



中国认可
国际互认
检测
TESTING
CNAS L6478



TEST REPORT

Reference No...... : WTF21F01008664R1N
Applicant..... : Shada BV
Address..... : Molenmakershoek 28 NL-7328 JK Apeldoorn
Manufacturer..... : Shada BV
Address..... : Molenmakershoek 28 NL-7328 JK Apeldoorn
Product Name..... : LED FLOODLIGHT
Model No...... : 230092, 230193EGB, 230093EGB
Ratings..... : 100-277VAC, 50/60Hz, 100W
Test specification..... : In situ temperature measurement test (ISTMT) and TM-21-11
Date of Receipt sample..... : 2021-01-27
Date of Test..... : 2021-01-27 to 2021-02-07
Date of Issue..... : 2023-03-27
Test Report Form No...... : WPL-ISTMT-02A
Test Result..... : See the attached sheets

Remarks:

The results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of the company. The report would be invalid without specific stamp of test institute and the signatures of approver.

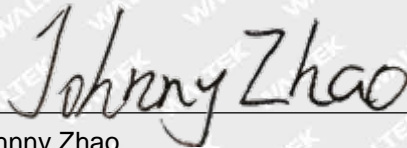
Prepared By:

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Chencun, Shunde District, Foshan, Guangdong, China

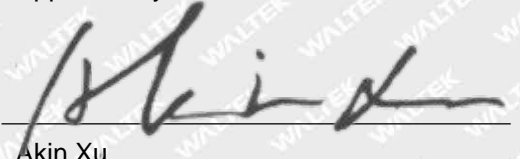
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Tested by:



Johnny Zhao

Approved by:



Akin Xu

**Trade Mark:****General remarks:**

"(See Attachment #)" refers to additional information appended to the report.

"(See remark #)" refers to a remark appended to the report.

"(See appended table)" refers to a table appended to the report.

Throughout this report a comma (point) is used as the decimal separator.

Remark:

1. Measurement was conducted at voltage 230VAC 50Hz and at a stable ambient temperature $25^{\circ}\text{C}\pm 1^{\circ}\text{C}$.
2. This report is based on original test report WTF21F01008664X1N, for updating information, and replaced report WTF21F01008664X1N
3. All models are similar except to model name, colour temperature and enclosure shape are different. Unless otherwise specified, all tests were performed on model 230092 to represent the other similar models.
4. Detail information for models covered in this report as below:

Item	Model	Ratings	CCT	LED Type	Driver
1	230092	100-277VAC, 50/60Hz, 100W	4000K	SMD 2835	---
2	230193EGB	100-277VAC, 50/60Hz, 100W	4000K	SMD 2835	---
3	230093EGB	100-277VAC, 50/60Hz, 100W	5000K	SMD 2835	---

LED specification:

Model / Series	Manufacturer	V_F (V)	I_F (mA)	CCT (K)	Viewing angle (Deg)
JK2835AWT-00-CC10-A00B0HN440Y (series:JK2835AWT-xx-xxxx-x0xBxxxxxx)	Cree Venture LED Company Limited.	5.8-6.6	150	2700-6500K	120°

Possible test case verdicts:

- test case does not apply to the test object: N (Not applicable)
- test object does meet the requirement: P (Pass)
- test object does not meet the requirement: F (Fail)



1 - GENERAL INFORMATION

1.1 Product Description for Equipment under Test (EUT)

General Description:

Product Type	LED FLOODLIGHT
Manufacturer	Shada BV
Product Model No.	230092
Product Brand Name	N/A
Rated Voltage/Frequency	100-277VAC, 50/60 Hz
Rated Power	100W
Nominal CCT.....	4000K

1.2 Information of LED Light Source(tested in IES LM-80 Test Report)

Model No.	JK2835AWT-00-0000-000B0HL227E (cover:JK2835AWT-xx-xxxx-x0xBxxxxxxx)
LED Type	SMD 2835
Manufacturer	Cree Venture LED Company Limited.
Nominal CCT.....	2700K
Total Number of Test Units	75 pcs (25 pcs for each temperature)
Total Test Duration	12000 hours
Tested Driver Current	150mA
First Case Temperature	55 °C
Second Case Temperature	85 °C
Third Case Temperature	105 °C

1.3 Reference Standard

IEC 60598-1:2020 Luminaires - Part 1: General requirements and tests

IES LM-84-14 Measuring Luminous Flux and Color Maintenance of LED Lamps, Light Engines, and Luminaires---Annex A: measurement of in-situ conditions LED case temperature

IES TM-21-11 Projecting Long Term Lumen Maintenance of LED Light Sources

IES LM-80-08 Approved Method: Measuring Lumen Maintenance of LED Light Source

IES LM-80-15 Approved Method: Measuring Luminous Flux and Color Maintenance of LED Packages, Arrays and Modules

1.4 Test Facility

The test facility used by Waltek Testing Group (Foshan) Co., Ltd. is located at No. 13-19, 2/F, 2nd Building, Sunlink International Machinery City, Chencun Town, Shunde District, Foshan, Guangdong, China.

1.5 Test Summary

In-situ temperature measurement test (ISTMT) for one sample using IEC 60598-1, including sections 12.4.1.

Statement confirming the measurement method follows IES LM-84-14 Annex A.



1.6 Test Equipment

Equipment	Model/Type	Cal. Due. Date
AC Power Source	ALL POWER APW-150	--
Power meter	YOKOGAWA WT310E	2024-01-05
Multimeter	FLUKE 15B	2024-01-05
Temperature Recorder	Agilent 34970A	2024-01-05

2 - Temperature Measurement Data

The samples were operated until constant temperatures were obtained. A temperature was considered constant if the sample was operating for at least three hours and upon three successive readings - taken at 15 minute intervals - were within one degree and were not rising.

Thermocouples were attached at locations described in the results by means of a cement made of water glass and Fuller's earth, solder, or epoxy.

3 - Life Measurement Data

Test Method:

Lumen maintenance life of LED light source and LED lamp or luminaire (if any) is the elapsed operating time over which an LED light source maintains a given percentage of its initial light output. L70 in this report is the time (in hours) when the light output from the LED has dropped to 70% of its initial output. A lumen maintenance test report of LED light sources was provided by client to calculate the lumen maintenance life according to IES TM-21-11.

The LED light source is LED package, array, or module which is tested in IES LM-80 test report. Final product means LED lamp or luminaire which the LED light source will be included. Ts is the temperature of the thermocouple attachment point on the LED light source package as defined by the manufacturer of the LED light source. The in situ temperature of LED light source used in final product was used to calculate the lumen maintenance life of final product, if any.

Reported L70: For a sample size of 20 units or more, luminous flux values must not be projected beyond 6 times the total test duration (in hours) of measured data. For a sample size of 10 units to 19 units, luminous flux values must not be projected beyond 5.5 times the total test duration of measured data.

All test data used in this report is from report No.: CLJ-LM80-4 REV 7 which is issued by Shenzhen Betop (Laboratory), issue date: 2019-12-09.



4 - Appended-Test Data Sheet

4.1 ISTMT Test Result of Product

Ambient Temperature, °C :	25±1°C	Relative Humidity, % :	65%
Supply voltage:	230 V / 50 Hz	Type of thermocouples:	J
Test Product Model.	230092		
Test LED Model.	JK2835AWT-00-CC10-A00B0HN440Y		
Test LED Driver Model.	---		
Number of Driver / Product	One Lamp with a power supply		
Test Duration	≥3.5Hours		
Sample number	Test Location	Location Description	Test Result at 25°C (°C)
#1	101	Temperature for LED #1	67.9
	102	Temperature for LED #2	65.5
	103	Temperature for LED #3	65.7
	104 (Tc)	Temperature for LED Driver	62.9
LED drive current (Forward current of LEDs)*		63.4mA	
<p>*Note: Test instructions for Forward current of LEDs as below: There is one LED array connected in parallel within the product. Within each LED array, there are 29 strings connected in parallel. Within each strings, there are 9 LED chips connected in series. In total there are 261 LED chips used in the product. The average output current of driver measured by a multimeter is 1840mA. There is one LED array in parallel, and each LED array has 29 strings connected in parallel. Therefore, the current of each string is calculated to be 63.4mA (1840/29), which is the average forward current of LEDs. The current is the result of indirect test and calculation.</p>			



4.2 Test Data of LED Light Source

Test Data for 55°C Case Temperature		Test Data for 85°C Case Temperature		Test Data for 105°C Case Temperature	
Time (hours)	Lumen Maintenance (%)	Time (hours)	Lumen Maintenance (%)	Time (hours)	Lumen Maintenance (%)
0	100.00%	0	100.00%	0	100.00%
1000	99.94%	1000	99.80%	1000	99.63%
2000	99.64%	2000	99.39%	2000	99.10%
3000	99.24%	3000	98.90%	3000	98.51%
4000	98.93%	4000	98.51%	4000	98.05%
5000	98.72%	5000	98.23%	5000	97.63%
6000	98.47%	6000	97.86%	6000	97.14%
7000	98.27%	7000	97.54%	7000	96.77%
8000	98.10%	8000	97.26%	8000	96.35%
9000	97.92%	9000	96.98%	9000	95.95%
10000	97.64%	10000	96.69%	10000	95.59%
11000	97.38%	11000	96.39%	11000	95.23%
12000	97.11%	12000	96.08%	12000	94.87%

4.3 Calculate Result of LED Light Source

Report at each LM-80 Test Condition					
Description of LED Light Source Tested (manufacturer, model, catalog number)		Manufacturer: Cree Venture LED Company Limited. Model: JK2835AWT-00-0000-000B0HL227E Multiple model: JK2835AWT-xx-xxxx-x0xBxxxxxxx LM-80 report number: CLJ-LM80-4 REV 7			
Test Condition 1 - 55°C Case Temp		Test Condition 2 - 85°C Case Temp		Test Condition 3 - 105°C Case Temp	
Sample size	25	Sample size	25	Sample size	25
Number of failures	0	Number of failures	0	Number of failures	0
DUT drive current used in the test (mA)	150	DUT drive current used in the test (mA)	150	DUT drive current used in the test (mA)	150
Test duration (hours)	12,000	Test duration (hours)	12,000	Test duration (hours)	12,000
Test duration used for projection (hour to hour)	6,000 - 12,000	Test duration used for projection (hour to hour)	6,000 - 12,000	Test duration used for projection (hour to hour)	6,000 - 12,000
Tested case temperature (°C)	55	Tested case temperature (°C)	85	Tested case temperature (°C)	105
α	2.308E-06	α	3.024E-06	α	3.962E-06
B	0.999	B	0.996	B	0.995
Calculated L70(12k) (hours)	154,000	Calculated L70(12k) (hours)	117,000	Calculated L70(12k) (hours)	89,000
Reported L70(12k) (hours)	>72000	Reported L70(12k) (hours)	>72000	Reported L70(12k) (hours)	>72000



4.4 Calculate Result of Product

Model: 230092	
In-Situ Inputs	
Drive current for each LED package/array/module (mA):	63.4
In-situ case temperature (T _c , °C):	67.9
Percentage of initial lumens to project to (L ₇₀):	70
Results	
Time (t) at which to estimate lumen maintenance (hours):	50,000
Lumen maintenance at time (t) (%):	87.57%
Calculated L70 (hours):	136,000
Reported L70 (hours):	>72000
Interpolation Report (projection based on <i>in-situ</i> temperature entered)	
T _{s,1} (°C)	55.00
T _{s,1} (K)	328.15
α ₁	2.308E-06
B ₁	0.999
T _{s,2} (°C)	85.00
T _{s,2} (K)	358.15
α ₂	3.024E-06
B ₂	0.996
E _a /k _b	1.06E+03
A	5.812E-05
B ₀	0.998
T _{s,i} (°C)	67.90
T _{s,i} (K)	341.05
α _i	2.607E-06
Projected L70(12k) at 67.9°C (hours)	136,000
Reported L70(12k) at 67.9°C (hours)	>72000
Additional Results(Note: B value means the failure data at the L data.)	
Projected L80 (hours):	85,000
Reported L80 (hours):	>72000
Projected L90 (hours):	40,000
Reported L90 (hours):	40,000
Projected L70B50 (hours):	136,000
Reported L70B50 (hours):	>72000



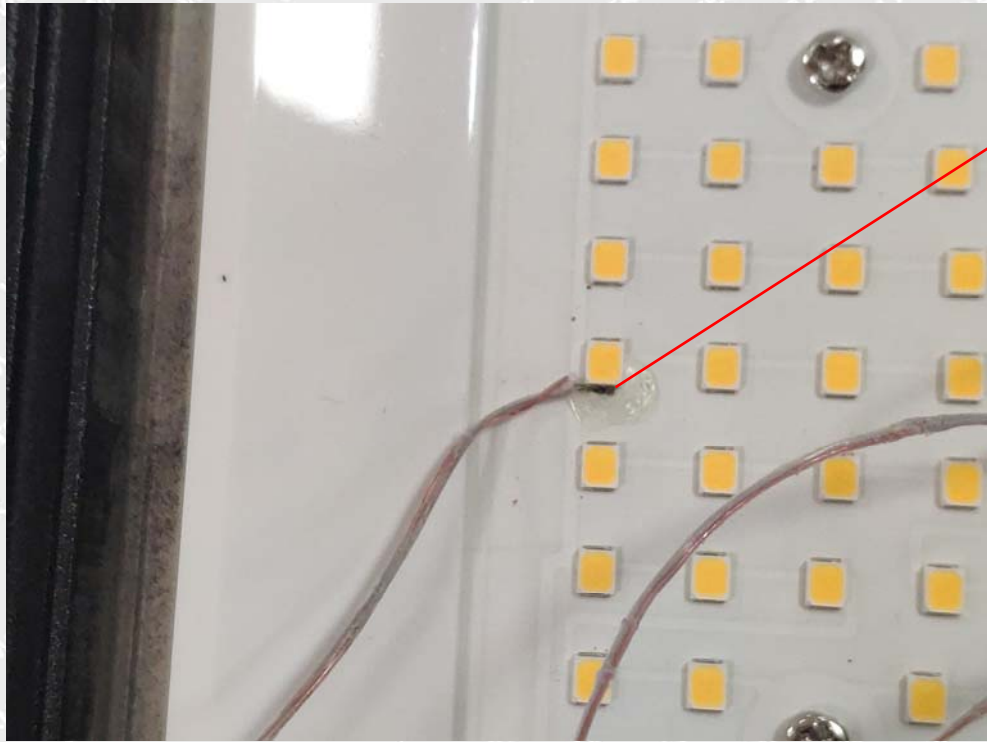
Projected L70B10 (hours):	111,000
Reported L70B10 (hours):	>72000
Projected L80B10 (hours):	70,000
Reported L80B10 (hours):	67,000
Projected L80B20 (hours):	76,000
Reported L80B20 (hours):	68,000
Projected L90B10 (hours):	33,000
Reported L90B10 (hours):	33,000

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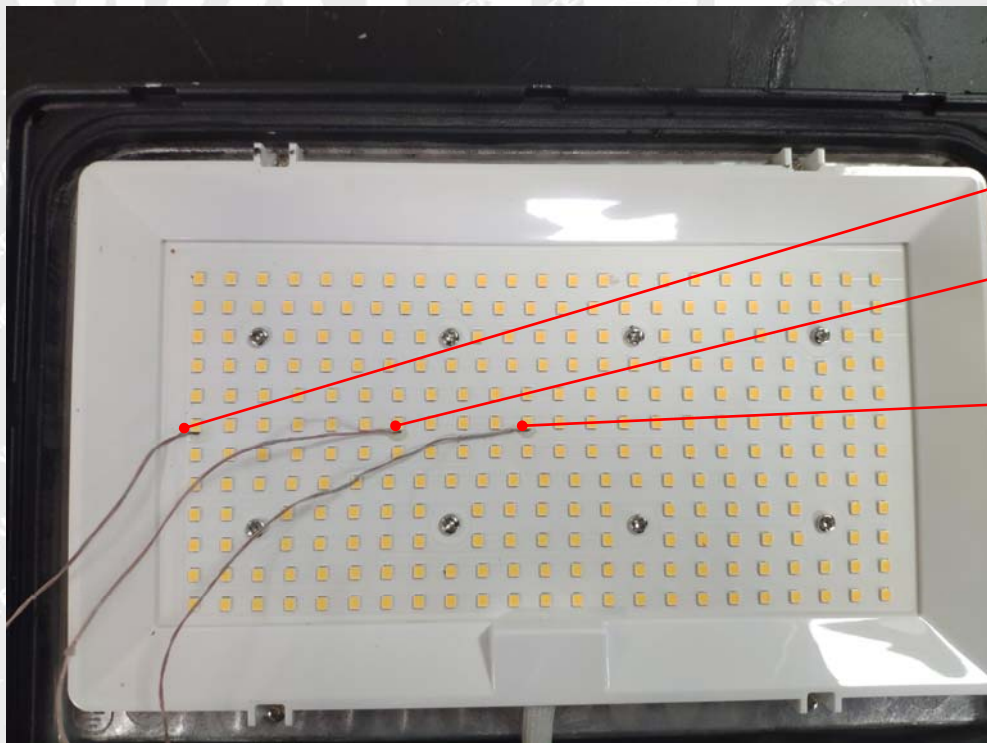
Attachment 1: Photo document

Model: 230092



Ts

Photo 1



101

102

103

Photo 2



Photo 3



Photo 4

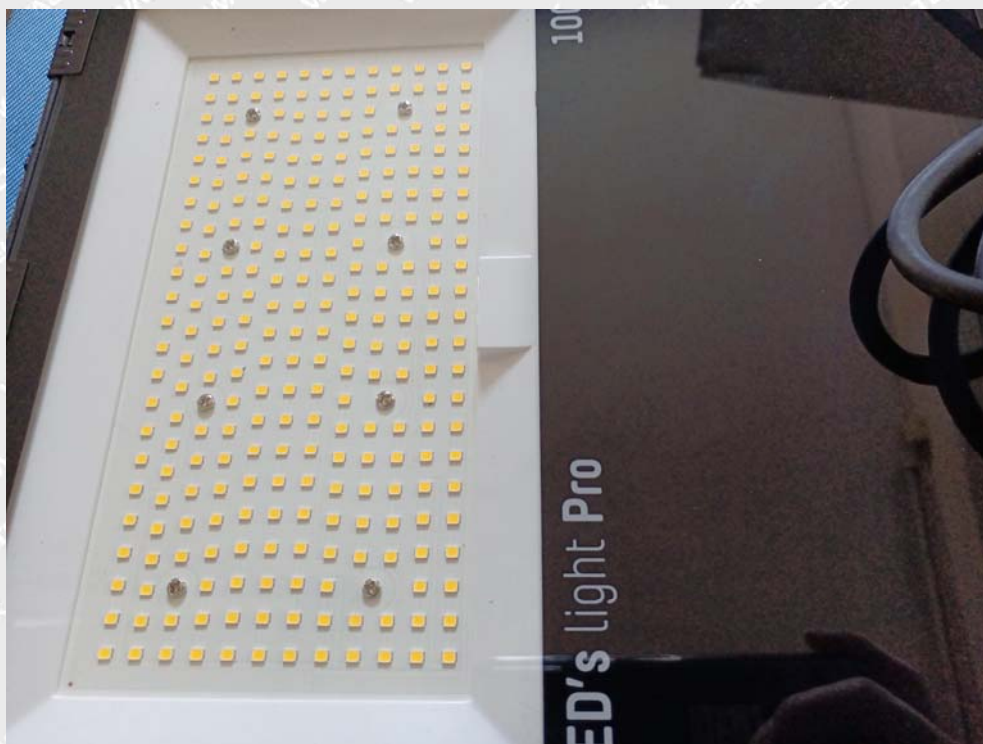


Photo 5

===== End of Report =====

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