

TEST REPORT

Product name: Fixed LED lamp (Wall washer lamp)

Product model: LWW-PZT-W38A-L10

Test category: Commissioned test

Client: TPK OPTOELECTRONIC TECH CO., LTD

Tester: Huang Wenliang

Auditor: Chen Hairui

Report date: April 7, 2025

TPK OPTOELECTRONIC TECH CO., LTD

Test report

Test type	Temperature rise test	Inspector	Wong Man-leung
Sample Name	Wall washer lamp LWW-PZT-W38A-L10		
Commission	Guangdong Tairan Industrial Co., LTD	Testing unit	Guangdong Taian Industrial Co., LTD
Entrusting unit Address	Building 1-2, No. 10, Dacheng Road, Dongfeng Town, Zhongshan City	Address of the testing unit	Building 1-2, No. 10, Dacheng Road, Dongfeng Town, Zhongshan City
Sample Code	-	Sample quantity	1
Test date	2025/4/7 13:30 to 2025/4/7 16:30		

Test background:

To evaluate the heat dissipation performance and stability of the wall-washing lamp LWW-PZT-W38A-L10 in high-temperature environments, this temperature rise test was specially set up to examine its temperature performance in a 40 ° C incubator simulated high-temperature environment.

Test purpose:

To test the thermal reliability of the wall lamp LWW-PZT-W38A-L10 when it reaches thermal equilibrium in a 40 ° C incubator.

Testing equipment:

Supmea thermometer (SUP-R9616)... 1
eTM-6020 DC adjustable power supply 1

Specification model:

Wall washer light,-W38 series,V1.0; L1000*W38*H119mm, oxidized matte black, silk-screened glass; WW(2700K)

Test items:

The respective characteristics of the sample wall washing lamps LWW-PZT-W38A-L10 when they operate in a constant temperature box at 40°C to the thermal equilibrium state:

- ☐ Drive section key component temperature
- ☐ Control the temperature of key components in the drive section
- ☐ Temperature of key components of the light board
- ☐ Ambient temperature of the lamp body
- ☐ The temperature of the outer wall of the lamp

Test conclusion:

The wall-washing lamp LWW-PZT-W38A-L10 was tested for temperature rise under the condition of running in a 40 ° C incubator. All test points of the sample were within the safe usage range, and the temperature performance was excellent. The temperature rise test was passed.

Chief Inspector: Huang Wenliang

Signature: Date: 2025/4/7

Reviewed by Chen Hairui

Signature: Date: 2025/4/7

Test steps:

Wear appropriate personal protective gear (such as insulating gloves), prepare and install the test instrument, and use thermocouple wire to connect the thermometer to the respective thermocouple of the two samples to be tested:

- 1) Drive key components of the section
- 2) Key components of the light board
- 3) The environment where the lamp body is located
- 4) Outer wall of the lamp

Connect the lamp, run the lamp at 220V in a 40 ° C incubator until it reaches a stable thermal equilibrium state (≥ 2 hours), and record its temperature value.

Equipment and sample images:



Figure 1 Supmea thermometer Figure 2 eTM-6020 DC adjustable power supply



Figure 3 Wall washer lamp LWW-PZT-W38A-L10



Figure 4 Constant temperature box and operating conditions of the lamp

List of test items and reference criteria:

Reference criteria based on industry experience and specification sheet of electronic components (in a 40 ° C incubator) :

Test items	Criteria for judgment
Lamp beads chip	Pin temperature + thermal resistance * power <85 ° C
Aluminum substrate (lamp plate)	< 70 °C
Lamp body	< 65 °C
Inductance	< 100 °C
Capacitor	< 85 °C
Control chip determination	< 75 °C
Voltage stabilizer	< 75 °C
DC-DC	< 75 °C
Driver chip	< 90 °C
Power Tc point	<80 ° C (3-year warranty) <70°C (5-year warranty)
Freewheeling diode	< 90 °C
Output diode	< 90 °C
Schottky diode	< 90 °C
Transformer	< 100 °C
MOSFET	< 90 °C

Table 1 Criteria for temperature determination

Test data:

The wall-washing lamp LWW-PZT-W38A-L10 was tested under the condition of running in a 40 ° C incubator to assess the temperature of the lamp. The test data are shown in the table below.

Table 2 Temperature rise test data

Test points			220V,40°C	
			Temperature (°C)	Whether qualified
Test conditions				
Drive section	CH1	Driver IC(<90 ° C)	49	√
	CH2	Schott diode (<80 ° C)	49	√
	CH3	Light beads (<70 ° C)	49	√
	CH4	Light panel (<70 ° C)	45.8	√
Power supply section	CH5	Power box (<80 ° C)	49.8	√
	CH6	Inner cavity (<70 ° C)	43.9	√
Environmental section	CH7	Environment 1(<40 ° C)	39.7	√
	CH8	Environment 2(<40 ° C)	39	√
	CH9	Environment 3(<40 ° C)	38.8	√



Figure 5 Thermometer: Temperature curve at each test point

Data analysis

Based on the above data, the temperature performance conclusion of the wall-washing lamp LWW-PZT-W38A-L10 when operating to thermal equilibrium in a thermostatic chamber with an input voltage of 24V and an ambient temperature of 40 ° C is as follows:

During the test, the temperature at all test points of the lamp sample was within the safe operating range of the lamp, and the temperature rise test passed.

The results of this test are only responsible for the samples.