



Shenzhen Southern LCS Compliance Testing Laboratory Ltd.  
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Report No.: LCS190517034BS

## TEST REPORT

**Client**..... : Fulton Science and Technology Lighting Co., Ltd  
**Address**..... : 7F, Building 17, Area C, Liantang Industrial Town, Shangcun  
Community, Gongming, Guangming New District, Shenzhen,  
Guangdong Province, China.  
**Brand Name**..... : **Fulton**  
**Manufacturer**..... : Fulton Science and Technology Lighting Co., Ltd  
**Address**..... : 7F, Building 17, Area C, Liantang Industrial Town, Shangcun  
Community, Gongming, Guangming New District, Shenzhen,  
Guangdong Province, China.  
**Testing Laboratory**.... : Shenzhen Southern LCS Compliance Testing Laboratory Ltd.  
**Address**..... : B Area, 1-2F, Building B, Zhongyu Green High-tech Industrial  
Park, Wenge Road, Heshuikou, Gongming Street, Guangming  
New District, Shenzhen, China  
**Product Description**.. : LED Tri-Proof Light  
**Models**..... : See model list  
**Rating**..... : AC 220-240V, 50/60Hz, IP66, ta:45°C, Class I  
**Method**..... : IEC 60529:1989+A1:1999+A2:2013  
**Test Item**..... : IP66  
**Date of Test**..... : 2019-06-05~2019-06-06  
**Date of Issue**..... : 2019-06-06  
**Test Result**..... : Pass

Test by:

*Lydia Luo*

Lydia Luo/ Project Engineer

Check by:

*Eko Yang*

Eko Yang/ Director

Approved by:

*Jesse Liu*

Jesse Liu/ Manager

**Remark:** The duplication of this report or parts of it and its use for advertising purposes is only allowed with permission of the testing laboratory. This report contains the result of examination of the product sample submitted by the appliance. A general statement concerning the quality of the products from the series manufacturer cannot be derived therefore.



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**General product information:**

- All models have similar appearance.
- Unless otherwise specified, the model FLT-TP-20L6 was chosen as representative model to perform all test.

**Model list:**

Model	Rating	Case size LxWxH (mm)
FLT-TP-12L6	220-240V~, 50/60Hz, 12W, IP66, ta:45°C, Class I	590x95x75
FLT-TP-14L6	220-240V~, 50/60Hz, 14W, IP66, ta:45°C, Class I	590x95x75
FLT-TP-17L6	220-240V~, 50/60Hz, 17W, IP66, ta:45°C, Class I	590x95x75
FLT-TP-20L6	220-240V~, 50/60Hz, 20W, IP66, ta:45°C, Class I	590x95x75
FLT-TP-25L12	220-240V~, 50/60Hz, 25W, IP66, ta:45°C, Class I	1190x95x75
FLT-TP-30L12	220-240V~, 50/60Hz, 30W, IP66, ta:45°C, Class I	1190x95x75
FLT-TP-35L12	220-240V~, 50/60Hz, 35W, IP66, ta:45°C, Class I	1190x95x75
FLT-TP-40L12	220-240V~, 50/60Hz, 40W, IP66, ta:45°C, Class I	1190x95x75
FLT-TP-35L15	220-240V~, 50/60Hz, 35W, IP66, ta:45°C, Class I	1490x95x75
FLT-TP-40L15	220-240V~, 50/60Hz, 40W, IP66, ta:45°C, Class I	1490x95x75
FLT-TP-50L15	220-240V~, 50/60Hz, 50W, IP66, ta:45°C, Class I	1490x95x75
FLT-TP-60L15	220-240V~, 50/60Hz, 60W, IP66, ta:45°C, Class I	1490x95x75

**Equipment used during test:**

ID Number	Instrument	Model/ Type	Calibration Date
SLCS-S-031	Sand and dust test box	SG-500	2019-04-16
SLCS-S-034	IPX5, IPX6 waterproof equipment	JL-1/2	2019-04-16
SLCS-S-135	Digital hygrometer thermometer	HTC-1	2018-11-10



**Test Item:**

Dust test for first characteristic numerals 6

**Atmospheric conditions for water or dust tests:**

Air pressure: 86 kPa to 106 kPa

Temperature range: 20°C to 30°C

Relative humidity: 25 %RH to 75 %RH

**Test samples:**

Clean and new sample were be tested

**Test Method:**

The test is made using a dust chamber incorporating the basic principles shown in figure 2 whereby the powder 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  $\mu\text{m}$  and the nominal width of a gap between wires 75  $\mu\text{m}$ . The amount of talcum powder to be used is 2 kg per cubic metre of the test chamber volume. It shall not have been used for more than 20 tests.

■ Category 1 enclosures:

The enclosure under test is supported inside the test chamber and the pressure inside the enclosure is maintained below the surrounding atmospheric pressure by a vacuum pump.

The suction connection shall be made to a hole specially provided for this test. If not otherwise specified in the relevant product standard, this hole shall be in the vicinity of the vulnerable parts. If it is impracticable to make a special hole, the suction connection shall be made to the cable inlet hole. If there are other holes (for example, more cable inlet holes or drain-holes) these shall be treated as intended for normal use on site.

The object of the test is to draw into the enclosure, by means of depression, a volume of air 80 times the volume of the sample enclosure tested without exceeding the extraction rate of 60 volumes per hour. In no event shall the depression exceed 2 kPa (20 mbar) on the manometer shown in figure 2.

If an extraction rate of 40 to 60 volumes per hour is obtained the duration of the test is 2 h.

If, with a maximum depression of 2 kPa (20 mbar), the extraction rate is less than 40 volumes per hour, the test is continued until 80 volumes have been drawn through, or a period of 8 h has elapsed.

□ Category 2 enclosures

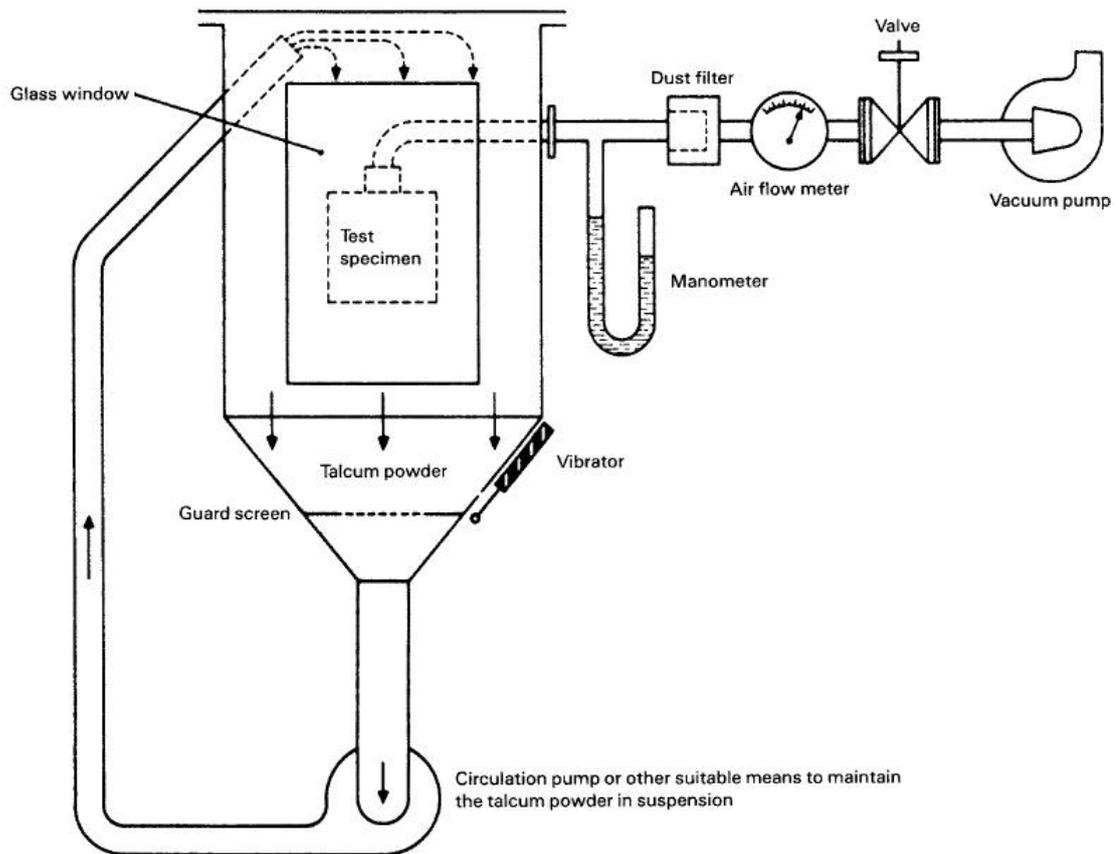
The enclosure under test is supported in its normal operating position inside the test chamber, but is not connected to a vacuum pump. Any drain-hole normally open shall be left open for the duration of the test. The test shall be continued for a period of 8 h

**Acceptance Conditions:**

The protection is satisfactory if no deposit of dust is observable inside the enclosure at the end of the test

**Test Result:**

Pass       Fail



IEC 280/01

NOTE See IEC 60068-2-68, figure 2 valid for La2 only.

Figure 2 – Test device to verify protection against dust (dust chamber)



**Test Item:**

Test for second characteristic numeral 6 with the 12,5 mm nozzle

**Atmospheric conditions for water or dust tests:**

Air pressure: 86 kPa to 106 kPa

Temperature range: 20°C to 30°C

Relative humidity: 25 %RH to 75 %RH

**Test samples:**

Clean and new sample were be tested

**Test Method:**

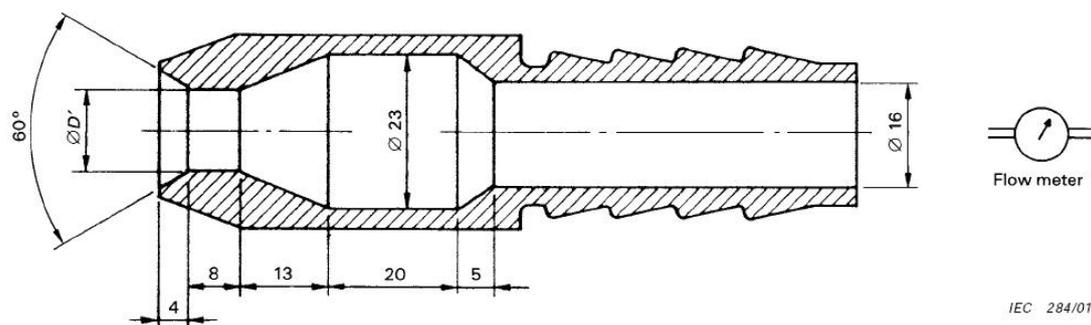
The test is made by spraying the enclosure from all practicable directions with a stream of water from a standard test nozzle as shown in figure 6.

The conditions to be observed are as follows:

- internal diameter of the nozzle: 12,5 mm;
- delivery rate: 100 l/min  $\pm$  5 %;
- water pressure: to be adjusted to achieve the specified delivery rate;
- core of the substantial stream: circle of approximately 120 mm diameter at 2,5 m distance from nozzle;
- test duration per square metre of enclosure surface area likely to be sprayed: 1 min;
- minimum test duration: 3 min;
- distance from nozzle to enclosure surface: between 2,5 m and 3 m.

**Test Result:**

Pass     Fail



IEC 284/01

Dimensions in millimetres

D' = 6,3 for the test of 14.2.5 (second characteristic numeral 5)

D' = 12,5 for the test of 14.2.6 (second characteristic numeral 6)

Figure 6 – Test device to verify protection against water jets (hose nozzle)



### Photo Documentation:

Photo 1: Overall view of model FLT-TP-20L6



Photo 2: IP6X test of model FLT-TP-20L6





### Photo Documentation:

Photo 3: IPX6 test of model FLT-TP-20L6



Photo 4: Test result after IP6X test and IPX6 test



----- End of Test Report-----