2019

Copies of the above listed documents are kept at Intertek Italia S.p.A. archive.

15. SPECIFIC CONDITIONS OF USE

• See user manual to minimize the risk of electrostatic charge

16. ESSENTIAL HEALTH AND SAFETY REQUIREMENTS

The relevant Essential Health and Safety Requirements have been identified and assessed in Intertek Report Nr. 200030241UDI-ATXa

17. ROUTINE (FACTORY) TESTS





TYPE EXAMINATION CERTIFICATE NUMBER: ITS-I 20 ATEX 251401X R.2

Dielectric test was performed in accordance with IEC 60598-1 - Luminaires - Part 1: General requirements and tests at 1000V+2U per 60s.
 In accordance with this Standard the routine test can be performed at this condition: 1000V+2U per 60s; or 1.2*(1000V+2U) per 100ms.
 Alternatively, the manufacturer shall conduct the test at 1.2 times the test voltage for at least 100ms.
 Results must be recorded.

18. DETAIL OF CERTIFICATE CHANGES

R.1 (24 Mar 2021):

• Typing error on marking from "Ex ec mb" to "Ex ec mc"

R.2 (28 Oct 2022)

• Updated type code from: RINO LED RL-vvvv-ll-ddd-bbb-ta-xxx-yy-zz-kk-aaa-www-cg-eeee-nnn to: RINOLED-EX RL-Z2-aaaa-bb-ccc-ddd-eeee-fff-gg-hh-ii-jjj-kkk-llll-mmmm-nnn



EU TYPE-EXAMINATION CERTIFICATE

- 1. EU type-examination Certificate (Module B)
- 2. Equipment or Protective System intended for use in potentially explosive atmospheres (Directive 2014/34/EU)
- 3. EU type examination certificate Nr ITS-I 20 ATEX 251402X R.1

4. Product: Led luminaires, Models RINOLED-EX RL-Z1-..., RINOLED-EX RL-Z2-....

- 5. Manufacturer: Palazzoli S.p.A.
- 6. Address: Via Federico Palazzoli, 31 25128 Brescia BS Italy
- 7. This product and any acceptable variation thereto are specified in the schedule to this certificate and therein referred to.
- 8. INTERTEK ITALIA S.p.A., Notified Body n° 2575 in accordance with article 17 of the Directive 2014/34/EU of the European Parliament and Council of the 26 February 2014, certifies that the equipment or protective system has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective system intended for use in potentially explosive atmosphere, given in Annex II of the Directive.

The examination and tests results are recorded in confidential technical evaluation Intertek Report Nr. 200025140UDI-ATXa and Intertek Report Nr 200030241UDI-ATX

- 9. Compliance with the Essential Health and Safety Requirements has been assured by compliance with EN IEC 60079-0:2018, EN IEC 60079-7:2015/A1:2018 EN 60079-18:2015/A1:2017 and EN 60079-31:2014 except in respect of those requirements referred to at item 16 of the Schedule.
- 10. If the sign X is placed after the certificate number, it indicates that the product is subject to Specific Conditions of 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:



RINOLED-EX RL-Z1: II2G Ex eb mb IIC Tx Gb II2D Ex tb IIIC T85°C Db RINOLED-EX RL-Z2: II2D Ex tb IIIC T85°C Db See table in sec. 13 for ambient temperature range

October 28, 2022

Certificate issue date

Alessandro Savio Certification Officer Intertek Italia S.p.A. (NB 2575)



PDR Nº 277B

Membro degli Accordi di Mutuo Riconoscimento EA, IAF e ILAC

Signatory of EA, IAF and ILAC Mutual Recognition Agreements



This Certificate is for the exclusive use of Intertek's client and is provided pursuant to the agreement between Intertek and its Client. Intertek's responsibility and liability are limited to the terms and conditions of the agreement. Intertek assumes no liability to any party, other than to the Client in accordance with the agreement, for any loss, expense or damage occasioned by the use of this Certificate. Only the Client is authorized to permit copying or distribution of this Certificate and then only in its entirety. Any use of the Intertek name or one of its marks for the sale or advertisement of the tested material, product or service must first be approved in writing by Intertek.

Intertek Italia S.p.A. Via Miglioli, 2/A - 20063 Cernusco sul Naviglio, Milano - Italy





EU TYPE EXAMINATION CERTIFICATE NUMBER: ITS-I 20 ATEX 251402X R.1

13. DESCRIPTION OF THE EQUIPMENT OR PROTECTIVE SYSTEM

The equipment is a Waterproof LED light fixtures with metal body, glass diffuser and electronic Controlgear for LED modules (Driver) and Electronic Controlgear for emergency lighting (Inverter). The body of the enclosure can be made of stainless steel AISI 304, 316L or painted steel. Temperature class is in accordance with the table below:

Model	Max ambient temperature range		erature lass
	[°C]	Gas	Dust
RINOLED-EX RL-Z1:			
EXE version with	+35°C or +45°C	T6	T85°C
LED driver output current < 400 mA	+55 C 01 +45 C	10	165 C
EXE version with	+35°C or +45°C	T5	T85°C
LED driver output current ≥ 400 mA	+55 C 01 +45 C	15	165 C
EXE version with	+45°C	Т4	T85°C
LED driver output current = 500 mA with LED code 192S	+43 C	14	165 C
EXN0 version with	+60°C	Т6	T85°C
LED driver output current < 400 mA	+00 C	10	165 C
EXN0 version with	+45°C	T5	T85°C
LED driver output current ≥ 400 mA	+4J C	13	185 C
EXN0 version with	+45°C	Т4	T85°C
LED driver output current = 500 mA with LED code 192S	+4J C	14	185 C
RINOLED-EX RL-Z2:			
EXE version	+35° or +45°C	T6	T85°C
EXN0 version with	+60°C	T5	T85°C
LED driver output current < 400 mA	+00 C	15	165 C
EXN0 version with	+55°C	T5	T85°C
LED driver output current ≥ 400 mA	+55 C	15	165 C

The type code of product is:

RINOLED-EX RL- Z1-aaaa -bb-ccc-ddd-eeee-ffff-gg-hh-ii-jjj-kkk-llll-mmmm-nnn, where:

digit	Meaning
RINOLED-EX	Commercial product name
RL-Z1-aaaa	 Version RL-Z1 where aaaa is: EXNO: ATEX light fixture - Non-Emergency for Ex Zones 1-21 EXE1: ATEX light fixture - Emergency 1h for Ex Zones 1-21 EXE3: ATEX light fixture - Emergency 3h for Ex Zones 1-21
bb	Length: • 69: Length 690 mm • 13: Length 1300 mm
ссс	Diffuser material: • TGL: Transparent Glass





EU TYPE EXAMINATION CERTIFICATE NUMBER: ITS-I 20 ATEX 251402X R.1

	OGL: Opal Glass (Satin finished)
ddd	Body material:
	• 304: AISI 304
	• 316: AISI 316L
	PSG: Painted Galvanised Steel
eeee	Ambient temperature:
	See table below
ffff	Number of LED:
	• 192P: 2 strip of 96 LEDs in parallel
	• 192S: 2 strip of 96 LEDs in series
	0384: 4 strip of 96 LEDs (2 strip 192P in series) - (only for Length 1300 mm)
gg	Dimming type:
	OO: No dimming
	DA: DALI (only for version with 384 LEDs)
hh	Colour rendering index (CRI):
	 80: Ra ≥ 80 (typical)
	• hh: Other values ≠ 80
ii	Colour temperature:
	• 40: 4000K
	 ii: Other values between 3000K (ii=30) and 6000K (ii=60)
jjj	LED driver output current:
	aaa: 325 mA to 600 mA with step of 25 mA
kkk	Optic Type:
	000: No lens (Extra wide beam distribution 110°)
1111	Type of cable gland:
	PL20: M20 Plastic cable gland (*)
	• PL25: M25 Plastic cable gland (*)
	BR20: M20 Nickel plated cable gland (*)
	BR25: M25 Nickel plated cable gland (*)
	 AR20: M20 Nickel plated cable gland for armoured cable (*)
	AR25: M25 Nickel plated cable gland for armoured cable (*)
mmmm	Number of cable entry:
	• 1000: 1 entry (Mains)
	1100: 2 entries at Mains side
	 1110: 2 entries at Mains side + 1 entry at other side
	 1111: 2 entries at Mains side + 2 entries at other side
	mmmm: Other combinations of entries
nnn	Custom characteristics:
	000: Standard version
	nnn: Code to handle special versions such as pre-mounted supply cable with or without
	plug/connector, different external colour, etc.

(*) With plastic cable gland, ta min. = -35 °C

With Nickel-plated brass cable gland, ta min= -40°C





EU TYPE EXAMINATION CERTIFICATE NUMBER: ITS-I 20 ATEX 251402X R.1

	Ambient temperatures ("eeee" field of Z1-EX versions)												
Code "eeee"	ta range	Version	Length	N. LED	LED Driver output current (mA)								
0035	0 °C +35 °C	Z1-EXE1	690	192S	325 500								
0035	0 C +35 C	Z1-EXE3	690	192S	325 500								
			690	192P	325 500								
		Z1-EXE1	1300	192S	325 500								
0045	0 °C +45 °C		1300	0384	325 600								
0045	0 C +45 C		690	192P	325 500								
		Z1-EXE3	1300	192S	325 500								
			1300	0384	325 600								
3535	-35 °C +35 °C	Z1-EXN0	690	192S	400 500								
			690	192S	325 375								
3545	-35 °C +45 °C	35 °C +45 °C Z1-EXN0 1	Z1-EXN0	Z1-EXNO	Z1-EXN0	Z1-EXN0	Z1-EXN0	Z1-EXN0	Z1-EXN0	°C Z1-EXN0	1300	192S	400 500
			1300	0384	325 600								
3550	-35 °C +50 °C	Z1-EXN0	690	192P	400 500								
3560	-35 °C +60 °C	71 EVNO	690	192P	325 375								
3300	-55 C +00 C	ZI-EXINO	1300	192S	325 375								
4035	-40 °C +35 °C	Z1-EXN0	690	192S	400 500								
			690	192S	325 375								
4045	-40 °C +45 °C	Z1-EXN0	1300	192S	400 500								
			0384	325 600									
4050	-40 °C +50 °C	Z1-EXN0	690	192P	400 500								
4060	40 °C +60 °C	71 EVNO	690	192P	325 375								
4000	-40 °C +60 °C	ZT-EVINO	1300	192S	325 375								

Ambient temperature range table, only for RINOLED-EX RL- Z1

RINOLED-EX RL-Z2-aaaa-bb-ccc-ddd-eeee-fff-gg-hh-ii-jjj-kkk-llll-mmmm-nnn, where:

digit	Meaning			
RINOLED-EX	Commercial product name			
RL-Z2-aaaa	 Version RL-Z2 where aaaa is: EXNO: ATEX light fixture - Non-Emergency for Ex Zones 21 EXE1: ATEX light fixture - Emergency 1h for Ex Zones 21 EXE3: ATEX light fixture - Emergency 3h for Ex Zones 21 			
bb	Length: • 69: Length 690 mm • 13: Length 1300 mm			
ссс	Diffuser material: • TGL: Transparent Glass • OGL: Opal Glass (Satin finished)			
ddd	Body material: • 304: AISI 304 • 316: AISI 316L • PSG: Painted Galvanised Steel			





EU TYPE EXAMINATION CERTIFICATE NUMBER: ITS-I 20 ATEX 251402X R.1

	eeee	Ambient temperature:
• 048: 1 x 48 LED (only for Length 690 mm) • 072: 1 x 72 LED (only for Length 690 mm) • 096: 2 x 48 LED (only for Length 1300 mm) • 144: 2 x 72 LED (only for Length 1300 mm) gg 00: No dimming hh Colour rendering index (CRI): • 80: Ra ≥ 80 (typical) • hh: Other values ≠ 80 ii Colour temperature: • 40: 4000K • Other values between 3000 K (ii = 30) to 6500 K (ii = 65) jjj LED driver output current: • jjj: 325 mA to 500 mA with step of 25 mA kkk Optic Type: • 000: No lens (Extra wide beam distribution 110°) • WBC: Wide beam comfort distribution (88°) • MBD: Medium beam distribution (30° x 90°) • Three digit to identify the other type of optic IIII Type of cable gland: • PL20: M20 Plastic cable gland (*) • BR20: M20 Nickel plated cable gland (*) • PL20: M20 Nickel plated cable gland (*) • BR20: M20 Nickel plated cable gland (*) • BR20: M20 Nickel plated cable gland		See table below
• 072: 1 x 72 LED (only for Length 690 mm) • 066: 2 x 48 LED (only for Length 1300 mm) • 144: 2 x 72 LED (only for Length 1300 mm) gg Dimming type: 00: No dimming hh Colour rendering index (CRI): • 80: Ra ≥ 80 (typical) • hh: Other values ≠ 80 ii Colour temperature: • 40: 4000K • Other values between 3000 K (ii = 30) to 6500 K (ii = 65) jjj LED driver output current: • jjj: 325 mA to 500 mA with step of 25 mA kkk Optic Type: • 000: No lens (Extra wide beam distribution 110°) • WBC: Wide beam comfort distribution (88°) • MBD: Medium beam distribution (60°) • NBD: Narrow beam distribution (30° x 90°) • Three digit to identify the other type of optic IIII Type of cable gland: • PL20: M20 Plastic cable gland (*) • BR20: M20 Nickel plated cable gland (*) • BR20: M20 Nickel plated cable gland for armoured cable (*) • AR25: M25 Nickel plated cable gland for armoured cable (*)	fff	Number of LED:
• 096: 2 x 48 LED (only for Length 1300 mm) • 144: 2 x 72 LED (only for Length 1300 mm) gg Dimming type: 00: No dimming hh Colour rendering index (CRI): • 80: Ra ≥ 80 (typical) • hh: Other values ≠ 80 ii Colour temperature: • 40: 4000K • Other values between 3000 K (ii = 30) to 6500 K (ii = 65) jjj LED driver output current: • jjj: 325 mA to 500 mA with step of 25 mA Kkk Optic Type: • 000: No lens (Extra wide beam distribution 110°) • WBC: Wide beam comfort distribution (88°) • MBD: Medium beam distribution (30° x 90°) • Three digit to identify the other type of optic IIII Type of cable gland: • PL20: M20 Plastic cable gland (*) • BR20: M20 Nickel plated cable gland (*) • AR20: M20 Nickel plated cable gland (*) • AR20: M20 Nickel plated cable gland for armoured cable (*) • AR20: M20 Nickel plated cable gland for armoured cable (*) • AR20: M20 Nickel plated cable gland for armoured cable (*) • AR20: M20 Nickel plated cable gland for armoured cable (*) • AR20: M20 Nickel plated cable gland for armoured cable (*) • AR20: M20 Nic		• 048: 1 x 48 LED (only for Length 690 mm)
• 144: 2 x 72 LED (only for Length 1300 mm) gg Dimming type: 00: No dimming hh Colour rendering index (CRI): • 80: Ra ≥ 80 (typical) • hh: Other values ≠ 80 ii Colour temperature: • 40: 4000K • Other values between 3000 K (ii = 30) to 6500 K (ii = 65) jjj LED driver output current: • jjj: 325 mA to 500 mA with step of 25 mA Optic Type: 000: No lens (Extra wide beam distribution 110°) • WBC: Wide beam comfort distribution (88°) • MBD: Medium beam distribution (30° x 90°) • Three digit to identify the other type of optic IIII Type of cable gland: • PL25: M25 Plastic cable gland (*) • BR20: M20 Nickel plated cable gland (*) • BR20: M20 Nickel plated cable gland (*) • AR20: M20 Nickel plated cable gland for armoured cable (*) • AR20: M20 Nickel plated cable gland for armoured cable (*) • AR20: M20 Nickel plated cable gland for armoured cable (*) • AR20: M20 Nickel plated cable gland for armoured cable (*) • AR20: M20 Nickel plated cable gland for armoured cable (*) • AR20: M20 Nickel plated cable gland for armoured cable (*) • AR20: M20 Nickel plated cable gland		
gg Dimming type: 00: No dimming hh Colour rendering index (CRI): 80: Ra ≥ 80 (typical) hh: Other values ≠ 80 ii Colour temperature: 40: 4000K Other values between 3000 K (ii = 30) to 6500 K (ii = 65) jjj LED driver output current: jjj: 325 mA to 500 mA with step of 25 mA Kkk Optic Type: 000: No lens (Extra wide beam distribution 110°) WBC: Wide beam comfort distribution (88°) MBD: Medium beam distribution (30° x 90°) Three digit to identify the other type of optic IIII Type of cable gland: PL20: M20 Plastic cable gland (*) BR20: M20 Nickel plated cable gland for armoured cable (*) AR225: M25 Nickel plated cable gland for armoured cable (*) AR25: M25 Nickel plated cable gland for armoured cable (*) Number of cable entry: 1000: 1 entry (Mains) 1100: 2 entries at Mains side 11100: 2 entries at Mains side		
bb 00: No dimming hh Colour rendering index (CRI): 80: Ra ≥ 80 (typical) hh: Other values ≠ 80 ii Colour temperature: 40: 4000K Other values between 3000 K (ii = 30) to 6500 K (ii = 65) jjj LED driver output current: jjj: 325 mA to 500 mA with step of 25 mA kkk Optic Type: 000: No lens (Extra wide beam distribution 110°) WBC: Wide beam comfort distribution (88°) MBD: Medium beam distribution (60°) NBD: Narrow beam distribution (30° x 90°) Three digit to identify the other type of optic IIII Type of cable gland: PL20: M20 Plastic cable gland (*) BR20: M20 Nickel plated cable gland (*) BR20: M20 Nickel plated cable gland (*) BR25: M25 Nickel plated cable gland (*) BR25: M25 Nickel plated cable gland (*) AR25: M25 Nickel plated cable gland for armoured cable (*) AR25: M25 Nickel plated cable gland for armoured cable (*) AR25: M25 Nickel plated cable gland for armoured cable (*) AR25: M25 Nickel plated cable gland to armoured cable (*) AR25: M25 Nickel plated cable gland to armoured cable (*) AR25: M25 Nickel plated cable gland to armoured cable (*) AR25: M25 Nickel plated cable gland for armoured cable (*) AR25: M25 Nickel p		
hh Colour rendering index (CRI): • 80: Ra ≥ 80 (typical) • hh: Other values ≠ 80 ii Colour temperature: • 40: 4000K • Other values between 3000 K (ii = 30) to 6500 K (ii = 65) jjj LED driver output current: • jjj: 325 mA to 500 mA with step of 25 mA kkk Optic Type: • 000: No lens (Extra wide beam distribution 110°) • WBC: Wide beam comfort distribution (88°) • MBD: Medium beam distribution (60°) • NBD: Narrow beam distribution (30° x 90°) • Three digit to identify the other type of optic IIII Type of cable gland: • PL20: M20 Plastic cable gland (*) • BR20: M20 Nickel plated cable gland (*) • BR20: M20 Nickel plated cable gland (*) • BR20: M20 Nickel plated cable gland (*) • AR25: M25 Nickel plated cable gland for armoured cable (*) • AR25: M25 Nickel plated cable gland for armoured cable (*) • AR25: M25 Nickel plated cable gland for armoured cable (*) • AR25: M25 Nickel plated cable gland for armoured cable (*) • AR25: M25 Nickel plated cable gland for armoured cable (*) • AR25: M25 Nickel plated cable gland for armoured cable (*) • AR25: M25 Nickel plated cable gland for a	gg	
• 80: Ra ≥ 80 (typical) • hh: Other values ≠ 80 ii Colour temperature: • 40: 4000K • Other values between 3000 K (ii = 30) to 6500 K (ii = 65) jjj LED driver output current: • • 000: No lens (Extra wide beam distribution 110°) • WBC: Wide beam comfort distribution (68°) • MBD: Medium beam distribution (60°) • NBD: Narrow beam distribution (30° x 90°) • Three digit to identify the other type of optic IIII Type of cable gland: • •		00: No dimming
• hh: Other values ≠ 80 ii Colour temperature: 40: 4000K Other values between 3000 K (ii = 30) to 6500 K (ii = 65) jjj LED driver output current: jjj: 325 mA to 500 mA with step of 25 mA kkk Optic Type: 000: No lens (Extra wide beam distribution 110°) WBC: Wide beam comfort distribution (88°) MBD: Medium beam distribution (60°) NBD: Narrow beam distribution (30° x 90°) Three digit to identify the other type of optic IIII Type of cable gland: PL20: M20 Plastic cable gland (*) PL25: M25 Plastic cable gland (*) BR20: M20 Nickel plated cable gland (*) BR20: M20 Nickel plated cable gland for armoured cable (*) AR20: M20 Nickel plated cable gland for armoured cable (*) AR25: M25 Nickel plated cable gland for armoured cable (*) AR25: M25 Nickel plated cable gland for armoured cable (*) AR25: M25 Nickel plated cable gland for armoured cable (*) AR25: M25 Nickel plated cable gland for armoured cable (*) AR25: M25 Nickel plated cable gland for armoured cable (*) AR25: M25 Nickel plated cable gland for armoured cable (*) AR25: M25 Nickel plated cable gland for armoured cable (*) AR25: M25 Nickel plated cable gland for armoured cable (*) AR25: M25 Nickel plated cable gland for armoured cable (*) 	hh	Colour rendering index (CRI):
ii Colour temperature: 40: 4000K Other values between 3000 K (ii = 30) to 6500 K (ii = 65) jjj LED driver output current: jjj: 325 mA to 500 mA with step of 25 mA kkk Optic Type: 000: No lens (Extra wide beam distribution 110°) WBC: Wide beam comfort distribution (88°) MBD: Medium beam distribution (88°) MBD: Narrow beam distribution (30° x 90°) Three digit to identify the other type of optic IIII PL20: M20 Plastic cable gland (*) PL25: M25 Plastic cable gland (*) BR20: M20 Nickel plated cable gland (*) BR20: M20 Nickel plated cable gland for armoured cable (*) AR20: M20 Nickel plated cable gland for armoured cable (*) AR25: M25 Nickel plated cable gland for armoured cable (*) AR25: M25 Nickel plated cable gland for armoured cable (*) Number of cable entry: 1000: 1 entry (Mains) 1100: 2 entries at Mains side 1110: 2 entries at Mains side + 1 entry at other side 1111: 2 entries at Mains side + 2 entries at other side mmmm: Other combinations of entries		 80: Ra ≥ 80 (typical)
40: 4000K0 Other values between 3000 K (ii = 30) to 6500 K (ii = 65)jjjLED driver output current:ijj: 325 mA to 500 mA with step of 25 mAkkkOptic Type:000: No lens (Extra wide beam distribution 110°)WBC: Wide beam comfort distribution (88°)MBD: Medium beam distribution (60°)NBD: Narrow beam distribution (30° x 90°)Three digit to identify the other type of opticIIIIType of cable gland:PL20: M20 Plastic cable gland (*)BR20: M20 Nickel plated cable gland (*)BR25: M25 Nickel plated cable gland (*)BR25: M25 Nickel plated cable gland for armoured cable (*)AR20: M20 Nickel plated cable gland for armoured cable (*)MmmmNumber of cable entry:1000: 1 entry (Mains)1100: 2 entries at Mains side + 1 entry at other side1111: 2 entries at Mains side + 2 entries at other sidemmmm: Other combinations of entries		 hh: Other values ≠ 80
• Other values between 3000 K (ii = 30) to 6500 K (ii = 65) jjj LED driver output current: jjj: 325 mA to 500 mA with step of 25 mA kkk Optic Type: 000: No lens (Extra wide beam distribution 110°) WBC: Wide beam comfort distribution (88°) MBD: Medium beam distribution (60°) NBD: Narrow beam distribution (30° x 90°) Three digit to identify the other type of optic IIII Type of cable gland: PL20: M20 Plastic cable gland (*) PL25: M25 Plastic cable gland (*) BR20: M20 Nickel plated cable gland (*) BR25: M25 Nickel plated cable gland for armoured cable (*) AR20: M20 Nickel plated cable gland for armoured cable (*) AR25: Nickel plated cable gland for armoured cable (*) Intoo: 1 entry (Mains) 1100: 2 entries at Mains side 1111: 2 entries at Mains side + 1 entry at other side I111: 2 entries at Mains side + 2 entries at other side mmmm: Other combinations of entries 	ii	Colour temperature:
jjj LED driver output current: • jjj: 325 mA to 500 mA with step of 25 mA kkk Optic Type: • 000: No lens (Extra wide beam distribution 110°) • WBC: Wide beam comfort distribution (88°) • MBD: Medium beam distribution (60°) • NBD: Narrow beam distribution (30° x 90°) • Three digit to identify the other type of optic IIII Type of cable gland: • PL20: M20 Plastic cable gland (*) • BR20: M20 Nickel plated cable gland (*) • BR25: M25 Nickel plated cable gland (*) • AR20: M20 Nickel plated cable gland for armoured cable (*) • AR25: Nickel plated cable gland for armoured cable (*) • AR25: Nickel plated cable gland for armoured cable (*) • AR25: Nickel plated cable gland for armoured cable (*) • Mumber of cable entry: • 1000: 1 entry (Mains) • 1100: 2 entries at Mains side • 1110: 2 entries at Mains side + 1 entry at other side • 1111: 2 entries at Mains side + 2 entries at other side • mmmm: Other combinations of entries		• 40: 4000K
• jjj: 325 mA to 500 mA with step of 25 mA kkk Optic Type: • 000: No lens (Extra wide beam distribution 110°) • WBC: Wide beam comfort distribution (88°) • MBD: Medium beam distribution (60°) • NBD: Narrow beam distribution (30° x 90°) • Three digit to identify the other type of optic IIII Type of cable gland: • PL20: M20 Plastic cable gland (*) • BR20: M20 Nickel plated cable gland (*) • BR20: M20 Nickel plated cable gland (*) • BR25: M25 Nickel plated cable gland for armoured cable (*) • AR20: M20 Nickel plated cable gland for armoured cable (*) • AR25: M25 Nickel plated cable gland for armoured cable (*) • AR25: M25 Nickel plated cable gland for armoured cable (*) • 1000: 1 entry (Mains) • 1100: 2 entries at Mains side • 1110: 2 entries at Mains side + 1 entry at other side • 1111: 2 entries at Mains side + 2 entries at other side • mmmm: Other combinations of entries		• Other values between 3000 K (ii = 30) to 6500 K (ii = 65)
• jjj: 325 mA to 500 mA with step of 25 mA kkk Optic Type: • 000: No lens (Extra wide beam distribution 110°) • WBC: Wide beam comfort distribution (88°) • MBD: Medium beam distribution (60°) • NBD: Narrow beam distribution (30° x 90°) • Three digit to identify the other type of optic IIII Type of cable gland: • PL20: M20 Plastic cable gland (*) • BR20: M20 Nickel plated cable gland (*) • BR20: M20 Nickel plated cable gland (*) • BR25: M25 Nickel plated cable gland for armoured cable (*) • AR20: M20 Nickel plated cable gland for armoured cable (*) • AR25: M25 Nickel plated cable gland for armoured cable (*) • AR25: M25 Nickel plated cable gland for armoured cable (*) • 1000: 1 entry (Mains) • 1100: 2 entries at Mains side • 1110: 2 entries at Mains side + 1 entry at other side • 1111: 2 entries at Mains side + 2 entries at other side • mmmm: Other combinations of entries	iii	LED driver output current:
kkk Optic Type: 000: No lens (Extra wide beam distribution 110°) WBC: Wide beam comfort distribution (88°) MBD: Medium beam distribution (60°) NBD: Narrow beam distribution (30° x 90°) Three digit to identify the other type of optic IIII Type of cable gland: PL20: M20 Plastic cable gland (*) BR20: M20 Nickel plated cable gland (*) BR25: M25 Nickel plated cable gland (*) BR25: M25 Nickel plated cable gland (*) BR25: M25 Nickel plated cable gland for armoured cable (*) AR20: M20 Nickel plated cable gland for armoured cable (*) MBD: 1000: 1 entry (Mains) 1110: 2 entries at Mains side 1111: 2 entries at Mains side + 1 entry at other side 1111: 2 entries at Mains side + 2 entries at other side mmmm: Other combinations of entries		
• 000: No lens (Extra wide beam distribution 110°) • WBC: Wide beam comfort distribution (88°) • MBD: Medium beam distribution (60°) • NBD: Narrow beam distribution (30° x 90°) • Three digit to identify the other type of optic IIII Type of cable gland: • PL20: M20 Plastic cable gland (*) • PL25: M25 Plastic cable gland (*) • BR20: M20 Nickel plated cable gland (*) • BR25: M25 Nickel plated cable gland (*) • AR20: M20 Nickel plated cable gland for armoured cable (*) • AR20: M20 Nickel plated cable gland for armoured cable (*) • AR25: M25 Nickel plated cable gland for armoured cable (*) • 1000: 1 entry (Mains) • 1100: 2 entries at Mains side • 1110: 2 entries at Mains side + 1 entry at other side • 1111: 2 entries at Mains side + 2 entries at other side • mmmm: Other combinations of entries	kkk	
• WBC: Wide beam comfort distribution (88°)• MBD: Medium beam distribution (60°)• NBD: Narrow beam distribution (30° x 90°)• Three digit to identify the other type of opticIIIIType of cable gland:• PL20: M20 Plastic cable gland (*)• PL25: M25 Plastic cable gland (*)• BR20: M20 Nickel plated cable gland (*)• BR25: M25 Nickel plated cable gland (*)• AR20: M20 Nickel plated cable gland (*)• AR20: M20 Nickel plated cable gland (*)• AR20: M20 Nickel plated cable gland for armoured cable (*)• AR20: M20 Nickel plated cable gland for armoured cable (*)• 1000: 1 entry (Mains)• 1100: 2 entries at Mains side• 1110: 2 entries at Mains side + 1 entry at other side• 1111: 2 entries at Mains side + 2 entries at other side• mmmm: Other combinations of entries		
 MBD: Medium beam distribution (60°) NBD: Narrow beam distribution (30° x 90°) Three digit to identify the other type of optic Type of cable gland: PL20: M20 Plastic cable gland (*) PL25: M25 Plastic cable gland (*) BR20: M20 Nickel plated cable gland (*) BR25: M25 Nickel plated cable gland (*) BR25: M25 Nickel plated cable gland (*) AR20: M20 Nickel plated cable gland for armoured cable (*) AR20: M20 Nickel plated cable gland for armoured cable (*) AR25: M25 Nickel plated cable gland for armoured cable (*) Intoo: 1 entry (Mains) 1100: 2 entries at Mains side 1110: 2 entries at Mains side + 1 entry at other side 1111: 2 entries at Mains side + 2 entries at other side mmmm: Other combinations of entries 		
 NBD: Narrow beam distribution (30° x 90°) Three digit to identify the other type of optic Type of cable gland: PL20: M20 Plastic cable gland (*) PL25: M25 Plastic cable gland (*) BR20: M20 Nickel plated cable gland (*) BR25: M25 Nickel plated cable gland (*) AR20: M20 Nickel plated cable gland for armoured cable (*) AR20: M20 Nickel plated cable gland for armoured cable (*) AR25: M25 Nickel plated cable gland for armoured cable (*) Intervention of the entry: 1000: 1 entry (Mains) 1100: 2 entries at Mains side 1111: 2 entries at Mains side + 1 entry at other side Intervention of entries 		
• Three digit to identify the other type of opticIIIIType of cable gland: • PL20: M20 Plastic cable gland (*) • PL25: M25 Plastic cable gland (*) • BR20: M20 Nickel plated cable gland (*) • BR25: M25 Nickel plated cable gland (*) • AR20: M20 Nickel plated cable gland for armoured cable (*) • AR20: M20 Nickel plated cable gland for armoured cable (*) • AR25: M25 Nickel plated cable gland for armoured cable (*)mmmmNumber of cable entry: • 1000: 1 entry (Mains) • 1100: 2 entries at Mains side • 1111: 2 entries at Mains side + 1 entry at other side • mmm: Other combinations of entries		
 PL20: M20 Plastic cable gland (*) PL25: M25 Plastic cable gland (*) BR20: M20 Nickel plated cable gland (*) BR25: M25 Nickel plated cable gland (*) AR20: M20 Nickel plated cable gland for armoured cable (*) AR25: M25 Nickel plated cable gland for armoured cable (*) AR25: M25 Nickel plated cable gland for armoured cable (*) Intervention of the entry: 1000: 1 entry (Mains) 1100: 2 entries at Mains side 1110: 2 entries at Mains side + 1 entry at other side 1111: 2 entries at Mains side + 2 entries at other side mmm: Other combinations of entries 		
 PL25: M25 Plastic cable gland (*) BR20: M20 Nickel plated cable gland (*) BR25: M25 Nickel plated cable gland (*) AR20: M20 Nickel plated cable gland for armoured cable (*) AR25: M25 Nickel plated cable gland for armoured cable (*) AR25: M25 Nickel plated cable gland for armoured cable (*) Mumber of cable entry: 1000: 1 entry (Mains) 1100: 2 entries at Mains side 1110: 2 entries at Mains side + 1 entry at other side 1111: 2 entries at Mains side + 2 entries at other side mmm: Other combinations of entries 		Type of cable gland:
 PL25: M25 Plastic cable gland (*) BR20: M20 Nickel plated cable gland (*) BR25: M25 Nickel plated cable gland (*) AR20: M20 Nickel plated cable gland for armoured cable (*) AR25: M25 Nickel plated cable gland for armoured cable (*) AR25: M25 Nickel plated cable gland for armoured cable (*) Mumber of cable entry: 1000: 1 entry (Mains) 1100: 2 entries at Mains side 1110: 2 entries at Mains side + 1 entry at other side 1111: 2 entries at Mains side + 2 entries at other side mmm: Other combinations of entries 		PL20: M20 Plastic cable gland (*)
 BR25: M25 Nickel plated cable gland (*) AR20: M20 Nickel plated cable gland for armoured cable (*) AR25: M25 Nickel plated cable gland for armoured cable (*) Mmmm Number of cable entry: 1000: 1 entry (Mains) 1100: 2 entries at Mains side 1110: 2 entries at Mains side + 1 entry at other side 1111: 2 entries at Mains side + 2 entries at other side mmm: Other combinations of entries 		
 AR20: M20 Nickel plated cable gland for armoured cable (*) AR25: M25 Nickel plated cable gland for armoured cable (*) Mumber of cable entry: 1000: 1 entry (Mains) 1100: 2 entries at Mains side 1110: 2 entries at Mains side + 1 entry at other side 1111: 2 entries at Mains side + 2 entries at other side mmmm: Other combinations of entries 		BR20: M20 Nickel plated cable gland (*)
 AR25: M25 Nickel plated cable gland for armoured cable (*) mmm Number of cable entry: 1000: 1 entry (Mains) 1100: 2 entries at Mains side 1110: 2 entries at Mains side + 1 entry at other side 1111: 2 entries at Mains side + 2 entries at other side mmm: Other combinations of entries 		 BR25: M25 Nickel plated cable gland (*)
mmmm Number of cable entry: 1000: 1 entry (Mains) 1100: 2 entries at Mains side 1110: 2 entries at Mains side + 1 entry at other side 1111: 2 entries at Mains side + 2 entries at other side mmmm: Other combinations of entries 		 AR20: M20 Nickel plated cable gland for armoured cable (*)
 1000: 1 entry (Mains) 1100: 2 entries at Mains side 1110: 2 entries at Mains side + 1 entry at other side 1111: 2 entries at Mains side + 2 entries at other side mmmm: Other combinations of entries 		AR25: M25 Nickel plated cable gland for armoured cable (*)
 1100: 2 entries at Mains side 1110: 2 entries at Mains side + 1 entry at other side 1111: 2 entries at Mains side + 2 entries at other side mmmm: Other combinations of entries 	mmmm	Number of cable entry:
 1110: 2 entries at Mains side + 1 entry at other side 1111: 2 entries at Mains side + 2 entries at other side mmmm: Other combinations of entries 		• 1000: 1 entry (Mains)
 1111: 2 entries at Mains side + 2 entries at other side mmmm: Other combinations of entries 		• 1100: 2 entries at Mains side
mmmm: Other combinations of entries		• 1110: 2 entries at Mains side + 1 entry at other side
		• 1111: 2 entries at Mains side + 2 entries at other side
nnn Custom characteristics:		mmmm: Other combinations of entries
	nnn	Custom characteristics:
000: Standard version		000: Standard version
		 nnn: Code to handle special versions such as pre-mounted supply cable
with or without plug/connector, different external colour, etc.		

(*) With plastic cable gland, ta min. = -35 °C With Nickel-plated brass cable gland, ta min= -40°C





EU TYPE EXAMINATION CERTIFICATE NUMBER: ITS-I 20 ATEX 251402X R.1

Ambient temperatures ("eeee" field of Z2-EX versions)									
Code "eeee"	ta range	Version	Length	N. LED	LED Driver output current (mA)				
0045	0 °C +45 °C	Z2-EXE1	690	All	325 500				
			1300						
		Z2-EXE3	690						
			1300						
3555	-35 °C +55 °C	Z2-EXN0	690	All	425 500				
			1300						
3560	-35 °C +60 °C	Z2-EXN0	690	All	325 400				
			1300		525 400				
4055	-40 °C +55 °C	Z2-EXNO	690	All	425 500				
			1300		425 500				
4060	-40 °C +60 °C	Z2-EXNO	690	All	325 400				
			1300	All	525 400				

Ambient temperature range table, only for RINOLED-EX RL- Z2 is

CE Marking shall be accompanied by the identification number of the Notified Body responsible for surveillance of production.

14. DRAWINGS AND DOCUMENTS

TITLE	DOCUMENT Nr	LEVEL	DATE
* Technical File Waterproof light fixtures RINOLED-EX series Type of protection Ex eb mb IIC / Ex tb IIIC - Ex ec mc IIC / Ex tb IIIC	Doc. N. 423	01	2022-08-25
*ATEX LIGHTING LED FIXTURES for fixed installation – Safety instructions Series RINO LED-EX	C010268	00	2022-08-10
*ATEX LIGHTING LED FIXTURES for fixed installation – Safety instructions Series RINO LED-EX	C010269	01	2022-08-10
* Cover page of Annex 01 (Datasheets) of the Technical File	Annex 01TF Doc. N. 423	01	2022-09-08
* Annex 04 of Technical File - Explanation of the markings	Annex 04TF Doc. N. 423	01	2022-08-10
* Cover page of Annex 02 of Technical File Materials Technical Datasheets	Annex 02TF Doc. N. 423	01	2022-08-10
* Cover page of Annex 03 of Technical File Drawings and schemes	Annex 03TF Doc. N. 423	01	2022-08-25
Istruzione fissaggio guarnizioni sul corpo plafoniera inox standard e atex	N° 137	02	24-06-2015
Definizione spessore del rivestimento superficiale, tipologia di vernice a polvere, caratteristiche di adesione e resistenza, pretrattamento.	N° 104	7	03/04/2019





EU TYPE EXAMINATION CERTIFICATE NUMBER: ITS-I 20 ATEX 251402X R.1

TITLE	DOCUMENT Nr	LEVEL	DATE
* SPECIFICA TECNICA	N. 174	00	2022-08-01
Istruzione di montaggio e prove di routine			
Modulo LED per plafoniere RINOLED-EX 2G2D (Zone 1-21)			

Copies of the above listed documents are kept at Intertek Italia S.p.A. archive.

15. SPECIFIC CONDITIONS OF USE

• See user manual to minimize the risk of electrostatic charge

16. ESSENTIAL HEALTH AND SAFETY REQUIREMENTS

The relevant Essential Health and Safety Requirements have been identified and assessed in Intertek Report Nr. 200030241UDI-ATX Revision 0 dated 20.Oct.2022

17. ROUTINE (FACTORY) TESTS

- Dielectric test was performed in accordance with IEC 60598-1 Luminaires Part 1: General requirements and tests at 1000V+2U per 60s. In accordance with this Standard the routine test can be performed at this condition:
 - a) 1000V+2U per 60s; or
 - b) 1.2*(1000V+2U) per 100ms.

Alternatively the manufacturer shall conduct the test at 1.2 times the test voltage for at least 100ms. Results must be recorded.

- The manufacturer must conduct a visual inspection on each encapsulated led strip unit for led luminaires Z1-Ex model. 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.
- Dielectric strength test shall be performed on each encapsulated led strip unit for led luminaires Z1-Ex model at these condition:
 - c) 1600Vac for 1s; or
 - d) 2000Vdc for 1s; or
 - e) 1920Vac for 100ms; or
 - f) 2400Vdc for 100ms.

Test shall be performed between each circuit and surface of the compound.

The test voltage shall be increase steadily within a period of not less than 10s until it reaches the prescribed value.

Results must be recorded.

18. DETAIL OF CERTIFICATE CHANGES

R.1 (28 Oct 2022)

- Updated type code from: RINO LED RL-vvvv-ll-ddd-bbb-ta-xxx-yy-zz-kk-aaa-www-cg-eeee-nnn to: RINOLED-EX RL-Z2-aaaa-bb-ccc-ddd-eeee-fff-gg-hh-ii-jjj-kkk-llll-mmmm-nnn
- Add model RINOLED-EX RL- Z1