

TEST REPORT

Product Name: Fixed LED lighting fixtures (linear lights)

Product Model: LLS-OP-W20A-L10-DMX

Test Category: commission detection

Customer: TPK OPTOELECTRONIC TECH CO., LTD

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report time: April 20, 2025

广东泰然实业有限公司

TPK OPTOELECTRONIC TECH CO., LTD

Test report

Test items	IK protection level test
Test subjects	LLS-OP-W20A-L10-DMX
Detection Purpose	Verify the IK protection level of LLS-OP-W20A-L10-DMX products
Test time	2025-4-20
Testing equipment	Standard number: GB/T 2423.55-2006 Standard name: Environmental testing for electrical and electronic products - Part 2: Test methods Test Eh: Environmental testing for electric and electronic products- Part 2: Test methods- Test Eh: hammer tests IK grade test tooling equipment, 1.7KG metal hammer, 5KG metal hammer tape measure

Final conclusion of the test: The IK grade surface of LLS-OP-W20A-L10-DMX meets the requirements of IK09 for protection against external mechanical impact; The results of this test are only responsible for the sample results.

Methods and procedures of the experiment:
Refer to GB/T 2423.55-2006 (IEC 60068-2-75:1997) Environmental tests for electrical and electronic products - Part 2: Test methods Test Eh: Hammering test shall be conducted in accordance with the content of GBT 20138-2006 (IEC62262:2002) standard for protection of enclosures of electrical equipment against external mechanical impact

Test data:
1. Record the state of the sample before the test.



The product is intact.

2 Test the fixed impact hammer as required by IK08 grade (30cm height, 1.7KG weight hammer, 5J

energy).



1.7KG metal hammer



height 30CM

3 Record the appearance data of the sample after the strike, test result: The acrylic cover and glass are intact after the hammer strike



2. Test with a fixed impact hammer in accordance with IK09 grade requirements (20cm height, 5KG weight, 10J energy).



5KG metal hammer



height 20CM

3 Record the appearance data of the sample after the impact, test result: The acrylic cover and glass are intact after hammering



2. Test with a fixed impact hammer as per IK10 grade requirements (40cm height, 5KG weight hammer, 20J energy).



5KG metal hammer



height 40CM

3 Record the appearance data of the sample after the impact. Test result: At the same impact point, the acrylic cover and glass cracked after hammering twice



Appendix: Reference table for IK grade test standards

IK Code	IK00	IK01	IK02	IK03	IK04	IK05	IK06	IK07	IK08	IK09	IK10
Collision Energy /J	a	0.14	0.2	0.35	0.5	0.7	one	2	5	10	20

Note 1: If higher collision energy is required, 50J is recommended

Note 2: Some national standards use one digit to represent the specified collision energy. To avoid confusion, two digits are used to represent the characteristic number.

a According to this standard, it is unprotected.

To avoid secondary impacts caused by rebound, braking can be achieved by grasping the impact element instead of the swing bar after the initial impact. To prevent the pendulum from deforming.

Table 2 Drop height

Energy / J	0.14	0.2		(0.3)	0.35	(0.4)		0.5		0.7	one	2	5	10	20	50
kg Equivalent mass/drop height, ±1%/mm	0.25	(0.2)	0.25	(0.2)	0.25	(0.2)	(0.2)	0.25	0.25	0.25	0.5	1.7	5	5	10	
	56	(100)	80	(150)	140	(200)	(250)	200	280	400	400	300	200	400	500	

Note 1: See Note 3.2.2.

Note 2: The energy unit in this section, joule (J), is derived from the standard gravitational acceleration (ga). g. Rounded to 10 m/s²

Test results:

The above test data proved that the acrylic cover and glass broke after hammering at IK10 grade 20J, 5KG weight, height 40CM. In accordance with the national standard GB/T 20138-2006 /IEC 62262:2002 Test Section 4.4 and GB/T 20138-2006 /IEC The **IK grade** of the **LLS-OP-W20A-L10-DMX surface** is determined to **reach IK09** in accordance with the content of Table 1 in section 4.2 of 62262:2002 and Section 6