



IECEX TEST REPORT COVER

ExTR Reference Number	CN/CQM/ExTR13.0060/00
ExTR Free Reference Number	CQM/PCEC/ExTR13.0014
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Date of issue	
Ex Testing Laboratory (ExTL)	Supervision & Test Center of Ex-products of China Petroleum & Chemical Industry
Address	No 85, No. 3 Rd, Dingzigu, Hongqiao District, Tianjin, 300131, P.R.China.
Ex Certification Body (ExCB)	China Quality Mark Certification Group Co., Ltd
Address	No.33 Zengguang Road, Haidian District, Beijing P.R. China
Applicant's name	SHENZHEN KHJ SEMICONDUCTOR LIGHTING CO., LTD
Address	4-5 Floor, Building 7, HuangBeiLingJingXuan Industrial park, No.2 Dong Huan Rd, Yousong, LongHua town, Bao'an District, Shenzhen, China.
Standards associated with this ExTR package	IEC60079-0: 2011, IEC60079-15: 2010, IEC60079-31: 2008.
Clauses considered	All clauses considered
Test procedure	IECEX System
Test Report Form Number	ExTR Cover_4 (released 2010-12)
Test item description	LED Floodlight
Model/type reference	KPolarbear Series
Code (e.g. Ex _ II _ T _)	Ex nR II C T4 or T5 or T6 Gc Ex tc IIIC T130°C or T95°C or T80°C Dc
Rating	Rated voltage range: 100VAC to 130VAC, 220VAC to 240VAC Light source: LED Rated power: 80W, 120W, 2×80W, 2×100W, 2×120W
All testing fully performed by ExTL staff at ExTL address above: Yes.	
Instructions for Intended Use of ExTR Cover: An ExTR Cover is the sole top-level document to associate together all other parts of an IECEx Test Report (ExTR) package. An ExTR package is comprised of an ExTR Cover and one or more associated ExTR documents (which may include Ex Test Reports, ExTR Addendums and ExTR of National Differences). All ExTR package documents are compiled and reviewed by the ExTL. The Issuing ExCB indicates final approval of the overall ExTR package on this ExTR Cover.	
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Manufacturer's name : SHENZHEN KHJ SEMICONDUCTOR LIGHTING CO., LTD
 Address : 4-5 Floor, Building 7, HuangBeiLingJingXuan Industrial park, No.2
 Dong Huan Rd, Yousong, LongHua town, Bao'an District,
 Shenzhen, China.

Trademark : /

Particulars: Test item vs. Test requirements

Classification of installation and use : stationary
 Ingress protection : IP66
 Rated ambient temperature range (°C) : -40°C~+40°C or -40°C~+55°C
 Rated service temperature range (°C) for Ex Components : /


General remarks:

The test results presented in this ExTR package relate only to the item or product tested.

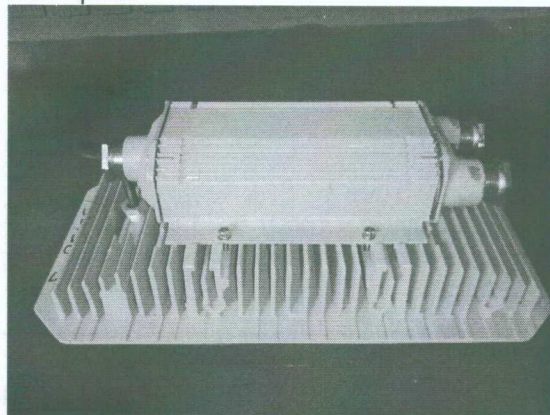
- "(see Attachment #)" refers to additional information appended to the ExTR package.
- "(see appended table)" refers to a table appended to the ExTR package.
- Throughout this ExTR package, a point is used as the decimal separator.
- Where the term "N/A" appears in any part of an ExTR package, it indicates that the associated issue was considered "Not applicable" to the involved evaluation.
- In accordance with IECEx 02, a Receiving ExCB may request a sample of the Ex equipment and copies of the documentation referred to in an ExTR Cover.

The technical content of this ExTR package shall not be reproduced except in full without the written approval of the Issuing ExCB and ExTL.

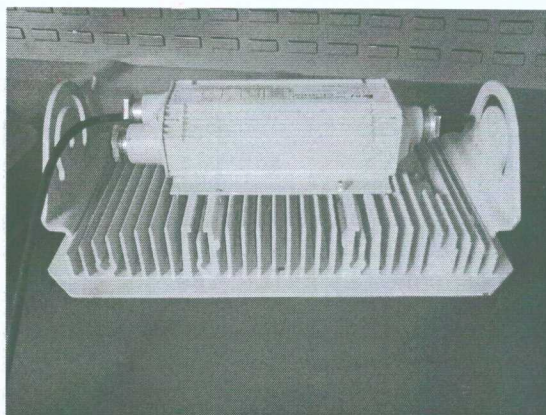
Copy of Marking Plate:

 LED Flood Light CE 0001 P/S: KPolarBear P/N: Certificate No.: S/N: SHENZHEN KHJ SEMICONDUCTOR LIGHTING CO., LTD	Rated Voltage <input type="checkbox"/> 100-130VAC <input type="checkbox"/> 220-240VAC	Rated Power <input type="checkbox"/> 80W <input type="checkbox"/> 120W <input type="checkbox"/> 2×80W <input type="checkbox"/> 2×100W <input type="checkbox"/> 2×120W	Ta <input type="checkbox"/> -10~55°C <input type="checkbox"/> -10~60°C	Temperature Class Gas Dust <input type="checkbox"/> T6 <input type="checkbox"/> T80°C <input type="checkbox"/> T5 <input type="checkbox"/> T95°C <input type="checkbox"/> T4 <input type="checkbox"/> T130°C	IP Code IP66
	WARNING - DO NOT OPEN, MAINTAIN OR SERVICE IN AN AREA WHERE AN EXPLOSIVE ATMOSPHERE MAY BE PRESENT WARNING - POTENTIAL ELECTROSTATIC CHARGING HAZARD - SEE INSTRUCTIONS				

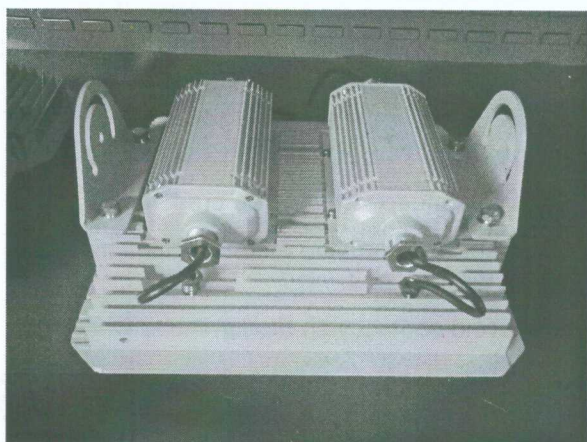
Nameplate



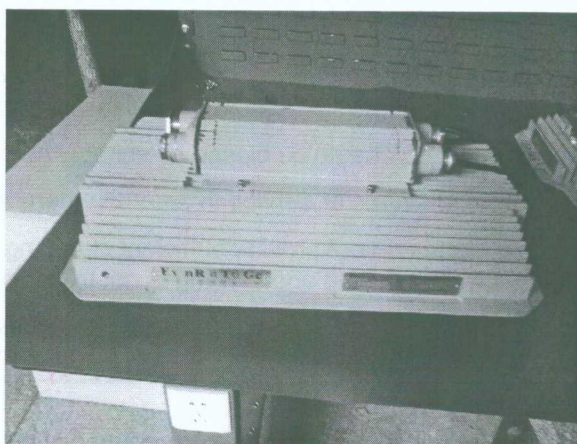
80W



120W



2×100W



2×120W

Sample

General product information:

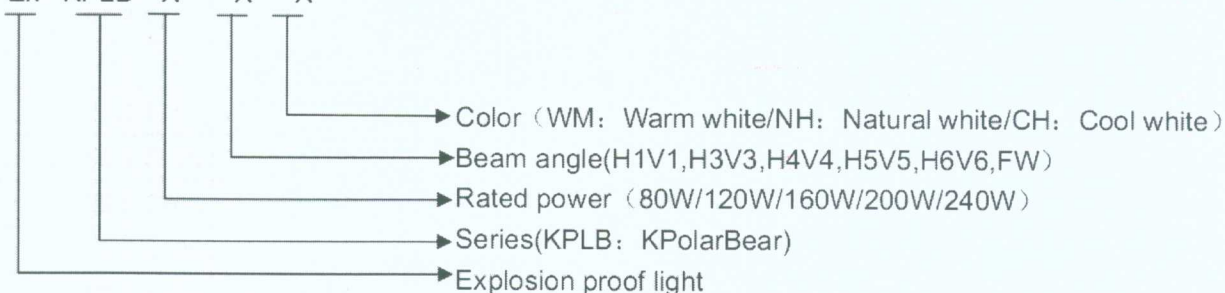
1. KPolarBear series floodlights include two construction type. One type is composed of an LED housing and a driver housing. The other type is composed of an LED housing which splits into two LED compartments, and two driver housings. One or two driver housings are secured to the LED housing with screws. A cable from the driver housing goes into the LED housing by the cable glands. The housing is made by cast aluminium and the light-transmitting part is made by tempered glass. There is a gasket between the light-transmitting part and the LED housing. There are two O rings between each cover and the driver housing.

2.

Lamp rating	Ambient Temperature(Ta)	Temperature Class	
		Gas	Dust
80W	-40℃ to +40℃	T6	80℃
	-40℃ to +55℃	T5	95℃
120W	-40℃ to +40℃	T6	80℃
	-40℃ to +55℃	T5	95℃
2×80W	-40℃ to +40℃	T6	80℃
	-40℃ to +55℃	T5	95℃
2×100W	-40℃ to +40℃	T6	80℃
	-40℃ to +55℃	T5	95℃
2×120W	-40℃ to +40℃	T5	95℃
	-40℃ to +55℃	T4	130℃

2.Nomenclature:

Ex- KPLB X X X



Ex-KPLB80W, Ex-KPLB100W, Ex-KPLB200W and Ex-KPLB240W are selected as representative samples.

In accordance with OD 024, testing not fully performed by ExTL staff at the above ExTL address:

N/A

National differences considered as part of this evaluation, if any:
N/A
“Conditions of Use” for Ex Equipment or “Schedule of Limitations” for Ex Components, if any:
<p>1. The LED floodlights shall be mounted only in accordance with manufacturer's instructions, ensuring that they are orientated about the axis of the mounting brackets bolts with the beam pointed from horizontal to vertically down (as shown in manufacturer's instructions)</p> <p>2. The unused holes should be closed by suitably certified plugs.</p> <p>3. Do not open, maintain or service in an area where an explosive atmosphere may be present.</p> <p>4. The cable glands do not provide sufficient clamping and the user must provide effective clamping of the cable to ensure that pulling and twisting is not transmitted to the terminations.</p> <p>5. To reduce the risk of ignition due to electrostatic discharge, avoid contact with the luminaire while an explosive atmosphere is present. Clean only with a damp cloth.</p>
Routine tests, if any:
Routine testing shall be carried out in accordance with:
<p>1. IEC 60079-15:2010 clause 23.2.1 electric strength test.</p> <p>2. IEC 60079-15:2010 clause 23.2.3.2.1.2 Ex nR (Restricted Breathing) test for equipment without a test port.</p>

Manufacturer's Documents			
Title:	Drawing No.:	Rev. Level:	Date:
Assembly drawing of explosion-proof flood light (240W-200W-160W)	121001-00-03-ATEX/IECEX	A	2013.5.27
Assembly drawing of explosion-proof flood light (120W-80W)	121001-00-04-ATEX/IECEX	A	2013.5.27
Nameplate	121001-M03	A	2013.5.27
Explosion proof sign nameplate	121001-M04	A	2013.5.27
LOGO sign nameplate (KHJ)	110601-M03	A	2012.8.9
Φ8 Sealing ring	110601-11	B	2012.3.19
Φ10 Sealing ring	110601-30	B	2012.3.19
Φ12 Sealing ring	110601-29	B	2012.3.19
Φ14 Sealing ring	110601-14	B	2012.3.19
Φ8 Washer	110601-12	B	2012.5.18
Φ10 Washer	110601-15	B	2012.5.18
Φ12 Washer	110601-16	B	2012.5.18
Φ14 Washer	110601-21	B	2012.5.18
H5V5reflector	111003-04	A	2011.12.5
Gland	111003-26	A	2013.2.27
Light-transmitting parts platen I	121001-02	A	2013.2.27
Light-transmitting parts platen II	121001-03	B	2013.2.27
Light-transmitting parts	121001-04	B	2013.2.27
Sealing ring	121001-05	B	2013.2.27
Mounting bracket (200W/240W)	121001-06	A	2013.2.27
Adjustment dial	121001-07	B	2013.2.27

Title:	Drawing No.:	Rev. Level:	Date:
H4V4-H5V5 reflector platen	121001-09	A	2013.2.27
Power box housing(80W-200W)	121001-16	A	2013.2.27
Cover I	121001-17	B	2013.2.27
Cover II	121001-84	A	2013.5.27
Housing(160W/200W)	121001-20	A	2013.2.27
Housing (80W)	121001-21	A	2013.2.27
Mounting bracket (80W/120W/160W)	121001-22	A	2013.2.27
Housing (240W)	121001-29	A	2013.2.27
Light-transmitting parts platenIII	121001-30	B	2013.2.27
H4V4-H5V5 reflector platen II	121001-31	A	2013.2.27
Power box housing (240W)	121001-32	A	2013.2.27
Light-transmitting parts (240W)	121001-33	B	2013.2.27
Sealing ring (240W)	121001-34	A	2013.2.27
Housing (120W)	121001-35	A	2013.2.27
Gland(M16)	121001-49	A	2013.5.27
φ8 Sealing ring(M16)	121001-50	A	2013.5.27
Φ8 Washer(M16)	121001-51	A	2013.5.27
Terminal assembly	121001-91	A	2013.4.10
Combination screw	121001-91-01	A	2013.4.10
Terminal	121001-91-02	A	2013.4.10
Connection piece	121001-91-03	A	2013.4.10
Encapsulation power (80W-200W)	121001-96	A	2013.2.27
Encapsulation power (240W)	121001-97	A	2013.2.27



IECEx TEST REPORT
IEC 60079
Explosive atmospheres –
Part 31 : Equipment dust ignition protection by enclosure “t”

ExTR Reference Number	
ExTR Free Reference Number	CQM/PCEC/ExTR13.0014
Complied by + signature (ExTL)	Qiao Qin <i>Qiao Qin</i>
Reviewed by + signature (ExTL)	An Penghui <i>An Penghui</i>
Approved by + signature (ExTL)	Liu Bing <i>Liu Bing</i>
Date of issue	Nov. 1st, 2013
Ex Testing Laboratory (ExTL)	Supervision & Test Center of Ex-products of China Petroleum & Chemical Industry
Address	No 85, No. 3 Rd, Dingzigu, Hongqiao District, Tianjin, 300131, P.R. China
Applicant's name	SHENZHEN KHJ SEMICONDUCTOR LIGHTING CO., LTD
Address	4-5 Floor, Building 7, HuangBeiLingJingXuan Industrial park, No.2 Dong Huan Rd, Yousong, LongHua town, Bao'an District, Shenzhen, China.
Standard	IEC 60079-31:2008, 1 st edition
Test procedure	IECEx System
Test Report Form No.	ExTR60079-31_1A
TRF Originator	
Master TRF	dated 2009-10

Instructions for Intended Use of Ex Test Report:

This ExTR blank document is to be compiled and reviewed by the ExTL. The ExTR package in which this ExTR is incorporated (comprised of a single ExTR document or multiple ExTR documents) is to be accompanied by a single ExTR Cover Sheet, which is to be approved by the ExCB. ExTR Addendum(s) and/or ExTR Report of National Differences may also supplement this ExTR.

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Possible test case verdicts:

- test case does not apply to the test object:N / A
- test object does meet the requirement:Pass

General remarks:

The tests results presented in this report relate only to the object tested.

This report shall not be reproduced except in full without the written approval of the testing laboratory.

"(see Attachment #)" refers to additional information appended to the report.

"(see appended table)" refers to a table appended to the report.

Throughout this report a point is used as the decimal separator.

IEC 60079-31			
Clause	Requirement – Test	Result – Remark	Verdict
1	SCOPE		
2	NORMATIVE REFERENCES		
3	TERMS AND DEFINITIONS		
4	LEVEL OF PROTECTION	Heading only	Pass
4.1	General	The level of protection is "tc".	Pass
4.2	Additional requirements for level of protection "ta"	The level of protection is "tc".	N / A
4.2.1	Thermal protection		
4.2.1.1	General	The level of protection is "tc".	N / A
4.2.1.2	Protective devices	The level of protection is "tc".	N / A
4.2.1.3	Temperature limitation	The level of protection is "tc".	N / A
5	CONSTRUCTION	Heading only.	Pass
5.1	Joints		
5.1.1	General	There are gasket joints between the light transmitting part and housing, between the two covers and the driver housing.	Pass
5.1.2	Gaskets and seals	The O rings between the two covers and the driver housing are of one-piece continuous construction. The sealing ring between the light transmitting part and housing are joined at two ends by glue 3M.	Pass
5.1.3	Cemented joints	No cemented joints.	N / A
5.1.4	Operating rods, spindles and shafts	No operating rods, spindles and shafts.	N / A
5.1.5	Windows		
5.1.5.1	Windows employing a cemented joint	No cemented joints.	N / A
5.1.5.2	Windows employing a gasket joint	A sealing ring wrapped around the light transmitting part. Then platens and screws are used to fix to the housing.	Pass
5.2	Cable glands and threaded entries		
5.2.1	Cable glands	See part IEC60079-0 clause 16 and annex A.	Pass
5.2.2	Threaded entries	Threaded entries use metric threads. The metric threads comply with the requirements of 6H fit tolerance and fulfill the requirements of medium tolerance in ISO965-1 and ISO965-3.	Pass
6	VERIFICATION AND TESTS		
6.1	Type tests		

IEC 60079-31

Clause	Requirement – Test	Result – Remark	Verdict
6.1.1	Type tests for dust exclusion by enclosures	See part IEC 60079-0 clause 26.4.	Pass
6.1.2	Thermal tests	See part IEC 60079-0 clause 26.5.1.3.	Pass
6.1.3	Pressure test	The floodlights were submitted to gas pressure test. Test pressure: 2kPa. Duration: 60s, No damage to enclosure has been found.	Pass
6.2	Routine tests	No additional routine tests.	Pass

7	MARKING	See this test report cover	Pass
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Additional Narrative Remarks (as deemed applicable):



IECEX TEST REPORT

IEC 60079-0

Explosive atmospheres – Part 0:

ExTR Reference Number.....:	CN/CQM/ExTR13.0060/00	
ExTR Free Reference Number	CQM/PCEC/ExTR13.0014	
Compiled by + signature (ExTL) ...:	Qiao Qin	<i>Qiao Qin</i>
Reviewed by + signature (ExTL)...:	An Penghui	<i>An Penghui</i>
Approved by + signature (ExTL) ...:	Liu Bing	<i>Liu Bing</i>
Date of issue	Nov. 1 st , 2013	
Ex Testing Laboratory (ExTL)	Supervision & Test Center of Ex-products of China Petroleum & Chemical Industry	
Address	No 85, No. 3 Rd, Dingzigu, Hongqiao District, Tianjin, 300131, P. R. China	
Applicant's name	SHENZHEN KHJ SEMICONDUCTOR LIGHTING CO., LTD	
Address	4-5 Floor, Building 7, HuangBeiLingJingXuan Industrial park, No.2 Dong Huan Rd, Yousong, LongHua town, Bao'an District, Shenzhen, China.	
Standard	IEC 60079-0:2011, 6 th Edition	
Test procedure	IECEX System	
Test Report Form Number	ExTR60079-0_6B (released 2011-08)	

Instructions for Intended Use of Ex Test Report:

An Ex Test Report provides a clause-by-clause documentation of the initial evaluation and testing that verified compliance of an item or product with an IEC Ex standard. This Ex Test Report is part of an ExTR package that may include other Ex Test Report, Addendum, National Differences and Partial Testing documents, along with a single ExTR Cover. An Ex Test Report is to be compiled and reviewed by the ExTL. The Issuing ExCB indicates final approval of the Ex Test Report as part of the overall ExTR package on the associated ExTR Cover.

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Possible test case verdicts:

- test case does not apply to the test item.....:N / A
- test item does meet the requirement:Pass

General remarks:

The test results presented in this Ex Test Report relate only to the item or product tested.

- "(see Attachment #)" refers to additional information appended to this document.
- "(see appended table)" refers to a table appended to this document.
- Throughout this document, a point "." is used as the decimal separator.

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IEC 60079-0			
Clause	Requirement – Test	Result – Remark	Verdict
1	Scope		
2	Normative references		
3	Terms and definitions		
4	Equipment grouping		
4.1	Group I	Group II and group III	N / A
4.2	Group II	IIC	Pass
4.3	Group III	IIIC	Pass
4.4	Equipment for a particular explosive atmosphere	Not used for a particular explosive atmosphere	N / A
5	Temperatures		
5.1	Environmental influences		
5.1.1	Ambient temperature	-40°C ~ +55°C or -40°C ~ +40°C	Pass
5.1.2	External source of heating or cooling	No external source of heating or cooling.	N / A
5.2	Service temperature	1. Sealing ring made of silicon rubber between the light transmitting part and the housing: 85°C 2. Sealing ring made of silicon rubber at the cable entry: 85°C 3. O ring made of silicon rubber for the cover of the power box: 81°C.	Pass
5.3	Maximum surface temperature		
5.3.1	Determination of maximum surface temperature	Refer to Cl. 26.5.1.	Pass
5.3.2	Limitation of maximum surface temperature		
5.3.2.1	Group I electrical equipment	Group II and group III	N / A
5.3.2.2	Group II electrical equipment	See part IEC 60079-0 clause 26.5.1.3.	Pass
5.3.2.3	Group III electrical equipment		

IEC 60079-0			
Clause	Requirement – Test	Result – Remark	Verdict
1	Scope		
2	Normative references		
3	Terms and definitions		
4	Equipment grouping		
4.1	Group I	Group II and group III	N / A
4.2	Group II	IIC	Pass
4.3	Group III	IIIC	Pass
4.4	Equipment for a particular explosive atmosphere	Not used for a particular explosive atmosphere	N / A
5	Temperatures		
5.1	Environmental influences		
5.1.1	Ambient temperature	-40°C~+55°C or -40°C~+40°C	Pass
5.1.2	External source of heating or cooling	No external source of heating or cooling.	N / A
5.2	Service temperature	1. Sealing ring made of silicon rubber between the light transmitting part and the housing: 85°C 2. Sealing ring made of silicon rubber at the cable entry: 85°C 3. O ring made of silicon rubber for the cover of the power box: 81°C.	Pass
5.3	Maximum surface temperature		
5.3.1	Determination of maximum surface temperature	Refer to Cl. 26.5.1.	Pass
5.3.2	Limitation of maximum surface temperature		
5.3.2.1	Group I electrical equipment	Group II and group III	N / A
5.3.2.2	Group II electrical equipment	See part IEC 60079-0 clause 26.5.1.3.	Pass
5.3.2.3	Group III electrical equipment		

IEC 60079-0			
Clause	Requirement – Test	Result – Remark	Verdict
5.3.2.3.1	Maximum surface temperature determined without a dust layer	Refer to Cl. 26.5.1 in test report IEC60079-0	Pass
5.3.2.3.2	Maximum surface temperature with respect to dust layers	Refer to Cl. 26.5.1 in test report IEC60079-0	N / A
5.3.3	Small component temperature for Group I or Group II electrical equipment	Type of protection "nR" and "tc".	N / A

6	Requirements for all electrical equipment		
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6.1	General	The LED floodlight complies with the requirements of IEC 60079-0, IEC 60079-15 and IEC 60079-31.	Pass
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6.2	Mechanical strength of equipment	The impact test was made on the LED floodlight. Refer to IEC 60079-0 clause 26.4.2.	Pass
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6.3	Opening times	The floodlights are provided with warning word "WARNING – DO NOT OPEN, MAINTAIN OR SERVICE IN AN AREA WHERE AN EXPLOSIVE ATMOSPHERE MAY BE PRESENT".	N / A
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6.4	Circulating currents in enclosures (e.g. of large electrical machines)	No circulating currents.	N / A
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6.5	Gasket retention	1. A sealing ring wrapped around the transparent cover. 2. Two O rings are fixed in the grooves of the covers.	Pass
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6.6	Electromagnetic and ultrasonic energy radiating equipment	No electromagnetic and ultrasonic energy radiating equipment.	N / A
6.6.1	Radio frequency sources	No electromagnetic and ultrasonic energy radiating equipment.	N / A
6.6.2	Lasers or other continuous wave sources	No electromagnetic and ultrasonic energy radiating equipment.	N / A
6.6.3	Ultrasonic sources	No electromagnetic and ultrasonic energy radiating equipment.	N / A

7	Non-metallic enclosures and non-metallic parts of enclosures		
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7.1	General		
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IEC 60079-0			
Clause	Requirement – Test	Result – Remark	Verdict
7.1.1	Applicability	1. The sealing rings made of silicone rubber fixed on the light transmitting part. 2. Sealing rings made of silicone rubber clamping a cable. 3. O rings made of silicone rubber fixed on the covers.	Pass
7.1.2	Specification of materials		
7.1.2.1	General	See data sheet of silicone rubber.	Pass
7.1.2.2	Plastic materials	No plastic materials.	N / A
7.1.2.3	Elastomers	COT of silicone rubber is -40°C to 180°C.	Pass

7.2	Thermal endurance		
7.2.1	Tests for thermal endurance	See part IEC 60079-0 clauses 26.8 and 26.9.	Pass
7.2.2	Material selection	The service temperature of non-metallic parts is at least 20K lower than the COT of non-metallic parts. Refer to Cl. 26.5.1 in this test report. 1. The maximum temperature of the sealing ring fixed on the light transmitting part is 85°C. 2. The maximum temperature of the sealing ring clamping a cable. is 85°C. 3. The maximum temperature of the O ring fixed on the cover is 81°C.	Pass
7.2.3	Alternative qualification of elastomeric sealing O-rings	No alternative qualification of elastomeric sealing O-rings.	N / A

7.3	Resistance to light	No non-metallic materials expose to the light.	N / A
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7.4	Electrostatic charges on external non-metallic materials		
7.4.1	Applicability	The enclosure is made of metal. The spraying layer is covered the enclosure.	Pass
7.4.2	Avoidance of a build-up of electrostatic charge on Group I or Group II electrical equipment	The thickness of spraying layer for metallic enclosure surface is less than 0.2mm.	Pass
7.4.3	Avoidance of a build-up of electrostatic charge on equipment for Group III	The warning marking: "WARNING – POTENTIAL ELECTROSTATIC CHARGING HAZARD – SEE INSTRUCTIONS" is specified in the nameplate. It is specified that clean only with a damp cloth in the manual.	Pass

7.5	Accessible metal parts	No metal parts with a resistance to earth of more than $10^9 \Omega$.	N / A
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8	Metallic enclosures and metallic parts of enclosures		
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IEC 60079-0			
Clause	Requirement – Test	Result – Remark	Verdict
8.1	Material composition	6063 and ADC12	Pass
8.2	Group I	Group II and III.	N / A
8.3	Group II	The content of Mg, Ti and Zr in these two materials is less than 7.5%.	Pass
8.4	Group III	The content of Mg, Ti and Zr in these two materials is less than 7.5%.	Pass
9	Fasteners		
9.1	General	M5 cross recessed countersunk head screws are used for fastening light-transmitting parts platens. These screws can only be removed by the screwdriver. M4 cross recessed countersunk head screws are used for fastening cover and driver housing. These screws can only be removed by the screwdriver.	Pass
9.2	Special fasteners	Special fasteners are not required.	N / A
9.3	Holes for special fasteners		
9.3.1	Thread engagement	No holes for special fasteners.	N / A
9.3.2	Tolerance and clearance	No holes for special fasteners.	N / A
9.3.3	Hexagon socket set screws	No holes for special fasteners.	N / A
10	Interlocking devices	No interlocking devices.	N / A
11	Bushings	No bushings.	N / A
12	Materials used for cementing	No materials used for cementing.	N / A
13	Ex Components		
13.1	General	No Ex components	N / A
13.2	Mounting	No Ex components	N / A
13.3	Internal mounting	No Ex components	N / A

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Clause	Requirement – Test	Result – Remark	Verdict
13.4	External mounting	No Ex components	N / A
13.5	Ex Component certificate	No Ex components	N / A
14	Connection facilities and terminal compartments		
14.1	General	The connection facilities are located in the driver housing.	Pass
14.2	Termination compartment	The opening for connection is 90mmX50mm. And the terminal can be move. So the conductors can be readily connected. For more details, see part IEC 60079-15 clause 7.	Pass
14.3	Type of protection	nR and tb	Pass
14.4	Creepage and clearance	See IEC60079-15 Cl.6.4.	Pass
15	Connection facilities for earthing or bonding conductors		
15.1	Equipment requiring earthing		
15.1.1	Internal	The internal earthing connection facility is an M4 screw, which is inside the driver compartment	Pass
15.1.2	External	The external earthing connection facility is an M4 screw, which is outside the enclosure LED housing.	Pass
15.2	Equipment not requiring earthing	Requiring earthing.	N / A
15.3	Size of conductor connection	M4 screws are used to connect the earthing conductors. The washers are provided to the earthing screws to ensure effective connection.	Pass
15.4	Protection against corrosion	The internal earthing screw is made of stainless steel(SUS304) which can effectively protect against corrosion. The external internal earthing screw is made of stainless steel(SUS304) which can effectively protect against corrosion.	Pass

IEC 60079-0			
Clause	Requirement – Test	Result – Remark	Verdict
15.5	Secureness of electrical connections	Spring washers and pressuring wire pads are used for connecting the earthing facilities against loosening and twisting.	Pass

16	Entries into enclosures		
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16.1	General	Threaded holes are located in the wall of the covers and housing for cable gland.	Pass
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16.2	Identification of entries	The marking "M25×1.5" is marked on the covers.	Pass
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16.3	Cable glands	The cover of the driver compartment and LED housing are provided cable glands. See part IEC 60079-0 Annex A.	Pass
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16.4	Blanking elements	No blanking elements. The unused holes should be closed by suitably certified plugs.	N / A
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16.5	Thread adapters	No thread adapters.	N / A
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16.6	Temperature at branching point and entry point	The temperature at entry point is greater than 70°C. See part IEC 60079-0 clause 26.5.1.3. "Sheath of cable should subject to above 90°C" is specified in the manual.	Pass
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16.7	Electrostatic charges of cable sheaths	Reference only.	N / A
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17	Supplementary requirements for rotating machines		
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17.1	Ventilation		
17.1.1	Ventilation openings	No rotating machines.	N / A
17.1.2	Materials for external fans	No rotating machines.	N / A
17.1.3	Cooling fans of rotating machines		
17.1.3.1	Fans and fan hoods	No rotating machines.	N / A
17.1.3.2	Construction and mounting of the ventilating systems	No rotating machines.	N / A
17.1.3.3	Clearances for the ventilating system	No rotating machines.	N / A
17.1.4	Auxiliary motor cooling fans	No rotating machines.	N / A
17.1.5	Ventilating fans		
17.1.5.1	Applicability	No rotating machines.	N / A
17.1.5.2	General	No rotating machines.	N / A

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Clause	Requirement – Test	Result – Remark	Verdict
17.1.5.3	Fan and fan hoods	No rotating machines.	N / A
17.1.5.4	Construction and mounting	No rotating machines.	N / A
17.1.5.5	Clearances for rotating parts	No rotating machines.	N / A
17.2	Bearings	No rotating machines.	N / A
18	Supplementary requirements for switchgear		
18.1	Flammable dielectric	No switchgear.	
18.2	Disconnectors	No switchgear.	N / A
18.3	Group I – Provisions for locking	No switchgear.	N / A
18.4	Doors and covers	No switchgear.	N / A
19	Supplementary requirements for fuses	No fuses.	N / A
20	Supplementary requirements for plugs, sockets outlets and connectors		
20.1	General	No plugs, sockets outlets and connectors.	N / A
20.2	Explosive gas atmospheres	No plugs, sockets outlets and connectors.	N / A
20.3	Explosive dust atmospheres	No plugs, sockets outlets and connectors.	N / A
20.4	Energized plugs	No plugs, sockets outlets and connectors.	N / A
21	Supplementary requirements for luminaires		
21.1	General	No protection guard. Refer to Cl. 26.4.2 for relevant tests. Mounting bracket is used during the installation of the LED flood light.	Pass
21.2	Covers for luminaires of EPL Mb, EPL Gb, or EPL Db	Gc and Dc equipment.	N / A

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Clause	Requirement – Test	Result – Remark	Verdict
21.3	Covers for luminaires of EPL Gc or EPL Dc	The LED floodlights have warning words "WARNING – DO NOT OPEN, MAINTAIN OR SERVICE IN AN AREA WHERE AN EXPLOSIVE ATMOSPHERE MAY BE PRESENT " in the nameplate.	Pass
21.4	Sodium lamps	No sodium lamps.	N / A
22	Supplementary requirements for caplights and handlights		
22.1	Group I caplights	No caplights and handlights.	N / A
22.2	Group II and Group III caplights and handlights	No caplights and handlights.	N / A
23	Apparatus incorporating cells and batteries		
23.1	General	No cells or batteries.	N / A
23.2	Batteries	No cells or batteries.	
23.3	Cell types	No cells or batteries.	
23.4	Cells in a battery	No cells or batteries.	N / A
23.5	Ratings of batteries	No cells or batteries.	N / A
23.6	Interchangeability	No cells or batteries.	N / A
23.7	Charging of primary batteries	No cells or batteries.	N / A
23.8	Leakage	No cells or batteries.	N / A
23.9	Connections	No cells or batteries.	N / A
23.10	Orientation	No cells or batteries.	N / A
23.11	Replacement of cells or batteries	No cells or batteries.	N / A

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Clause	Requirement – Test	Result – Remark	Verdict
23.12	Replaceable battery pack	No cells or batteries.	N / A

24	Documentation	Relevant documentation provided by the manufacturer has been assessed.	Pass
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25	Compliance of prototype or sample with documents	The samples of the LED floodlight subjected to the type verifications and tests are comply with the manufacturer's documents referred to in Clause 24.	Pass
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26	Type tests		
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26.1	General	Tests were carried out according to IEC 60079-0, IEC 60079-15 and IEC 60079-31.	Pass
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26.2	Test configuration	Tests were carried out under the most unfavourable consideration.	Pass
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26.3	Tests in explosive test mixtures	No tests in explosive test mixtures.	N / A
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26.4	Tests of enclosures		
26.4.1	Order of tests		
26.4.1.1	Metallic enclosures, metallic parts of enclosures and glass parts of enclosures	The driver housing, cover, LED housing, the light transmitting part. See clause 26.4.1.2.2.	Pass
26.4.1.2	Non-metallic enclosures or non-metallic parts of enclosures	Tests were applied to non-metallic materials identified in clause 7.1.1 excepting light transmitting part.	Pass
26.4.1.2.1	Group I electrical equipment	Group II and Group III	N / A
26.4.1.2.2	Group II and Group III electrical equipment	Tests were performed in the following order: 1. thermal endurance to heat 2. thermal endurance to cold 3. impact test 4. pressure test 5. IP test 6. type test requirements for restricted-breathing enclosures	Pass

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Clause	Requirement – Test	Result – Remark	Verdict
26.4.2	Resistance to impact	<p>The temperature of tests environment is 25°C.</p> <p>Carry out test on two sample enclosures. Each sample is tested once at two different positions with impact energy 7J each time.</p> <p>The light transmitting part was submitted to impact test under the temperature of -45°C.</p> <p>Impact test were made on the 3 glass covers. Each sample is impacted for once with impact energy 4J.</p>	Pass
26.4.3	Drop test	Not a portable equipment.	N / A
26.4.4	Acceptance criteria	Without damage and deformation.	Pass
26.4.5	Degree of protection (IP) by enclosures		
26.4.5.1	Test procedure	<p>The enclosure was opened and re-closed after the thermal endurance test.</p> <p>The samples were tested according to IEC60529. The protection degree is IP66.</p>	Pass
26.4.5.2	Acceptance criteria	No ingress of dust or water after tests for degree of protection by enclosure.	Pass

26.5	Thermal tests		
26.5.1	Temperature measurement		
26.5.1.1	General	<p>The service voltage range is 100V~240V. The maximum surface temperature was measured under the voltage of 264V.</p> <p>The LED floodlights shall be mounted only in accordance with manufacturer's instructions, ensuring that they are orientated about the axis of the mounting brackets bolts with the beam pointed from horizontal to vertically down (as shown in manufacturer's instructions)</p>	Pass
26.5.1.2	Service temperature	Use maximum surface temperature instead of service temperature.	Pass

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IEC 60079-0																						
Clause	Requirement – Test	Result – Remark	Verdict																			
26.5.1.3	Maximum surface temperature	1. Light source: LED 2×120W	Pass																			
		Rated voltage: 240VAC;																				
		Test voltage: 264VAC;																				
		For the temperature rise see the following table.																				
		Unit:K																				
		<table><tr><th>Direction Part</th><th>horizontal</th><th>Vertically downward</th></tr><tr><td>Sealing ring between the light transmitting part and the housing</td><td>26</td><td>29</td></tr><tr><td>O ring for the cover of the power box</td><td>21</td><td>26</td></tr><tr><td>Cable entry point</td><td>29</td><td>23</td></tr><tr><td>Light-transmitting part</td><td>31</td><td>23</td></tr><tr><td>Housing</td><td>45</td><td>46</td></tr></table>		Direction Part	horizontal	Vertically downward	Sealing ring between the light transmitting part and the housing	26	29	O ring for the cover of the power box	21	26	Cable entry point	29	23	Light-transmitting part	31	23	Housing	45	46	
		Direction Part		horizontal	Vertically downward																	
		Sealing ring between the light transmitting part and the housing		26	29																	
O ring for the cover of the power box	21	26																				
Cable entry point	29	23																				
Light-transmitting part	31	23																				
Housing	45	46																				
When the ambient temperature is 55℃, the maximum surface temperature is 101℃,comply with class T4.																						
The temperature at entry point is 84℃.																						
When the ambient temperature is 40℃, the maximum surface temperature is 86℃,comply with class T5.																						

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Clause	Requirement – Test	Result – Remark	Verdict																																				
		<p>2.Light source: LED 2×100W</p> <p>Rated voltage: 240VAC;</p> <p>Test voltage: 264VAC;</p> <p>For the temperature rise see the following table.</p> <p>Unit:K</p> <table><tr><th>Direction Part</th><th>horizontal</th><th>Vertically downward</th></tr><tr><td>Sealing ring between the light transmitting part and the housing</td><td>29</td><td>30</td></tr><tr><td>O ring for the cover of the power box</td><td>18</td><td>19</td></tr><tr><td>Cable entry point</td><td>30</td><td>30</td></tr><tr><td>Light-transmitting part</td><td>26</td><td>23</td></tr><tr><td>Housing</td><td>36</td><td>36</td></tr></table> <p>When the ambient temperature is 55℃, the maximum surface temperature is 91℃,comply with class T5.</p> <p>The temperature at entry point is 85℃.</p> <p>When the ambient temperature is 40℃, the maximum surface temperature is 76℃,comply with class T6.</p> <p>3. Light source: LED 120W</p> <p>Rated voltage: 240VAC;</p> <p>Test voltage: 264VAC;</p> <p>For the temperature rise see the following table.</p> <p>Unit:K</p> <table><tr><th>Direction Part</th><th>horizontal</th><th>Vertically downward</th></tr><tr><td>Sealing ring between the light transmitting part and the housing</td><td>29</td><td>25</td></tr><tr><td>O ring for the cover of the power box</td><td>18</td><td>7</td></tr><tr><td>Cable entry point</td><td>30</td><td>25</td></tr><tr><td>Light-transmitting part</td><td>21</td><td>15</td></tr><tr><td>Housing</td><td>37</td><td>33</td></tr></table>	Direction Part	horizontal	Vertically downward	Sealing ring between the light transmitting part and the housing	29	30	O ring for the cover of the power box	18	19	Cable entry point	30	30	Light-transmitting part	26	23	Housing	36	36	Direction Part	horizontal	Vertically downward	Sealing ring between the light transmitting part and the housing	29	25	O ring for the cover of the power box	18	7	Cable entry point	30	25	Light-transmitting part	21	15	Housing	37	33	
Direction Part	horizontal	Vertically downward																																					
Sealing ring between the light transmitting part and the housing	29	30																																					
O ring for the cover of the power box	18	19																																					
Cable entry point	30	30																																					
Light-transmitting part	26	23																																					
Housing	36	36																																					
Direction Part	horizontal	Vertically downward																																					
Sealing ring between the light transmitting part and the housing	29	25																																					
O ring for the cover of the power box	18	7																																					
Cable entry point	30	25																																					
Light-transmitting part	21	15																																					
Housing	37	33																																					

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Clause	Requirement – Test	Result – Remark	Verdict																		
		<p>When the ambient temperature is 55°C, the maximum surface temperature is 92°C, comply with class T5.</p> <p>The temperature at entry point is 85°C.</p> <p>4. Light source: LED 80W</p> <p>Rated voltage: 240VAC;</p> <p>Test voltage: 264VAC;</p> <p>For the temperature rise see the following table.</p> <p style="text-align: right;">Unit: K</p> <table><tr><th>Direction Part</th><th>horizontal</th><th>Vertically downward</th></tr><tr><td>Sealing ring between the light transmitting part and the housing</td><td>25</td><td>27</td></tr><tr><td>O ring for the cover of the power box</td><td>8</td><td>12</td></tr><tr><td>Cable entry point</td><td>18</td><td>22</td></tr><tr><td>Light-transmitting part</td><td>37</td><td>33</td></tr><tr><td>Housing</td><td>27</td><td>30</td></tr></table> <p>When the ambient temperature is 55°C, the maximum surface temperature is 92°C, comply with class T5.</p> <p>The temperature at entry point is 77°C.</p>	Direction Part	horizontal	Vertically downward	Sealing ring between the light transmitting part and the housing	25	27	O ring for the cover of the power box	8	12	Cable entry point	18	22	Light-transmitting part	37	33	Housing	27	30	
Direction Part	horizontal	Vertically downward																			
Sealing ring between the light transmitting part and the housing	25	27																			
O ring for the cover of the power box	8	12																			
Cable entry point	18	22																			
Light-transmitting part	37	33																			
Housing	27	30																			
26.5.2	Thermal shock test	After the measurement of maximum surface temperature, use a jet of water of about 1 mm diameter at a temperature 9°C to spray on the light transmitting part of floodlight with temperature 92°C (under the environment temperature 55°C). No breaking on the light transmitting part.	N / A																		
26.5.3	Small component ignition test (Group I and Group II)																				
26.5.3.1	General	No small component.	N / A																		
26.5.3.2	Procedure	No small component.	N / A																		
26.5.3.3	Acceptance criteria	No small component.	N / A																		
26.6	Torque test for bushings																				
26.6.1	Test procedure	No bushings.	N / A																		
26.6.2	Acceptance criteria	No bushings.	N / A																		
26.7	Non-metallic enclosures or non-metallic parts of enclosures																				
26.7.1	General	Reference only.	Pass																		

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Clause	Requirement – Test	Result – Remark	Verdict
26.7.2	Test temperatures	For the tests on the non-metallic material, the lower temperature was 5K lower than the minimum service temperature.	Pass
26.8	Thermal endurance to heat	The samples were stored at the environment with temperature as 95°C, humidity as 90% for 336 hours, then they were stored at the environment with temperature as 105°C for 336 hours.	Pass
26.9	Thermal endurance to cold	The samples were stored at the environment with temperature as -45°C for 24 hours.	Pass
26.10	Resistance to light		
26.10.1	Test procedure	No non-metallic materials expose to the light.	N / A
26.10.2	Acceptance criteria	No non-metallic materials expose to the light.	N / A
26.11	Resistance to chemical agents for Group I electrical equipment	Group II and group III.	N / A
26.12	Earth continuity	The enclosure is not made of non-metallic material.	N / A
26.13	Surface resistance test of parts of parts of enclosures of non-metallic materials	The enclosure is not made of non-metallic material.	N / A
26.14	Measurement of capacitance		
26.14.1	General	Measurement of capacitance is not required.	N / A
26.14.2	Test procedure	Measurement of capacitance is not required.	N / A
26.15	Verification of ratings of ventilating fans	No ventilating fans.	N / A
26.16	Alternative qualification of elastomeric sealing O-rings	No alternative qualification of elastomeric sealing O-rings.	N / A
27	Routine tests	<ol style="list-style-type: none"> IEC 60079-15:2010 clause 23.2.1 electric strength test. IEC 60079-15:2010 clause 23.2.3.2.1.2 Ex nR (Restricted Breathing) test for equipment without a test port. 	Pass
28	Manufacturer's responsibility		

IEC 60079-0			
Clause	Requirement – Test	Result – Remark	Verdict
28.1	Conformity with the documentation	The documents provided by the manufacturer comply with the relevant requirements of IEC 60079-0, IEC 60079-15 and IEC 60079-31.	Pass
28.2	Certificate	The floodlights comply with the requirements of IEC 60079-0, IEC 60079-15, IEC 60079-31.	Pass
28.3	Responsibility for marking	Refer to documentation provided by the manufacturer.	Pass
29	Marking		
29.1	Applicability	The nameplate complies with the requirements of IEC 60079-0, IEC 60079-1 and IEC 60079-31	Pass
29.2	Location	The nameplate is made of SUS304 and fixed on the cover with rivets.	Pass
29.3	General	See this test report cover.	Pass
29.4	Ex marking for explosive gas atmospheres	Ex nR IIC T4 or T5 or T6 Gc	Pass
29.5	Ex marking for explosive dust atmospheres	Ex tc IIIC T130°C or T95°C or T80°C Dc	Pass
29.6	Combined types (or levels) of protection	The LED floodlights has only one type of protection.	N / A
29.7	Multiple types of protection	Types of "nR" and "tc"	Pass
29.8	Ga equipment using two independent Gb types (or levels) of protection	Gc type	N / A
29.9	Ex Components	No Ex component	N / A
29.10	Small equipment and small Ex Components	No small Ex components.	N / A

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Clause	Requirement – Test	Result – Remark	Verdict
29.11	Extremely small equipment and extremely small Ex Components	No extremely small equipment and extremely small Ex Components.	N / A
29.12	Warning markings	The floodlights have warning words: 1.WARNING – DO NOT OPEN WHEN ENERGIZED 2. WARNING – DO NOT OPEN, MAINTAIN OR SERVICE IN AN AREA WHERE AN EXPLOSIVE ATMOSPHERE MAY BE PRESENT	Pass
29.13	Alternate marking of equipment protection levels (EPLs)	No alternate marking.	N / A
29.13.1	Alternate marking of type of protection for explosive gas atmospheres	No alternate marking.	N / A
29.13.2	Alternate marking of type of protection for explosive dust atmospheres	No alternate marking.	N / A
29.14	Cells and batteries	No cells and batteries.	N / A
29.15	Converter-fed electrical machines	No converter-fed electrical machines.	N / A
29.16	Examples of marking	Reference only	N / A
30	Instructions		
30.1	General	The manual complies with the standards in accordance with clause 30.	Pass
30.2	Cells and batteries	No cell and battery.	N / A
30.3	Electrical machines	No electrical machines.	N / A
30.4	Ventilating fans	No ventilating fans.	N / A
Annex A (Normative)	Supplementary requirements for cable glands		Pass
A.1	General	Reference only	Pass
A.2	Constructional requirements		

IEC 60079-0																																										
Clause	Requirement – Test	Result – Remark				Verdict																																				
A.2.1	Cable sealing	One elastomeric sealing ring is used to ensure the cable sealing between the cable and the enclosure.				Pass																																				
A.2.2	Filling compounds	No filling compounds.				N / A																																				
A.2.3	Clamping																																									
A.2.3.1	General	See part IEC 60079-0 clause A.2.3.2.				Pass																																				
A.2.3.2	Group II or III cable glands	In the manual it is stated that the cable glands does not provide sufficient clamping and the user must provide additional clamping of the cable to ensure that pulling and twisting is not transmitted to the terminations. For the clamping test with values reduced to 25% of those required in clause A.3 see part IEC 60079-0 clause A.3.				Pass																																				
A.2.4	Lead-in of cable																																									
A.2.4.1	Sharp edges	The screw and the nut are removed all sharp edges and burrs.				Pass																																				
A.2.4.2	Point of entry	The rounded edge of the nut at an angle of the entry point is 75°, radius R is 3mm.				Pass																																				
A.2.5	Released by a tool	After the installation is complete, the cable gland can only be dismantled by a wrench.				Pass																																				
A.2.6	Fixing	See part IEC 60079-0 clause A.3.				Pass																																				
A.2.7	Degree of protection	IP66				Pass																																				
A.3	Type tests																																									
A.3.1	Tests of clamping of non-armoured and braided cables																																									
A.3.1.1	Cable glands with clamping by the sealing ring	<p>The complete cable gland and mandrel assembly are subjected to the thermal endurance tests. See part IEC 60079-0 clauses 26.8 and 26.9.</p> <p>Ambient temperature:23℃</p> <p>Time of applying tensile force:6h</p> <table><tr><th>Thread specification</th><th>Diameter of sealing ring (mm)</th><th>Diameter of test mandrel (mm)</th><th>Applied torque(Nm)</th><th>Tensile force(N)</th><th>Slippage (mm)</th></tr><tr><td>M16</td><td>8</td><td>7</td><td>20</td><td>40</td><td>3.0</td></tr><tr><td>M25</td><td>8</td><td>7</td><td>30</td><td>40</td><td>2.0</td></tr><tr><td>M25</td><td>10</td><td>9</td><td>30</td><td>50</td><td>1.0</td></tr><tr><td>M25</td><td>12</td><td>11</td><td>30</td><td>60</td><td>2.0</td></tr><tr><td>M25</td><td>14</td><td>13</td><td>30</td><td>70</td><td>2.0</td></tr></table>				Thread specification	Diameter of sealing ring (mm)	Diameter of test mandrel (mm)	Applied torque(Nm)	Tensile force(N)	Slippage (mm)	M16	8	7	20	40	3.0	M25	8	7	30	40	2.0	M25	10	9	30	50	1.0	M25	12	11	30	60	2.0	M25	14	13	30	70	2.0	Pass
Thread specification	Diameter of sealing ring (mm)	Diameter of test mandrel (mm)	Applied torque(Nm)	Tensile force(N)	Slippage (mm)																																					
M16	8	7	20	40	3.0																																					
M25	8	7	30	40	2.0																																					
M25	10	9	30	50	1.0																																					
M25	12	11	30	60	2.0																																					
M25	14	13	30	70	2.0																																					
A.3.1.2	Cable glands with clamping by filling compound	No filling compound.				N / A																																				
A.3.1.3	Cable glands with clamping by means of a clamping device	No clamping devices				N / A																																				

IEC 60079-0			
Clause	Requirement – Test	Result – Remark	Verdict
A.3.1.4	Tensile test	The slippage of the cable was not more than 6 mm.	Pass
A.3.1.5	Mechanical strength	The test torque is 1.5 times the value needed to prevent slipping according to Cl.A.3.1.1. No deformation affecting the type of protection was found.	Pass
A.3.2	Tests of clamping of armoured cables		N / A
A.3.2.1	Tests of clamping where the armourings are clamped by a device within the gland	Non-armoured and braided cables	N / A
A.3.2.1.1	Tensile test	Non-armoured and braided cables	N / A
A.3.2.1.2	Mechanical strength	Non-armoured and braided cables	N / A
A.3.2.2	Tests of clamping where the armourings are not clamped by a device within the gland	Non-armoured and braided cables	N / A
A.3.3	Type test for resistance to impact	Place of impact: cable gland Impact energy: 7J Temperature: 25°C Number of samples: 2	Pass
A.3.4	Test for degree of protection (IP) of cable glands	The IP test was in accordance with IEC60529. Relevant test of IP66 was made on the samples. See part IEC 60079-0 clause 26.4.5.1.	Pass
A.4	Marking		
A.4.1	Marking of cable glands	See this test report cover.	Pass
A.4.2	Marking of cable-sealing rings	The sealing rings are marked with the minimum and maximum diameters.	Pass

Annex B (Normative)	Requirements for Ex Components	N / A
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Annex C (Informative)	Example of rig for resistance to impact test
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Annex D (Informative)	Motors supplied by converters
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Annex E (Informative)	Temperature rise testing of electric machines
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Annex F (Informative)	Guideline flowchart for tests of non-metallic enclosures or non-metallic parts of enclosures (26.4)
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Measurement Section, including Additional Narrative Remarks (as deemed applicable)	
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IECEX TEST REPORT
IEC 60079-15
Explosive atmospheres – Part 15:
Equipment protection by type of protection "n"

ExTR Reference Number.....:	
ExTR Free Reference Number.....:	CQM/PCEC/ExTR13.0014
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Address.....:	4-5 Floor, Building 7, Huang Bei Ling Jing Xuan Industrial park, No.2 Dong Huan Rd, Yousong, LongHua town, Bao'an District, Shenzhen, China.
Standard.....:	IEC 60079-15:2010, 4 th Edition
Test procedure.....:	IECEX System
Test Report Form Number.....:	ExTR60079-15_4B (released 2011-07)

Instructions for Intended Use of Ex Test Report:

An Ex Test Report provides a clause-by-clause documentation of the initial evaluation and testing that verified compliance of an item or product with an IEC Ex standard. This Ex Test Report is part of an ExTR package that may include other Ex Test Report, Addendum and National Differences documents, along with a single ExTR Cover. An Ex Test Report is to be compiled and reviewed by the ExTL. The Issuing ExCB indicates final approval of the Ex Test Report as part of the overall ExTR package on the associated ExTR Cover.

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Possible test case verdicts:

- test case does not apply to the test item:N / A
- test item does meet the requirement:Pass

General remarks:

The test results presented in this Ex Test Report relate only to the item or product tested.

- "(see Attachment #)" refers to additional information appended to this document.
- "(see appended table)" refers to a table appended to this document.
- Throughout this document, a point "." is used as the decimal separator.

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IEC 60079-15			
Clause	Requirement – Test	Result – Remark	Verdict
1	Scope	Reference only	Pass
2	Normative references		
3	Terms and definitions		
4	General		Pass
4.1	Equipment grouping and temperature classification	See part IEC 60079-0 clauses 4 and 5.	Pass
4.2	Potential ignition sources	Type of protection "nR" is used.	Pass
5	Temperatures		
5.1	Maximum surface temperature	See part IEC 60079-0 clause 26.5.1.	Pass
5.2	Small components	No small component.	N/A
6	Requirements for electrical equipment		
6.1	General	Reference only.	Pass
6.2	Opening times	See part IEC 60079-0 clause 6.3.	N/A
6.3	Minimum degree of protection		
6.3.1	General	IP66. See part IEC 60079-0 clause 26.4.5.	Pass
6.3.2	Degree of protection provided by installation	The enclosure is not completed by the installation of the floodlight.	N/A
6.4	Clearances, creepage distances and separations		
6.4.1	General	1. The clearance of the terminal assembly is 8mm and the creepage distance is 10mm. 2. The PCB in the driver housing is encapsulated on the side of PCB patched. All of the live parts are completely encapsulated in the silicon glue to depth of 1mm.	Pass
6.4.2	Determination of working voltage	The maximum working voltage each part of PCB is 240V, 100V and 42V.	Pass
6.4.3	Conformal coating	The PCB in the driver housing is dipped in the solder mask.	Pass

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Clause	Requirement – Test	Result – Remark	Verdict
6.4.4	Comparative tracking index (CTI)	1.The insulation material of terminal assembly is PBT1500, CTI of PBT1500 is 400. 2. The insulation material of PCB is FR4, CTI of FR4 is 200. 3. The insulation material of the substrate is Tetra-functional epoxy resin IT-140TC, CTI of IT-140TC is 200.	Pass
6.4.5	Measurement of creepage and clearance	Clearances and creepage distances comply with Table 2. See appendix A. The separation in the compound between live parts of the PCB is not less than 0.6mm.	Pass
6.4.6	Compound filled cable sealing boxes	No sealing boxes.	N/A

6.5	Electric strength		
6.5.1	Insulation from earth or frame	See part IEC 60079-15 APPENDIX B.	Pass
6.5.2	Insulation between conductive parts	The floodlights are not subject to the exception of 6.4.1.	N/A

7	Connection facilities and terminal compartments		
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7.1	General	A combination screw assembly is fixed into driver compartment. The combination screw assembly is provided three M4 screws which are used to looping connection. Spring washers and pressuring wire pads are used for connecting the earthing facilities against loosening and twisting. The tightening torque is 2Nm.	Pass
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7.2	Field wiring connections		
7.2.1	General	The conductor size can be 1.0mm ² to 6.0mm ² .	Pass
7.2.2	Connections made using terminals complying with IEC 60947-7-1, IEC 60947-7-2, IEC 60999-1, or IEC 60999-2	No connections made using terminals complying with IEC 60947-7-1, IEC 60947-7-2, IEC 60999-1, or IEC 60999-2.	N/A
7.2.3	Field wiring connection facilities integral to "n" equipment or components	No field wiring connection facilities integral to "n" equipment or components	N/A
7.2.4	Connections designed to be used with cable lugs and similar devices	No connections designed to be used with cable lugs and similar devices	N/A
7.2.5	Connections using permanent arrangements	No connections using permanent arrangements	N/A

7.3	Factory connections		
7.3.1	General	Soldering is used for factory connections, see part IEC 60079-15 clause 7.3.4.	Pass
7.3.2	Field wiring connection methods used for factory connections	Field wiring connection method is not used for factory connection.	N/A

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Clause	Requirement – Test	Result – Remark	Verdict
7.3.3	Other factory connections	No other factory connections.	N/A
7.3.4	Permanent connections	Soldering is used for factory connections. The the soldered points are secured by glue.	Pass
7.3.5	Pluggable connections	The floodlights are restricted breathing equipment.	N/A
7.3.6	Terminal bridging connections	The floodlights are restricted breathing equipment.	N/A

8	Supplementary requirements for non-sparking electrical rotating machines		
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8.1	General	The apparatus is not a rotating machine.	N/A
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8.2	Machine enclosure	The apparatus is not a rotating machine.	N/A
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8.3	Terminal boxes	The apparatus is not a rotating machine.	N/A
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8.4	Conduit stopping boxes, cable sealing and dividing boxes	The apparatus is not a rotating machine.	N/A
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8.5	Connection facilities for external conductors	The apparatus is not a rotating machine.	N/A
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8.6	Neutral point connections	The apparatus is not a rotating machine.	N/A
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8.7	Radial air gap	The apparatus is not a rotating machine.	N/A
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8.8	Rotor cages		
8.8.1	Rotor cages built from bars connected to end rings	The apparatus is not a rotating machine.	N/A
8.8.2	Cast rotor cages	The apparatus is not a rotating machine.	N/A
8.8.3	Assessment for possible air gap sparking	The apparatus is not a rotating machine.	N/A

8.9	Stator winding insulation system	The apparatus is not a rotating machine.	N/A
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8.10	Surface temperature limitation		
8.10.1	Prevention of thermal ignition	The apparatus is not a rotating machine.	N/A
8.10.2	Operation with a frequency convertor or a non-sinusoidal supply		
8.10.2.1	Test methods	The apparatus is not a rotating machine.	N/A
8.10.2.2	Type test for a specific converter	The apparatus is not a rotating machine.	N/A
8.10.2.3	Alternative type test by calculation	The apparatus is not a rotating machine.	N/A

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Clause	Requirement – Test	Result – Remark	Verdict
9	Supplementary requirements for non-sparking fuses and fuse assemblies		
9.1	Fuses	No non-sparking fuses and fuse assemblies.	N/A
9.2	Temperature class of equipment	No non-sparking fuses and fuse assemblies.	N/A
9.3	Fuse mounting	No non-sparking fuses and fuse assemblies.	N/A
9.4	Fuse enclosures	No non-sparking fuses and fuse assemblies.	N/A
9.5	Replacement fuse identification	No non-sparking fuses and fuse assemblies.	N/A
10	Supplementary requirements for non-sparking plugs and sockets		
10.1	Plugs and sockets for external connections	No non-sparking plugs and sockets.	N/A
10.2	Maintaining degree of protection (IP code)	No non-sparking plugs and sockets.	N/A
10.3	Sockets that do not have plugs inserted in normal operation	No non-sparking plugs and sockets.	N/A
11	Supplementary requirements for non-sparking luminaires		
11.1	General	It's a LED floodlight with type of protection "nR".	N/A
11.2	Construction		
11.2.1	General	The distance between LED and light transmitting part is greater than 10mm.	Pass
11.2.2	Enclosure of lamp	The LED lamp is enclosed within the light transmitting part.	Pass
11.2.3	Lampholders		
11.2.3.1	General	It's a LED floodlight with type of protection "nR".	N/A
11.2.3.2	Bayonet non-sparking lampholders	It's a LED floodlight with type of protection "nR".	N/A
11.2.3.3	Screw non-sparking "nA" lampholders	It's a LED floodlight with type of protection "nR".	N/A
11.2.3.4	Bi-pin non-sparking lampholders	It's a LED floodlight with type of protection "nR".	N/A
11.2.4	Auxiliaries		

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Clause	Requirement – Test	Result – Remark	Verdict
11.2.4.1	General	It's a LED floodlight with type of protection "nR".	N/A
11.2.4.2	Glow-type starters	It's a LED floodlight with type of protection "nR".	N/A
11.2.4.3	Electronic starters and ignitors	It's a LED floodlight with type of protection "nR".	N/A
11.2.4.4	Starter holders	It's a LED floodlight with type of protection "nR".	N/A
11.2.4.5	Ballasts	It's a LED floodlight with type of protection "nR".	N/A
11.2.5	Creepage distances and clearances	It's a LED floodlight with type of protection "nR".	N/A
11.2.6	Terminals		
11.2.6.1	Looping connections	A combination screw assembly is fixed into driver compartment. The combination screw assembly is provided three M4 screws which are used to looping connection.	Pass
11.2.6.2	Screw type lampholder polarity	It's a LED floodlight with type of protection "nR".	N/A
11.2.7	Internal wiring	It's a LED floodlight with type of protection "nR".	N/A

11.3	Luminaires for tubular fluorescent bi-pin lamps		
11.3.1	General	No tubular fluorescent bi-pin lamps.	N/A
11.3.2	Maximum ambient temperature	No tubular fluorescent bi-pin lamps.	N/A
11.3.3	Temperature class	No tubular fluorescent bi-pin lamps.	N/A
11.3.4	Endurance tests and thermal tests		
11.3.4.1	General	No tubular fluorescent bi-pin lamps.	N/A
11.3.4.2	Thermal test (normal operation)	No tubular fluorescent bi-pin lamps.	N/A
11.3.4.3	Thermal test (abnormal conditions)		
11.3.4.3.1	Temperatures except for windings	No tubular fluorescent bi-pin lamps.	N/A
11.3.4.3.2	Temperatures for windings	No tubular fluorescent bi-pin lamps.	N/A
11.3.4.3.3	Tests for luminaires containing electronic ballasts	No tubular fluorescent bi-pin lamps.	N/A
11.3.4.4	Surface temperatures		
11.3.4.4.1	Luminaires	No tubular fluorescent bi-pin lamps.	N/A
11.3.4.4.2	Illuminated surfaces	No tubular fluorescent bi-pin lamps.	N/A
11.3.5	Resistance to dust and moisture	No tubular fluorescent bi-pin lamps.	N/A
11.3.6	Insulation resistance and electric strength	No tubular fluorescent bi-pin lamps.	N/A

11.4	Other equipment containing light sources	It's a LED floodlight with type of protection "nR".	N/A
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12	Supplementary requirements for equipment incorporating non-sparking cells and batteries		
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12.1	General	No non-sparking cells and batteries.	N/A
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Clause	Requirement – Test	Result – Remark	Verdict
12.2	Categorization of cells and batteries		
12.2.1	General	No non-sparking cells and batteries.	N/A
12.2.2	Type 1 cells and batteries	No non-sparking cells and batteries.	N/A
12.2.3	Type 2 cells and batteries	No non-sparking cells and batteries.	N/A
12.2.4	Type 3 cells and batteries	No non-sparking cells and batteries.	N/A

12.3	General requirements for cells and batteries of types 1 and 2		
12.3.1	General	No non-sparking cells and batteries.	N/A
12.3.2	Maximum capacity	No non-sparking cells and batteries.	N/A
12.3.3	Secondary cells	No non-sparking cells and batteries.	N/A
12.3.4	Cell connection	No non-sparking cells and batteries.	N/A
12.3.5	Discharge mode	No non-sparking cells and batteries.	N/A
12.3.6	Temperature	No non-sparking cells and batteries.	N/A
12.3.7	Creepage and clearance	No non-sparking cells and batteries.	N/A
12.3.8	Connections	No non-sparking cells and batteries.	N/A
12.3.9	Connecting cells in series	No non-sparking cells and batteries.	N/A
12.3.10	Deep discharge protection	No non-sparking cells and batteries.	N/A
12.3.11	Temperature test conditions	No non-sparking cells and batteries.	N/A
12.3.12	Battery packs	No non-sparking cells and batteries.	N/A
12.3.13	Battery pack connections	No non-sparking cells and batteries.	N/A
12.3.14	Cell electrolyte and gas release	No non-sparking cells and batteries.	N/A
12.3.15	Excessive load draw	No non-sparking cells and batteries.	N/A

12.4	Charging of type 1 and type 2 cells and batteries		
12.4.1	Temperature range	No non-sparking cells and batteries.	N/A
12.4.2	Charger specifications	No non-sparking cells and batteries.	N/A
12.4.3	Charging separated cells or batteries	No non-sparking cells and batteries.	N/A
12.4.4	Charger limitations	No non-sparking cells and batteries.	N/A
12.4.5	Charging outside the hazardous area	No non-sparking cells and batteries.	N/A
12.4.6	Gassing during charging of type 2 cells or batteries	No non-sparking cells and batteries.	N/A

12.5	Requirements for type 3 secondary batteries		
12.5.1	Types of permissible batteries	No non-sparking cells and batteries.	N/A
12.5.2	Battery containers		
12.5.2.1	Internal surfaces	No non-sparking cells and batteries.	N/A
12.5.2.2	Mechanical requirements	No non-sparking cells and batteries.	N/A
12.5.2.3	Creepage distances	No non-sparking cells and batteries.	N/A
12.5.2.4	Covers	No non-sparking cells and batteries.	N/A

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Clause	Requirement – Test	Result – Remark	Verdict
12.5.2.5	Cell assembly	No non-sparking cells and batteries.	N/A
12.5.2.6	Liquid extraction	No non-sparking cells and batteries.	N/A
12.5.2.7	Ventilation	No non-sparking cells and batteries.	N/A
12.5.2.8	Plugs and sockets	No non-sparking cells and batteries.	N/A
12.5.2.9	Polarity marking	No non-sparking cells and batteries.	N/A
12.5.2.10	Other equipment	No non-sparking cells and batteries.	N/A
12.5.2.11	Insulation resistance	No non-sparking cells and batteries.	N/A
12.5.3	Cells		
12.5.3.1	Lids	No non-sparking cells and batteries.	N/A
12.5.3.2	Support	No non-sparking cells and batteries.	N/A
12.5.3.3	Electrolyte maintenance	No non-sparking cells and batteries.	N/A
12.5.3.4	Expansion space	No non-sparking cells and batteries.	N/A
12.5.3.5	Filling and vent plugs	No non-sparking cells and batteries.	N/A
12.5.3.6	Electrolyte seals	No non-sparking cells and batteries.	N/A
12.5.4	Connections		
12.5.4.1	Intercell connections	No non-sparking cells and batteries.	N/A
12.5.4.2	Temperature assessment	No non-sparking cells and batteries.	N/A
12.5.4.3	Connector protection	No non-sparking cells and batteries.	N/A
12.6	Verification and tests		
12.6.1	Insulation resistance	No non-sparking cells and batteries.	N/A
12.6.2	Mechanical shock test	No non-sparking cells and batteries.	N/A
13	Supplementary requirements for non-sparking low power equipment		N/A
14	Supplementary requirements for non-sparking current transformers		N/A
15	Other non-sparking electrical equipment		N/A
16	General supplementary requirements for equipment producing arcs, sparks or hot surfaces		Pass
17	Supplementary requirements for enclosed-break devices and non-incendive components producing arcs, sparks or hot surfaces		
17.1	Type testing	No enclosed-break devices and non-incendive components producing arcs, sparks or hot surfaces.	N/A
17.2	Ratings		

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Clause	Requirement – Test	Result – Remark	Verdict
17.2.1	Enclosed-break devices	No enclosed-break devices and non-incendive components producing arcs, sparks or hot surfaces.	N/A
17.2.2	Non-incendive components	No enclosed-break devices and non-incendive components producing arcs, sparks or hot surfaces.	N/A

17.3	Construction of enclosed-break devices		
17.3.1	Free internal volume	No enclosed-break devices and non-incendive components producing arcs, sparks or hot surfaces.	N/A
17.3.2	Continuous operating temperature (COT) requirements	No enclosed-break devices and non-incendive components producing arcs, sparks or hot surfaces.	N/A
17.3.3	Seal protection	No enclosed-break devices and non-incendive components producing arcs, sparks or hot surfaces.	N/A

18	Supplementary requirements for hermetically sealed devices producing arcs, sparks or hot surfaces		N/A
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19	Supplementary requirements for sealed devices producing arcs, sparks or hot surfaces		N/A
19.1	Non-metallic materials	No sealed devices producing arcs, sparks or hot surfaces.	N/A
19.2	Opening	No sealed devices producing arcs, sparks or hot surfaces.	N/A
19.3	Internal spaces	No sealed devices producing arcs, sparks or hot surfaces.	N/A
19.4	Handling	No sealed devices producing arcs, sparks or hot surfaces.	N/A
19.5	Gasket and seals	No sealed devices producing arcs, sparks or hot surfaces.	N/A
19.6	Type tests	No sealed devices producing arcs, sparks or hot surfaces.	N/A

20	Supplementary requirements for restricted-breathing enclosures protecting equipment producing arcs, sparks or hot surfaces		
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20.1	General	The temperature measured on the outside does not exceed the maximum surface temperature requirements of IEC 60079-0.	Pass
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20.2	Constructional requirements		
20.2.1	Type of equipment		
20.2.1.1	Equipment containing normally sparking devices	See part IEC 60079-15 clause 20.2.1.2.	N/A

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Clause	Requirement – Test	Result – Remark	Verdict
20.2.1.2	Equipment not containing normally sparking devices	The floodlights do not contain normally sparking devices.	Pass
20.2.2	Cable glands and conduit entries		
20.2.2.1	Cable glands	Cable glands are provided with the power box and the lighting source housing.	Pass
20.2.2.2	Conduit entries	No conduit entries.	N/A
20.2.3	Operating rods, spindles and shafts	No operating rods, spindles and shafts.	N/A
20.2.4	Windows		
20.2.4.1	Cemented windows	No cemented windows.	N/A
20.2.4.2	Gasketed windows	A sealing ring mounts around the light transmitting. Then platens are used to secure the light transmitting part.	Pass
20.2.5	Gasket and seal requirements	The manufacturers specify replacement frequency in the instructions.	Pass
20.2.6	Non-resilient seals	No non-resilient seals.	Pass
20.2.7	Test port		
20.2.7.1	General	No test port.	N/A
20.2.7.2	Test port exemptions		
20.2.7.2.1	Luminaires	No test port, the marking should include the symbol "X" in accordance with of IEC60079-0.	Pass
20.2.7.2.2	Other restricted breathing equipment	Luminaires.	N/A
20.2.7.2.3	Gasket and sealing replacement	The instructions contain information regarding the required replacement of the gasket or seal after any activity that requires the enclosure to be opened.	Pass
20.2.7.2.4	Testing procedure	The typed tested in accordance with 22.6.2.3 and in addition routine tested in accordance with 23.2.3.2.1.2	Pass
20.2.8	Internal fans	No internal fans.	N/A
20.2.9	Routine test exemptions	See the document of routine test.	Pass

20.3	Temperature limitation		
20.3.1	General	The worst case combination was used for determination the maximum surface temperature during the type test. The light does not equipped with a variable combination of internal components.	Pass
20.3.2	Temperature calculation	The light does not equipped with a variable combination of internal components.	N/A

20.4	Additional requirements for restricted breathing luminaires		
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Clause	Requirement – Test	Result – Remark	Verdict
20.4.1	Mounting arrangement	For the light source compartment a gasket made of silicon rubber is mounted to the light transmitting part to pass the test for restricted-breathing. For the power compartment an O ring made of silicon rubber is mounted to the cover to pass the test for restricted-breathing.	Pass
20.4.2	Reflectors	See drawing 121001-00-03-ATEX/IECEx and part IEC 60079-15 clause 22.6.2.3.	Pass
20.4.3	Surface temperatures of restricted breathing luminaires	The worst case combination was used for determination the maximum surface temperature during the type test. See the temperature test of part IEC60079-0 clause 26.5.1.	Pass

21	General information on verification and tests	Pass
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22	Type tests
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22.1	Representative samples	Ex-KPLB80W, Ex-KPLB100W, Ex-KPLB200W and Ex-KPLB240W are selected as representative samples.	Pass
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22.2	Test configuration	One configuration is provided with the floodlight.	N/A
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22.3	Tests for enclosures on which the type of protection depends		
22.3.1	Thermal endurance tests		
22.3.1.1	Thermal endurance to heat	See part IEC60079-0 clause 26.8.	Pass
22.3.1.2	Drop test for hand-held equipment	The floodlight is not hand-held equipment.	N/A

22.4	Tests for enclosed break devices and non incensive components		
22.4.1	Preparation of enclosed-break device samples	The apparatus does not utilize enclosed-break devices.	N/A
22.4.2	Preparation of non-incensive component samples	See clause 22.4.1	N/A
22.4.3	Test conditions for enclosed-break devices and non-incensive components		
22.4.3.1	General	The apparatus does not utilize enclosed-break devices and non-incensive components.	N/A
22.4.3.2	Enclosed-break devices	The apparatus does not utilize enclosed-break devices and non-incensive components.	N/A
22.4.3.3	Non-incensive components	The apparatus does not utilize enclosed-break devices and non-incensive components.	N/A

22.5	Tests for sealed devices		
22.5.1	Conditioning	The apparatus does not utilize sealed devices.	N/A
22.5.2	Voltage test	The apparatus does not utilize sealed devices.	N/A

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Clause	Requirement – Test	Result – Remark	Verdict
22.5.3	Tests on devices with free space		
22.5.3.1	Equipment for leakage test on sealed devices	The apparatus does not utilize sealed devices.	N/A
22.5.3.2	Leakage test on sealed devices	The apparatus does not utilize sealed devices.	N/A
22.5.3.3	Dielectric withstand test	The apparatus does not utilize sealed devices.	N/A
22.5.4	Test for sealed devices for luminaires	The apparatus does not utilize sealed devices.	N/A

22.6	Type test requirements for restricted-breathing enclosures		
22.6.1	General	The samples were subjected to all applicable tests of IEC 60079-0 prior to the specific required type tests for restricted breathing.	Pass
22.6.2	Test procedures		
22.6.2.1	Equipment where the nominal volume of the enclosure will be unchanged due to pressure		Pass
22.6.2.2	Equipment with test port		
22.6.2.2.1	Type test only without additional routine test	No test ports.	N/A
22.6.2.2.2	Type test with additional routine test	No test ports.	N/A
22.6.2.3	Type test for equipment without test port	The time interval for an internal pressure of at 0.3kPa below atmospheric to change to over half the initial value was 180s.	Pass
22.6.3	Alternative type test for equipment where the nominal volume of the enclosure changes due to pressure	See Cl.22.6.2.1.	N/A

22.7	Test for screw lampholders	No screw lampholders.	N/A
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22.8	Test for starter holders for luminaires	The light is a restricted breathing equipment.	N/A
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22.9	Tests for electronic starters for tubular fluorescent lamps and for ignitors for high pressure sodium or metal halide lamps		
22.9.1	General	It's a LED floodlight with type of protection "nR".	N/A
22.9.2	Moisture resistance, insulation and electric strength test	It's a LED floodlight with type of protection "nR".	N/A
22.9.3	Cut-out device test	It's a LED floodlight with type of protection "nR".	N/A
22.9.4	Life test (failed lamp)		
22.9.4.1	Ignitor thermal endurance test	It's a LED floodlight with type of protection "nR".	N/A
22.9.4.2	Evaluation criteria	It's a LED floodlight with type of protection "nR".	N/A

22.10	Test for wiring of luminaires subject to high-voltage impulses from ignitors	It's a LED floodlight with type of protection "nR".	N/A
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Clause	Requirement – Test	Result – Remark	Verdict
22.11	Mechanical shock test for batteries		
22.11.1	General	The apparatus does not utilize batteries.	N/A
22.11.2	Test procedure	The apparatus does not utilize batteries.	N/A
22.11.3	Evaluation criteria	The apparatus does not utilize batteries.	N/A
22.12	Insulation resistance test for batteries		
22.12.1	Test conditions	The apparatus does not utilize batteries.	N/A
22.12.2	Evaluation criteria	The apparatus does not utilize batteries.	N/A
22.13	Additional ignition tests for large or high-voltage machines		
22.13.1	Test for cage rotor construction		
22.13.1.1	General	No large or high-voltage machines.	N/A
22.13.1.2	Rotor cage ageing process	No large or high-voltage machines.	N/A
22.13.1.3	Ignition test	No large or high-voltage machines.	N/A
22.13.2	Test for stator winding insulation system incendivity		
22.13.2.1	General	No large or high-voltage machines.	N/A
22.13.2.2	Test conditions	No large or high-voltage machines.	N/A
22.13.2.3	Steady state ignition test	No large or high-voltage machines.	N/A
23	Routine verifications and tests		
23.1	General	The manufacturer is required to conduct the routine tests as documented in IEC60079-0 and IEC60079-15.	Pass
23.2	Specific routine tests		
23.2.1	Electric strength test	Test voltage 2000V is applied for 3 seconds.	Pass
23.2.2	Alternate dielectric strength test	See part IEC 60079-15 clause 23.2.1.	N/A
23.2.3	Routine test requirements for restricted-breathing enclosures		
23.2.3.1	General	The floodlight is not equipped with a test port. It is tested using the cable gland.	Pass
23.2.3.2	Test procedure		
23.2.3.2.1	Equipment where the nominal volume of the enclosure will be unchanged due to pressure		
23.2.3.2.1.1	Equipment with test port	No test ports.	N/A
23.2.3.2.1.2	Equipment without test port	Under constant temperature conditions, the time interval required for an internal pressure of at least 0.3 kPa below atmospheric to change to half the initial value shall be not less than 27 s.	Pass
23.2.3.2.2	Equipment where the nominal volume of the enclosure changes due to pressure	No volume of the enclosure changes due to pressure.	N/A
23.2.4	Routine tests for electronic starters and ignitors	No electronic starters and ignitors.	N/A

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Clause	Requirement – Test	Result – Remark	Verdict
24	Marking		
24.1	General	See the test report cover.	Pass
24.2	Additional marking for batteries	No batteries	N/A
24.3	Examples of marking	Reference only.	Pass
24.3.1	Warning markings	See this test report cover.	Pass
25	Documentation		Pass
26	Instructions		Pass
Annex A (Informative)	Application, installation, and testing considerations for Ex "nA" asynchronous machines		N/A

Measurement Section, including Additional Narrative Remarks (as deemed applicable)

N/A

APPENDIX A: Additional construction remarks**TABLE: Clearance distance measurements**

Clearance (cl) between circuit parts:	$U_{r.m.s.}$ a.c. or d.c. (V)	Required cl (mm)	Measured cl (mm)
Between live parts of the terminal assembly	240VAC	2.5	6.8

TABLE: Creepage distance measurements

Creepage (dcr) distance between circuit parts:	$U_{r.m.s.}$ a.c. or d.c. (V)	Required dcr (mm)	Measured dcr (mm)
Between live parts of the terminal assembly	240VAC	3.6	10.3

APPENDIX B: Additional test remarks

TABLE: Dielectric strength tests		
Test voltage applied between:	Test voltage (V) a.c. / d.c.	Breakdown Yes / No
The live part and enclosure	1500	No
The input and the aluminium board	500	No
Supplementary information		

APPENDIX C: Additional Narrative Remarks (as deemed applicable)

