

Test Report

Client Name : Zhongshan Litian Lighting co.,Ltd

Block B 4/F, No.2 Yihui NO.2 Road Maohui

Client Address : Industry , Sisha, Henglan Town ,Zhongshan

City, Guangdong Provice

Product Name : LED landscape light

Report Date : 2023.6.20

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Marking

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- 4. The test report is invalid if altered.
- Objections to the test report must be submitted to Shenzhen Anbotek Compliance
 Laboratory Limited within 15 days.
- 6. The test report is valid for the tested samples only.
- 7. As for test verdict, "—"means "no need for judgment" "N/A" means "not applicable".

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Address

Report No.:18290KC30075501

TEST REPORT

Client Name Zhongshan Litian Lighting co., Ltd

Block B 4/F , No.2 Yihui NO.2 Road Maohui Industry , Sisha, Henglan

Town ,Zhongshan City ,Guangdong Provice

Report on the submitted sample(s) said to be:

Product Name LED landscape light

Model 6012-15W(Main test),6012-10W, 6012-12W

Trademark

Description

Sample(s)

received quantity

Sample(s)

Testing quantity

1pc

1pc

Manufacturer Zhongshan Litian Lighting co.,Ltd

Factory Zhongshan Litian Lighting co.,Ltd

Sample(s)

2023.5.23 received Date

Testing period 2023.5.29 - 2023.5.31

Report Date 2023.6.20

Test Conclusion:

Test item **IP66**

Test standard IEC 60529:1989+A1:1999+A2:20130

Evaluation Pass

Approved by: Prepared by: Checked by:

arbs le Brants. MW

Name: Carlos Ye Name: Jeff Zhu Name: Brant Min

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1.Test standards

IEC 60529:1989+A1:1999+A2:2013 Degrees of protection provided by enclosures(IP Code)

2. Conformity verification-Summary of inspection

potek An	both Augustek Aupotek Aupotek Aupotek Aupotek	V.	Test resu	lt anboten
Clause	Summary of inspection	N/A.	Pass	Fail
Aupor	TESTS FOR PROTECTION AGAINST ACCESS TO HAZARDOUS	hotek	Aupote,	AUF
12	PARTS INDICATED BY THE FIRST CHARACTERISTIC	AND TO	✓	Ker 🗆 I
	NUMERAL	Aupo.	ok bu	hotek
rak at	TESTS FOR PROTECTION AGAINST SOLID FOREIGN	Anb	O.O. V.	i otek
13	OBJECTS INDICATED BY THE FIRST CHARACTERISTIC	% □ °		And a
Aupoter	NUMERAL.	*ek	abotek	Vupo,
14	TESTS FOR PROTECTION AGAINST WATER INDICATED BY THE SECOND CHARACTERISTIC NUMERAL.	Yup □ sek	Ø	ek 🗆 Anb

Test case verdicts:

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

P: Test item does meet the requirement

F: Test item does not meet the requirement

2.1 Environmental Conditions:

Environmental Temperature: 15°C~35°C

Relative Humidity: 25%~75% Pressure: 86kpa~106kpa

2.2 Test equipment:

Equipment Name	Equipment No.	Model	Validity Period
Water proof test system	SE-4378	ZJ-IPX5-X6	2023.6.29
Dust proof chamber	SE-1152	GR-IPPCA01	2023.6.29
IP tester D	SE-1398	IP4X	2023.6.30

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Report No.:18290KC30075501 3. Test information and results

abojek	Combination of test conditions for the first characteristic numeral								
11.4	Designation with a first characteristic numeral implies that all test conditions are met for this								
n botek	numeral.								

Ant	First characteristic	Anborek Anborek Test f	or protection against	hotek hotek	
	number	Access to hazardous parts	Solid foreign objects	Verdict	
	Anboren O An	No test required	No test required	N/A	
	Anbotek Anbotek	700 h	not fully penetrate and adequate shall be kept	N/A	
	otek Anbotek Inbotek 2 Anbote Anbotek Ant	The jointed test finger may penetrate up to its 80 mm length, but adequate clearance shall be kept	The sphere of 12.5mm φ shall not fully penetrate	N/A	
	3	The test rod of 2.5 mm φ shall not penetrate and adequate clearance shall be kept			
able 5	tek 4 _{Anbotek}	by, Vup	nall not penetrate and adequate shall be kept	N/A	
	Anbotek Anbotek Anbotek Anbotek	The test wire of 1.0 mm φ shall not penetrate and adequate clearance shall be kept	Ingress of dust is not totally prevented, but dust shall not penetrate in a quantity to interfere with satisfactory operation of the apparatus or to impair safety	N/A	
	potek 6 Anbotek Anbotek Anbo	The test wire of 1.0 mm φ shall not penetrate and adequate clearance shall be kept	No ingress of dust	Anbotek Anbotek	

In the case of the first characteristic numerals 1 and 2, "not fully penetrate" means that the full diameter of the sphere shall not pass through an opening of the enclosure.

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Aupotek	Aupo, Polek	Anbotek	IEC 60529:1989+A1:1999+A	A2:2013	Aupo, Potek	Anbotek	Anbore
Clause	k Aupotek	Anboiek	Requirement-Test	Aupor	Aupotek	Anborek	/erdict

13	181	ON AGAINST SOLID FOREIGN OF FIRST CHARACTERISTIC NUM		D BY				
anbotek	Anbotek Anbo hotek Anb	Test means	Anbotek Anbotek	Anbore				
13.1	Test means	and the main test conditions are g	iven in Tab.7.	stek Ant				
	Tab.VII-7 Test means for the tests for protection against solid Foreign objects							
ak Anl	First characteristic numeral	Test means	Test force	Verdict				
	Anborek A.Ootek Anbore	No test required	No test required	N/A				
	Anbotek 1 Anbotek Anb	Rigid sphere without handle or guard 50mm diameter	50 N ± 10 %	ek N/A				
	otek Anborek 2 Anborek	Rigid sphere without handle or guard 12.5mm diameter	30 N ± 10 %	N/A				
Table 7	nbotek Anbotek Anbotek	Rigid steel rod 2.5mm diameter with edges free from burrs	3 N ± 10 %	N/A				
	Anbotek 4.nbotek Anbo	Rigid steel rod 1mm diameter with edges free from burrs	1 N ± 10 %	N/A				
	Anbotek 5 Anbotek	Dust chamber Fig.2,with or without underpressure	N/A	N/A				
	hotek Anbotek Anbotek	Dust chamber Fig.2,with underpressure	N/A	Anborek Anborek				
hotek	Test cond	itions for first characteristic numera	als 1, 2, 3, 4	Anborek				
13.2	The object probe is pushed ag	ainst any openings of the enclosure 7.	e with the force specif	ied in table				
Alle	Acceptance condition	ons for first characteristic numerals	1, 2, 3, 4	Verdict				
13.3	15 - 16 - 100 -	the full diameter of the probe spec pass through any opening.	cified in table 7 does	N/A				
po _{te} .	Dust test for	first characteristic numerals 5 and	6 abotek Anbotek	Verdict				
	and and	t chamber incorporating the basic ր culation pump may be replace by o	100	otek An				
13.4	View Vup	r in suspension in a closed test ch	V Sie	'upolek				
	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							
anboten	volume. It shall no	ot have been used for more than 20	O tests.	Aupor				

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Aupotek K	Anbo hotek Anbo	IEC 60529:1989+A1:1999+A2:2013	Anbo	Anbotek Anbote
Clause	K botek A	Requirement-Test	ok And	Verdict

PU	Dust test for first characteristic numerals 5 and 6	Verdict
K	Enclosures are of necessity in one of two categories:	Anbotel
otek	Category1: Enclosures where the normal working cycle of the equipment causes	dn
rek	reductions in air pressure within the enclosure below that of the surrounding air, for	No.
upo.	example, due to thermal cycling effects.	No. P
Aupor	Category 2:Enclosures where no pressure difference relative to surrounding air is	upoter
Anb	present.	abotek
	Category 1 enclosures:	A. shorel
Ya.	The enclosure under test is supported inside the test chamber and the pressure	Arra
13.4	inside the enclosure is maintained below the surrounding atmospheric pressure by a	Aug.
poter	vacuum pump. The suction connection shall be made to a hole specially provided for	lek b
Anbore	Anbound this test.	botek
200	A volume of air 80 times the volume of the sample enclosure tested without	potek
<i>b</i> 1	exceeding the extraction rate of 60 volumes per hour. In no event shall the	And
P	depression exceed 2 kPa(20 mbar) on the manometer shown in figure 2.	Aupo.
SK	Category 2 enclosures:	Anbo
potek	The enclosure under test is supported in its normal operating position inside the test	N/A
hotel	chamber, but is not connected to a vacuum pump. Any drain-hole normally open shall	rek
3.5	be left open for the duration of the test. The test shall be continued for a period of 8h. Special conditions for first characteristic numeral 5	potek
0.0	Polek Vupo, W. Sek Jupole Vup	Aurabek
) E 4	Test conditions for first characteristic numeral 5	Verdic
3.5.1	The enclosure shall be deemed category 1 unless the relevant product standard for	N/A
oter	the equipment specifies that the enclosure is category 2.	K DL
Aupotek	Acceptance conditions for first characteristic numeral 5	Verdic
nbo'	The protection is satisfactory if, on inspection, talcum powder has not accumulated in	hotek
3.5.2	a quantity or location such that, as with any other kind of dust, it could interfere with	Ann
P.U	the correct operation of the equipment or impair safety. Except for special cases to	N/A
	be clearly specified in the relevant product standard, no dust shall deposit where it	Aupor
otek	could lead to tracking along the creepage distances.	k Ari
3.6	Special conditions for first characteristic numeral is 6	otek
	Test conditions for first characteristic numeral is 6	Verdic
Aupo.	The analysis shall be decided extraory 1, whether reductions in process below the	You
3.6.1	The enclosure shall be deemed category 1, whether reductions in pressure below the	abort
3.6.1	atmospheric pressure are present or not	Anbore hote
3.6.1	K POLO VILLE POLO POLO POLO POLO POLO POLO POLO P	P Verdic

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Anborek	Auporek	Anboiek	IEC 60529:1989+A1:1999+A	A2:2013	Aupo, potek	Anborek	Anbore
Clause	r Aupotek	Anbore	Requirement-Test	Anbore	k Anbotek	Aupoley	/erdict

14 An	TESTS	FOR PROTECTION	I AGAINST WAT ARACTERISTIC		D BY THE SECON	1DN potek			
o tek	Anborek An		Test mear	ns hotek					
14.1	Aupotek 1	he test means and th	ne main test con	ditions are give	en in the table 8	otek Anb			
Anbor	Test means and main test conditions for the tests for Protection against water								
otek Anh	Second Characteristic numeral	Test means	Water flow rate	Duration of test	Test conditions	Verdict			
Anbotek	Ambol Ook	No test required	N/A	N/A	N/A	N/A			
Anbotek Anbote	otek Anbotek	Drip box Fig.3 Enclosure on turntable	1 mm/min	10 min	14.2.1	N/A			
otek Inbotek	Anborek Anborek	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			
Table 8	hootek Anbotek	Oscillating tube Fig.a Spray ±60°from vertical, distance max.200mm	0.07L/min ±5% per hole, multiplied by	10min	14.2.3a)	oo ^{tek} Ar N/A			
hbotek Anbotek	Anbotek Anbi	Spray nozzle Fig.5 Spray ±60°from vertical	Number of holes 10L/min ±5%	1 min/m² at least 5 min	14.2.3b)	N/A			
Anbotek	rek 4nbotek	As for numeral 3 Spray ±180° from vertical	As for numeral 3	As for numeral 3	14.2.4	N/A			
botek Anbotek	Anbotek Anbo	Water jet hose Nozzle Fig.6 Nozzle 6.3mm diameter,distance 2.5m to 3m	12.5L/min ±5%	1 min/m² at least 3 min	14.2.5	N/A			
ek Anbotek	ek Anbotek Dotek 6 Anbotek	Water jet hose Nozzle Fig.6 Nozzle 12.5mm diameter,distance 2.5m to 3m	100L/min ±5%	1 min/m² at least 3 min	14.2.6	otek nbotek Anbotek			

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Aupotek	Aupolek	Anbotek II	EC 60529:1989+A1:1999+A	A2:2013	Anborok	Anboiek	Anboro
Clause	k Anbotek	Anbotek	Requirement-Test	Anborek	Anbotek	Aupoten	/erdict

upotek otek bu	Second Characteristic numeral	Test means	Water flow rate	Duration of test	Test conditions	Verdict
Anboten	Anbotek	Immersion tank Water-level on	Anborek	Anbote, An	inbotek Anbotel	tek Vupo
Anbor	k Zbotek	Enclosure:0.15m above top 1m	N/A orek	30min	14.2.7	N/A
itek Ant	or All	above bottom Immersion tank	potek Aupo	ek Auport	Votek	Aupoler
hotek	Anbotek Anbotek Anbotek Anbotek	Water-level:by agreement	N/A	by agreement	14.2.8	N/A
Anbo	abotek 1	Fan jet nozzle	Aupoten	Vup.	abotek Anbote	-k 20,
Aupor	k hotek	Figure 7	k Anbotek	Aupotek b	Anbotek Anbo	lek Vupo,
Table 8	And	Test of small	ak abotek	Anbore	Ans siek	ipotek Ar
Table o	otek Anbo	enclosure on turntable	Jose And	30s per	Aupo	borek
- ek	shotek Anbote	Figure12	Inbotek Anbot	position	14.2.9(a)	N/A
10 Sec. 1	Anbotek Anbo	Turntable speed	Anbotek An	pote position	tek aupotek	Aupo
Anbotek	Anbo	(5±1)r/min	All	Aupolek Aupo	eak abotek	Anbore
Anbotek	Anbore A	Spray at 0°, 30°, 60°, 90°	(15±1)L/min	Aupotek A	bore Ann	ek Aupot
Anborel	tek anbotek	Test of large	otek Anbotek	Anbo.	Polek Vu	bote. Au
ek Anbr	Yun Yun	enclosures as per		k Anborek	Aug	anbotek
rek	abotek Anbo	intended use		otek Amain In 12 otek	Aupo	Potek.
D. B	botek Anbo	Spray from all practical	Anbotek Ant	1min/m² at least 3 min	14.2.9(b)	N/A
Aupore.	Aur	directions	potek	at least 5 IIIII	otek unbotek	Anbo
Anbotek	Anbo	Distance	Aur	Vupoter Vi	or toot	sk Aupose
botek	Anbore	(175±25)mm	Aupo	botek	Anbore Ans	otek and
k Anbo	tek Aupoten	Test for secon	d characteristic ı	numeral 6	Anboten An	Verdict
	potek Aupote	Nozzle c	liameter : 12.5 m	nm,;	Anbore	y. Polek
14.2.6			ce : 2.5 m to 3 m	V07		P riek
Moter			ate : (100±5%)	111-		Anbor
riek	Aupor Ar	Test tin	ne : at least 3 mi	n; rek an	DO. DI.	k poise

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4.Test result:

Sample No.	Test Item	Test requirements	Test result	Evaluation
18290KC300 755-1-1-1	IP6X	There is no dust enter the sample inside and the test wire of 1.0 mm φ shall not penetrate the sample inside.	There is no dust enter the sample inside and the test wire of 1.0 mm ϕ doesn't penetrate the sample inside.	Pass
18290KC300 755-1-1-1	IPX6	There is no water enter the sample inside or the water inside does not affect the electrical properties of the sample.	There is no water enter the sample inside.	Pass





5. Photos



IP6X-Before test



IP6X-Test set-up









IP6X-After test



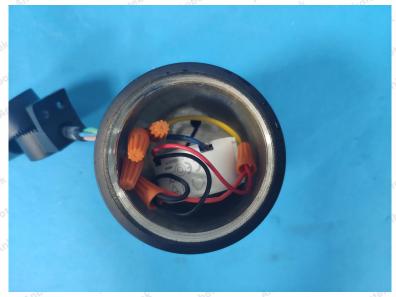
IP6X-After test

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IP6X-After test



IP6X-After test









IPX6-Before test



IPX6-Test set-up









IPX6-After test



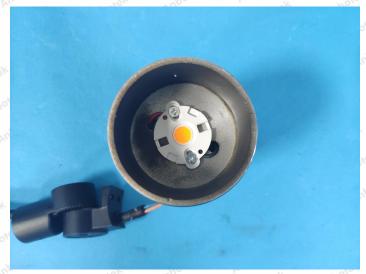
IPX6-After test

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IPX6-After test

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