

# Laboratory Test report



226-TEST  
NBN EN ISO/IEC 17025 :2017



R-Tech  
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Member of Schröder Group

FORM L-54 Edition 01 – Revision 04 – Date : 21/04/2021

## Thermal Test LED

### General information

**Subject :** IZYLUM LT 1 - 24 SEOUL 5050 - 1050mA - PHILIPS FP 75W- NEMA socket

**Asked by :** CSIKÓS Balázs

**Created on :** 10/11/2022

**Started on :** 22/11/2022

**Test number :** D220995

**Reference norm :** IEC/EN 60598-1 Ed9 (2021) + A11 (2022); 60598-2-3 Ed3 (2002) +A1 (2011); 60598-2-5 Ed3 (2015)

**Sample(s) :** E220641

**Folder :** P-F22050

### Test conditions

**Luminaire :** IZYLUM LT 1

**Number of LED :** 24

**LED :** Seoul 5050

**Driver :** DRIVER\_SIGNIFY\_FP\_75W\_300.00-1050.00mA\_220-240V\_DALI\_C133\_ / 02-58-000

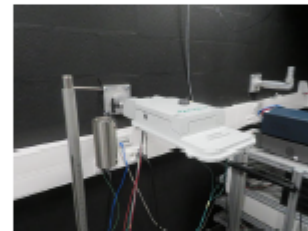
**Number of driver(s) :** 1

**Driver current (mA) :** 1050

**SPD :** CPT-Cirprotec-NSS-10-230-C2-WD

**Testing facility :** BER - R-Tech

**Operator :** MESPOUILLE Loic



IMG\_3974

### Conclusion



Informative

**Conclusion :**

$\Delta T_s < 80^\circ\text{C}$  no risk of solder crack

Ta: 55°C limited by driver according IEC 60598-2-3 and IEC 60598-2-5 (outdoor use only)

Ta: 50°C limited by driver indoor use and UL standard

Tq: 40°C limited by driver according IEC 62722-2-1

Tq given for 100 khrs of lifetime

Validated by :

LERHO Xavier

Duplicate to : GÖRGÉNYI Emese, HORVÁTH Balázs, SZÜGYI

János Péter, LÁMFALUSI Ferenc, CSIKÓS Balázs, BEDŐ

Péter, CSENKI Máté

LAB : 24/11/2022

D220995

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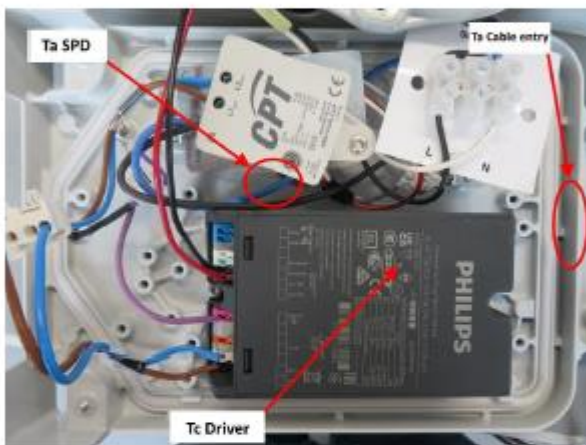
## Test(s) details

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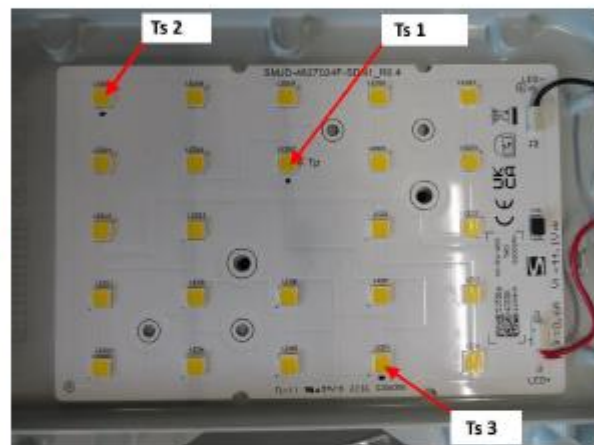
### Test(s)

Name	Description	Verdict
Sensors positions	Disposition of the thermocouples on the DUT.	Informative
Test @ 1050mA	Test according section 12.4 of IEC 60598-1. The DUT is driven until all thermocouples reach thermal stabilization (i.e. variation = 1K/h). Evaluation of the harmonics behaviour according IEC 61000-3-2 - Not covered by the laboratory's accreditation.	Informative

### Sensors positions



IMG\_Body



IMG\_LED

## Test @ 1050mA

### Verdict(s)

	Ts1	Ts2	Ts3	Driver1	Ta CPD1	Ta Cable entry1
Limit Ta	99.0 °C	99.0 °C	99.0 °C	80.0 °C	80.0 °C	90.0 °C
Limit Tq	85.0 °C	85.0 °C	85.0 °C	70.0 °C	80.0 °C	90.0 °C
Thermocouple T*	61.5 °C	63.0 °C	61.7 °C	53.3 °C	37.5 °C	31.9 °C
Room	25.0 °C	25.0 °C	25.0 °C	25.0 °C	25.0 °C	25.0 °C
E Led	5.7 V	5.7 V	5.7 V			
I Led	0.351 A	0.351 A	0.351 A			
P Led	2.0 W	2.0 W	2.0 W			
Heating	36.5 °C	38.0 °C	36.7 °C	28.3 °C	12.5 °C	6.9 °C
Ta Indoor	62.5 °C	61.0 °C	62.3 °C	51.7 °C	67.5 °C	83.1 °C
Tq	48.5 °C	47.0 °C	48.3 °C	41.7 °C	67.5 °C	83.1 °C
Solder point temperature used as the image of the lens temperature						
Primary EM			Secondary Em Dr1			
U	229.9 V	U	45.9 V			
I	0.243 A	I	1.052 A			
P	54.4 W	P	48.3 W			
PF	0.974					
Efficiency	88.7%					
THD	8.7%					
Harmonics - 100%	PASS					

Test room temperature (°C) :

25.0

Measurement equipment :

Keithley with thermocouples type K (E101)  
Norma 4000 (E165)  
APT (E108)

Quantities measured :

Qualification of the thermal limits and measurement of the electrical behavior of a luminaire according to PT-S-07

Uncertainties :

Statement of uncertainties (K=2, 95% of confidence level):

Temperature: 1,26 K  
Voltage (AC): 0,33%  
Current (AC): 0,33 %  
Power (AC): 0,27%  
Voltage (DC): 0,3 %  
Current (DC): 0,3%  
Power (DC): 0,23%  
Anemometer: ± 0,27 m/s

Decision rules :

Pass/fail criteria for individual test statement of conformity (Verdict):

No pass/fail criteria applied on electrical measurements, except on harmonics where the criteria of IEC 61000-3-2 are applied (the harmonics are not covered by the laboratory's accreditation).

No pass/fail criteria applied on thermal measurements when performed at 25°C (+/- 5°C), the Ta/Tq values are calculated according GDE-POL-001.

Pass/fail criteria on thermal qualification (test performed at announced Ta or Tq)

At the announced Ta, no component is above its maximum limit of operation : success

At the announced Ta, at least 1 component is above its maximum limit of operation : fail

According to IEC 60598-2-3 and IEC 60598-2-5 Standards, the maximum limit of every component can be augmented by 10 K provided that the luminaire is intended for outdoor use only.

At the announced Tq, no component is above its selected performance limit of operation: success

At the announced Tq, at least 1 component is above its selected performance limit of operation : fail

According to IEC 62722-2-1, the selected performance limit cannot be augmented by 10 K even if the luminaire is intended for outdoor use.

Any Ta/Tq defined value will be rounded down to the nearest multiple of 5.

In any case, test at 25°C or test at Ta or Tq, if delta Ts is above the recommended value of the GDE-POL-001, the test is failed.

Pass/fail criteria for the test report statement of conformity (Conclusion):

At least one of the individual test statements of conformity (Verdict) is successful: success, the highest achieved Ta/Tq is reported

Otherwise: fail

End of accredited report :

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