



## IP TEST REPORT

### FOR

<b>Applicant</b>	:	ENERGYLED ELECTRONICS CORPORATION
<b>Address</b>	:	(Zone 22) Guiyuan Rd. North, Jixi Rd. West, Duanzhou District, Zhaoqing City, Guangdong Province ,China
<b>Equipment under Test</b>	:	LED Tube
<b>Model No.</b>	:	TD23CH84D0001
<b>Trade Mark</b>	:	N/A
<b>Manufacturer</b>	:	ENERGYLED ELECTRONICS CORPORATION
<b>Address</b>	:	(Zone 22) Guiyuan Rd. North, Jixi Rd. West, Duanzhou District, Zhaoqing City, Guangdong Province ,China

**Issued By: NEW TESTING CENTRE CO., LTD.**

**Add:** 5RD FL, ZONE A,Sangtai Industrial Park, Guanwai Xiaobaimang Songbai Road Nanshan District, SHENZHEN,GUANGDONG, CHINA, 518000

**Tel:** +86-0755-23443530

<b>TEST REPORT</b> <b>IEC 60529</b> <b>Degrees of protection provided by enclosures(IP code)</b>	
Report Reference No..... :	NTC10857
Date of issue..... :	Nov. 27, 2018
Total number of pages .....	10 pages
Testing Laboratory .. :	New Testing Centre Co., Ltd.
Address..... :	5RD FL, ZONE A, Sangtai Industrial Park, Guanwai Xiaobaimang Songbai Road Nanshan District, SHENZHEN, GUANGDONG, CHINA, 518000 Jack Zhang
Tested by (name + signature)..... :	
Approved by (+ signature)..... :	Neil Zhong 
Applicant's name .....	ENERGYLED ELECTRONICS CORPORATION
Address .....	(Zone 22) Guiyuan Rd. North, Jixi Rd. West, Duanzhou District, Zhaoqing City, Guangdong Province ,China
Manufacturer's name..... :	ENERGYLED ELECTRONICS CORPORATION
Address .....	(Zone 22) Guiyuan Rd. North, Jixi Rd. West, Duanzhou District, Zhaoqing City, Guangdong Province ,China
Standard..... :	IEC 60529:1989+A1:1999+A2:2013
<b>Test specification:</b>	
Procedure deviation..... :	N/A
Non-standard test method..... :	N/A
<b>Test item description..... :</b>	
Model/Type reference..... :	LED Tube
Trade mark..... :	TD23CH84D0001
Ratings..... :	N/A
IP degrees..... :	25.7-31.4Vdc, 0.7A
	IP67

**Testing:**

Date of receipt of test item ..... : Nov. 12, 2018

Date (s) of performance of tests..... : Nov. 13, 2018 to Nov. 15, 2018

**Possible test case verdicts:**

- test case does not apply to the test object..... : N (N/A)

- test object does meet the requirement..... : P (Pass)

- test object does not meet the requirement..... : F (Fail)

**General remarks:**

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

The test 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.

**Comments:**

1. The first characteristic numeral 6 indicated protection against solid foreign objects.

The conditions:

--dust: talcum powder

--dust amount: 2kg/m<sup>3</sup>

--maximum depression: 2KPa

--test duration: 8 hours

2. Test for second characteristic numeral 7: temporary immersion between 0,15 m and 1 m

The test is made by completely immersing the enclosure in water in its service position as specified by the manufacturer so that the following conditions are satisfied:

a) the lowest point of enclosures with a height less than 850 mm is located 1 000 mm below the surface of the water;

b) the highest point of enclosures with a height equal to or greater than 850 mm is located 150 mm below the surface of the water;

c) the duration of the test is 30 min;

d) the water temperature does not differ from that of the equipment by more than 5 K. However, a modified requirement may be specified in the relevant product standard if the tests are to be made when the equipment is energized and/or its parts in motion.

IEC 60529			
Clause	Requirement – Test	Result - Remark	Verdict
11	General requirements for tests		P
11.1	Atmospheric conditions for water or dust tests	IP6X: 24.1°C,50%R.H,90 kPa IPX7: 24.8°C,52%R.H,90 kPa	P
11.2	Test samples	The tests specified in this standard are type tests.	P
11.3	Application of test requirements and interpretation of test results		P
11.4	Combination of test conditions for the first characteristic numeral		N/A
11.5	Empty enclosures	Test with equipment inside	N/A
12	Test for protection against access to hazardous parts indicated by the first characteristic numeral		N/A
12.1	Access probes	Not considered.	N/A
12.2	Test conditions	(See page 2 comments for details)	N/A
12.3	Acceptance conditions		P
12.3.1	For low-voltage equipment. (Rated voltage not exceeding 1000V a.c. and 1500V d.c.)		P
12.3.2	For high-voltage equipment (Rated voltage exceeding 1000V a.c. and 1500V d.c.)		N/A
12.3.3	For equipment with hazardous mechanical parts		N/A
13	Test for protection against solid foreign objects indicated by the first characteristic numeral		P
13.1	Test means		P
	Test means and the main test conditions are given in table 7	IP6X	P
13.2	Test conditions for first characteristic numerals 1, 2, 3, 4		N/A
13.3	Acceptance conditions for first characteristic numerals 1, 2, 3, 4		N/A
13.4	Dust test for first characteristic numerals 5 and 6	IP6X	P
13.5	Special conditions for first characteristic numeral 5		N/A
13.5.1	Test conditions for first characteristic numeral 5		N/A
13.5.2	Acceptance conditions for first characteristic numeral 5		N/A
13.6	Special conditions for first characteristic numeral 6		P

IEC 60529			
Clause	Requirement – Test	Result - Remark	Verdict
13.6.1	Test conditions for first characteristic numeral 6		P
13.6.2	Acceptance conditions for first characteristic numeral 6		P
14	Test for protection against water indicated by the second characteristic numeral		P
14.1	The test means and the main test conditions are given in table 8	IPX7	P
14.2	Test conditions		P
	Test means and main test conditions are given in table 8		P
	During the tests for IPX1 TO IPX6 the water temperature should not differ by more than 5K from the temperature of the specimen under test		N/A
	For IPX7 details of the water temperature are given in 14.2.7	IPX7	P
	Test for second characteristic numeral 8, the test conditions are subject to agreement between manufacturer and user, but they shall be more severe than those prescribed in 14.2.7 and they shall take account of the condition that the enclosure will be continuously immersed in actual use		N/A
14.2.1	Test for second characteristic numeral 1 with the drip box		N/A
14.2.2	Test for second characteristic numeral 2 with the drip box		N/A
14.2.3	Test for second characteristic numeral 3 with oscillating tube or spray nozzle		N/A
14.2.4	Test for second characteristic numeral 4 with oscillating tube or spray nozzle		N/A
14.2.5	Test for second characteristic numeral 5 with the 6.3mm nozzle		N/A
14.2.6	Test for second characteristic numeral 6 with the 12.5mm nozzle		N/A
14.2.7	Test for second characteristic numeral 7: temporary immersion between 0.15m and 1m	Test time: 30min (See page 3 comments for details)	P
	The test is made by completely immersing the enclosure in water in its service position as specified by the manufacturer so that the following conditions are satisfied		N/A
	a) the lowest point of enclosures with a height less than 850mm is located 1000mm below the surface of the water		N/A

IEC 60529			
Clause	Requirement – Test	Result - Remark	Verdict
	b) the highest point of enclosures with a height equal to or greater than 850mm is located 150mm below the surface of the water		N/A
	c) the duration of the test is 30min		N/A
	d)the water temperature does not differ from that of the equipment by more 5K		N/A
14.2.8	Test for second characteristic numeral 8: continuous immersion subject to agreement		N/A
14.2.9	Test for second characteristic numeral 9 by high pressure and temperature water jetting		N/A
	The test is made by spraying the enclosure with a stream of water from a standard test nozzle as shown in Figures 7, 8 and 9.		N/A
	The set-up for measuring the impact force of the water jet is given in Figure 10.		N/A
	The distribution force shall be verified at upper and lower limits of distance tolerance range (see Figure 11).		N/A
	a) For small enclosures (largest dimension less than 250 mm), the enclosure shall be mounted on the test device shown in Figure 12.		N/A
	b) For large enclosures (largest dimension greater than or equal to 250 mm), the enclosure shall be mounted as per intended use. The entire exposed surface area of the enclosure shall be subjected to the spray at some point during the test procedure.		N/A
14.3	After testing in accordance with the appropriate requirements of 14.2.1 to 14.2.9 the enclosure shall be inspected for ingress of water	No ingress of water	P
	It is the responsibility of the relevant technical committee to specify the amount of water which may be allowed to enter the enclosure and the details of a dielectric strength test		N/A
	In general, if any water has entered, it shall not:		N/A
	–be sufficient to interfere with the correct operation of the equipment or impair safety		N/A
	–deposit on insulation parts where it could lead to tracking along the creepage distances		N/A
	–reach live parts or windings not designed to operated when wet		N/A
	–accumulate near the cable end or enter the cable if any		N/A
	If the enclosure is provided with drain-holes, it should be proved by inspection that any water which enters does not accumulate and that it drains away without doing any harm to the equipment	No Drain-holes	N/A

IEC 60529			
Clause	Requirement – Test	Result - Remark	Verdict
	For enclosure without drain-holes, the relevant product standard shall specify the acceptance conditions if water can accumulate to reach live parts	Water can't accumulate to reach live parts.	N/A
15	Test for protection against access to hazardous parts indicated by the additional letter		N/A
15.1	Access probes	No additional letter	N/A
	The access probe are given in table 6		N/A
15.2	Test conditions		N/A
	The access probe is pushed against any openings of the enclosure with the force specified in table 6		N/A
15.3	Acceptance conditions		N/A
	Test for the additional letter B		N/A
	Test for the additional letter C and D		N/A

**Test Equipment:**

Instrument Type	Range Used	Model	Calibration date	Calibration date
Dust proof tester	--	KXT309	2018-04-28	2019-04-28
Digital Power Meter	AC: 12-600V; 50Hz; 0.5A-20A; 7.5W-9KW; 0.2-1.0φ	PF9800	2018-04-28	2019-04-28
Temperature & Humidity Meter	15-30°C, 40%RH-80%RH	TH101A	2018-04-28	2019-04-28
Stop Watch	5s-24h	TA228	2018-04-28	2019-04-28
Water Supply Device & Nozzle Test System	IPX7	GS-IPX7	2018-04-28	2019-04-28

**Photos**



Fig.1: IP6X Before Testing



Fig.2: IP6X Post-testing



**Photos**



Fig.3: IPX7 Before Testing



Fig.4: IPX7 testing

**Photos**



Fig.5: Front Photo

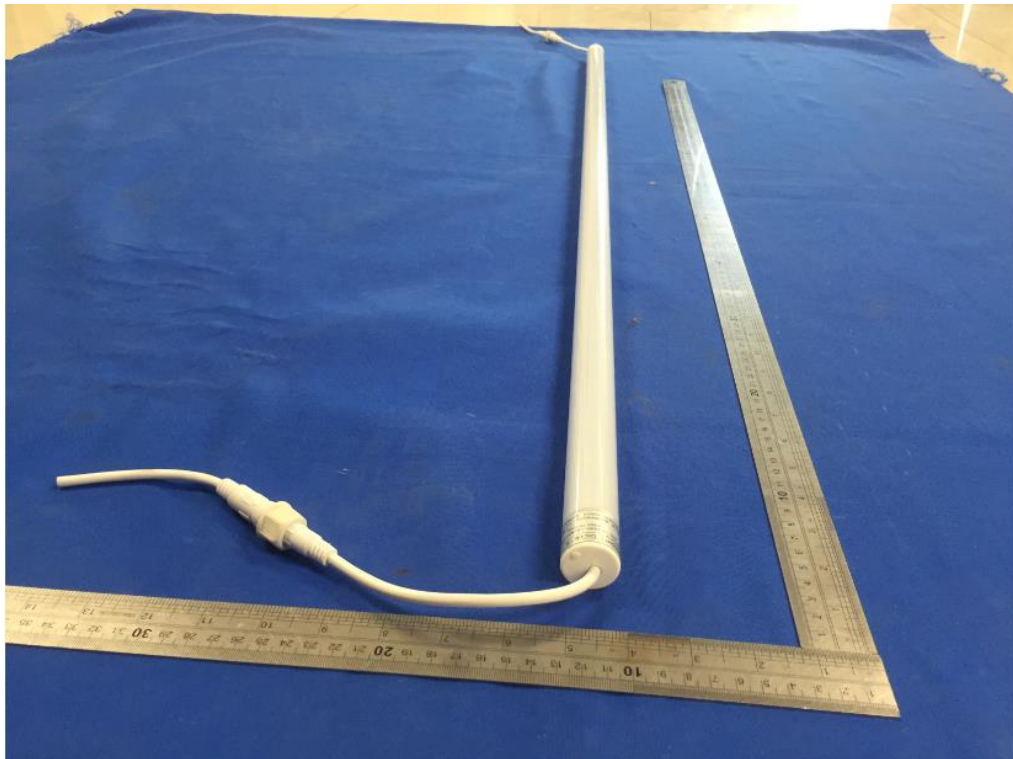


Fig.6: Side Photo

--End of report--