

TEST REPORT

DEGREES OF PROTECTION PROVIDED BY ENCLOSURES (IP CODE)

Report No.: STD180833NB-IP



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TEST REPORT

Applicant : Suzhou RUNLUX Electric Ltd.
Address : No.9 Dongtinghu Road, Kunshan Economic & Technological Development Zone, Kunshan City, Jiangsu, 215300, China
Manufacturer : Suzhou RUNLUX Electric Ltd.
Address : No.9 Dongtinghu Road, Kunshan Economic & Technological Development Zone, Kunshan City, Jiangsu, 215300, China
Factory : Suzhou RUNLUX Electric Ltd.
Address : No.9 Dongtinghu Road, Kunshan Economic & Technological Development Zone, Kunshan City, Jiangsu, 215300, China
Trade mark : /
Sample Description : LED Vapor Tight Linear Fixture
Model/Type reference : R2-4VT*zzW####yyy-xxK.
(*: denotes the type of diffuser; zz: power; ####: may be any alphanumeric character or blank, the first #=D: dimmable, if blank denotes nondimmable, the following ### denotes the driver input voltage, if blank denotes 120-277V; yyy: may be any alphanumeric character or blank denotes the series number; xx: CCT)
Same materials and structures.
Test Model: R2-4VTM36WDHV1-40K
120-347Vac 50/60Hz 36W
Taking/Receiving Date ... : 2018-05-15
Testing Laboratory Name: Standard-tech Co., Ltd.
Address: Standard-Tech Building, No. 6 Guan hong Road, Guangzhou Science City, Guangzhou 510663, CHINA
Test Requested : IP66
Test Method : IEC 60529:1989+ A1:1999+ A2:2013;
IEC 60598-2-1:1979;
IEC 60598-1:2014+A1:2017.
Test Results..... : PASS

Tested by:



Corey Ou

Reviewed by:



Philip Guo



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1. Test standards

**IEC 60529:1989+ A1:1999+ A2:2013;
IEC 60598-2-1:1979
IEC 60598-1:2014 A1:2017
Degrees of protection provided by enclosures (IP Code)**

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2. Conformity verification - Summary of inspection

Clause	Summary of inspection	Test result		
		N/A.	Pass	Fail
IEC 60529				
13	TESTS FOR PROTECTION AGAINST SOLID FOREIGN OBJECTS INDICATED BY THE FIRST CHARACTERISTIC NUMERAL	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
14	TESTS FOR PROTECTION AGAINST WATER INDICATED BY THE SECOND CHARACTERISTIC NUMERAL	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
IEC 60598-2-1 (IEC 60598-1)				
1.13 (9.2)	TESTS FOR INGRESS OF DUST, SOLID OBJECTS AND MOISTURE	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Test case verdicts:

N/A: test case does not apply to the test object

Pass: Test item does meet the requirement

Fail: Test item does not meet the requirement

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3. Test information and results

IEC60529			
Clause	Requirement - Test	Result –Remark	Verdict
13	TESTS FOR PROTECTION AGAINST SOLID FOREIGN OBJECTS INDICATED BY THE FIRST CHARACTERISTIC NUMERAL		—
13.1	Test means		—
	Test means and the main test conditions are given in Tab. 7.		—
	Tab. VII-7 Test means for the tests for protection against solid foreign objects		—
	First characteristic numeral	Test means	—
	0	No test required	N/A
	1	Rigid sphere without handle or guard 50 mm diameter	N/A
	2	Rigid sphere without handle or guard 12,5 mm diameter	N/A
	3	Rigid steel rod 2,5 mm diameter with edges free from burrs	N/A
	4	Rigid steel wire 1 mm diameter with edges free from burrs	N/A
	5	Dust chamber Fig. 2, with or without underpressure	N/A
	6	Dust chamber Fig. 2, with underpressure	P
13.4	Dust test for first characteristic numerals 5 and 6	First characteristic numerals is 6	P
	The test is made using a dust chamber incorporating the basic principles shown in figure 2 whereby the power circulation pump may be replaced by other means suitable to maintain the talcum powder in suspension in a closed test chamber. The talcum powder used shall be able to pass through a square-meshed sieve the nominal wire diameter of which is 50 and the nominal width of a gap between wires 75µm. The amount of talcum powder to be used is 2kg per cubic metre of the test chamber volume. It shall not have been used for more than 20 tests.		P
13.6	Special conditions for first characteristic numeral 6		—

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IEC60529			
Clause	Requirement - Test	Result –Remark	Verdict
13.6.1	Test conditions for first characteristic numerals 6	First characteristic numerals is 6	P
	The enclosure shall be deemed category 1, whether reductions in pressure below the atmospheric pressure are present or not.		P
13.6.2	Acceptance conditions for first characteristic numerals 6	First characteristic numerals is 6	P
	The protection is satisfactory if no deposit of dust is observable inside the enclosure at the end of the test.		P

14	TESTS FOR PROTECTION AGAINST WATER INDICATED BY THE SECOND CHARACTERISTIC NUMERAL					—
14.1	Test means					—
	The test means and the main test conditions are given in the table 8					—
	Tab 8 Test means and main test conditions for the tests for protection against water					—
	Second charact. numeral	Test means	Water flow rate	Duration of test	Test conditions	—
	0	No test required	—	—	—	N/A
	1	Drip box Fig.3 Enclosure on turntable	1 mm/min	10 min	14.2.1	N/A
	2	Drip box Fig.3 Enclosure in 4 fixed positions of 15 ° tilt	3 mm/min	2,5 min for each position of tilt	14.2.2	N/A
	3	Oscillating tube Fig. 4 Spray ± 60° from vertical,distance max. 200 mm or Spray nozzle Fig. 5 Spray ± 60° from vertical	0,07 l /min ± 5% per hole, multiplied by number of holes 10 l/min ± 5%	10 min 1 min/m ² at least 5 min	14.2.3 a) 14.2.3 b)	N/A
	4	As for numeral 3 Spray ± 180° from vertical	As for numeral 3	As for numeral 3	14.2.4	N/A
	5	Water jet hose nozzle Fig. 6 Nozzle 6,3 mm diameter, distance 2,5□m to 3 m	12,5 l /min ± 5%	1 min/m ² at least 3 min	14.2.5	N/A

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IEC60529						
Clause	Requirement - Test			Result –Remark	14.2.6	Verdict
6	Water jet hose nozzle Fig. 6 Nozzle 12,5 mm diameter, distance 2,5 m to 3 m	100 l /min ± 5%	1 min/m ² at least 3 min	14.2.6	P	
7	Immersion tank Water-level on enclosure: 0,15 m above top 1 m above bottom	—	30 min	14.2.7	N/A	
8	Immersion tank Water-level: by agreement	—	by agreement	14.2.8	N/A	
14.2.6	Test for second characteristic numeral 6 with the 12.5mm nozzle					
	The test is made by spraying the enclosure from all practicable directions with a stream of water from a standard test nozzle as shown in figure 6				P	
	test with a nozzle with a diameter of 12,5 mm at 100 l/min in a distance of 2,5m to 3m for 1 min/m ² per surface				P	
	Minimum test duration: at least 3min		3 min		P	

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IEC 60598-2-3 (IEC 60598-1)			
Clause	Requirement + Test	Result - Remark	Verdict
3.13 (9)	RESISTANCE TO DUST, SOLID OBJECTS AND MOISTURE		P
3.13 (9.2)	Tests for ingress of dust, solid objects and moisture:		P
	- classification according to IP :	IP66	—
	- mounting position during test :	Normal mounting	—
	- fixing screws tightened; torque (Nm) :	/	—
	- tests according to clauses :		—
	- electric strength test afterwards		P
	a) no deposit in dust-proof luminaire		N/A
	b) no talcum in dust-tight luminaire		P
	c) no trace of water on current-carrying parts or SELV parts or where it could become a hazard		P
	d) i) For luminaires without drain holes – no water entry		P
	d) ii) For luminaires with drain holes – no hazardous water entry		N/A
	e) no water in watertight luminaire		N/A
	f) no contact with live parts (IP 2X)		N/A
	f) no entry into enclosure (IP 3X and IP 4X)		N/A
	f) no contact with live parts (IP3X and IP4X)		N/A
	g) no trace of water on part of lamp requiring protection from splashing water		N/A
	h) no damage of protective shield or glass envelope		N/A

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4.Photos

R2-4VTM36WDHV1-40K



STATEMENT

1. Without the written authorization from the laboratory, this test report should not be partially duplicated, unless the whole test report being copied as an entire document.
2. The test report is only valid to the tested sample.
3. If you have any objections on this testing result, please submit a written complain to the laboratory within 10 days after you received this test report.
4. The tested samples must be reclaimed within 60 days after you received this test report, otherwise, the laboratory will dispose them itself.
5. This test report is for applicant's reference only, not for complains or arbitrations as in accordance with.

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