Laboratory
Test report

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Member of Schréder Group

FORM L-54 Edition 01 – Revision 02 - Date: 14/11/2019

Thermal Test LED

General information

Subject : IZYLUM Size 2 - 40 LH351C - MW 75W - 500mA - Nema - CL I (N#16)

Asked by : SZÜGYI János Péter
Created on : 09/12/2019
Started on : 16/12/2019
Test number : D191135
Reference norm : IEC/EN 60598-1; 60598-2-3; 60598-2-5 Standards
Sample(s) : E190883
Folder : P-F19085

Test conditions

Luminaire : IZYLUM 2

Number of LED : 40

LED : Samsung LH351C

Driver : Meanwell 60~75W 0.5A 1-10V / 00-82-966

Number of driver(s) : 1

Driver current (mA) : 500

SPD : Izyhub full control fuse CLII 01-01-810

Additional components : Colosio Nema with short cut

Power Supply : 230 Volts 50Hz

Junction Temperature measurement method : Junction temperature measurement by base temperature measurement and electrical measurement.T°j =T°b + Rjb x Pled

Operator : Philippe Léonard

izylum_40 Led's_500mA_Meanwell(a)

Conclusion

Informative

ΔTs < 80°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: 55°C limited by driver; indoor use and UL standard
Tq: 45°C limited by driver; according IEC 62722-2-1

Tq given for 100 khrs of lifetime

Validated by :

Maghe Laurent

Duplicate to : SZÜGYI János Péter, HEYMANS Tom, LÁMFALUSI Ferenc, HORVÁTH Csaba, BEDŐ Péter, BOS Peter

LAB : 17/12/2019

Test(s)

Name	Description	Result
Test @ 500mA		Informative

Test @ 500mA

Result(s)

	Tb1	Tb2(tp)	Tb3	Tc driver	Ta SPD	Ta cable
T° limite				**85 °C**	**70 °C**	**90 °C**
Junction T°	61,1 °C	61,1 °C	60,8 °C			
Thermocouple T°	56,9 °C	56,9 °C	56,6 °C	48,8 °C	36,3 °C	33,2 °C
Room	25,4 °C	25,4 °C	25,4 °C	25,4 °C	25,4 °C	25,4 °C
E led	2,81V	2,81V	2,81V			
I led	0,502A	0,502A	0,502A			
P led	1,41W	1,41W	1,41W			
Rth jonction-base	3,0 °C	3,0 °C	3,0 °C			
Heating				23,4 K	10,9 K	7,8 K
Δ Ts	31,5 K	31,5 K	31,2 K			
Primary EM		**Secondary EM driver 1**				
U	229,9V	U	112,3V			
I	0,280A	I	0,502A			
P	62,1 W	P	56,3 W			
PF	0,965					
Efficiency	91%					

Test room temperature (°C) : **24.9**

Measurement equipment :

Keithley with thermocouples type K (E082)
Norma 4000 (E068)
APT (E135)

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: 0,6 °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 :

No pass/fail criteria applied on electrical measurements

Pass/fail criteria on thermal qualification

At the announced Ta, no component is above its maximum limit of operation reduced by the uncertainty on the temperature measurement: pass

At the announced Ta, at least 1 component is above its maximum limit of operation augmented by the uncertainty on the temperature measurement: fail

At the announced Ta, at least 1 component is at its maximum limit of operation ± the uncertainty on the temperature measurement and no other component is above its maximum limit of operation augmented by the uncertainty on the temperature measurement: pass with remark

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 reduced by the uncertainty on the temperature measurement: pass

At the announced Tq, at least 1 component is above its selected performance limit of operation augmented by the uncertainty on the temperature measurement: fail

At the announced Tq, at least 1 component is at its selected performance limit of operation ± the uncertainty on the temperature measurement and no other component is above its selected performance limit of operation augmented by the uncertainty on the temperature measurement: pass with remark

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.

End of test report :
