






TEST REPORT

Kunde: <i>Client:</i>	Shenzhen Unicorn Lighting Co, Ltd.
Adresse: <i>Address:</i>	5F, Bld. 1, Zhongsheng Mansion, 99 Longguan West Road, Dalang, Longhua District, Shenzhen
Hersteller: <i>Manufacturer:</i>	Shenzhen Unicorn Lighting Co, Ltd.
Adresse: <i>Address:</i>	5F, Bld. 1, Zhongsheng Mansion, 99 Longguan West Road, Dalang, Longhua District, Shenzhen
Name der Marke: <i>Brand Name:</i>	N/A
Beschreibung des Produkts: <i>Product Description:</i>	LED STREET LIGHT
Modelle: <i>Models:</i>	ST040PE
Bewertung: <i>Rating:</i>	AC100-277V, 50/60Hz, 40W
Gegenstand der Prüfung: <i>Test item:</i>	ISTMT+TM21 Test
Verfahren: <i>Method:</i>	According to requirement clause 12.4.1 of IEC 60598-1:2020
Prüfergebnis*: <i>Test result*:</i>	Pass

Wareneingangsdatum: <i>Date of sample receipt:</i>	Datum der Prüfung: <i>Date of Test:</i>	Datum der Emission: <i>Date of Issue:</i>	Klassifizierung: <i>Classification:</i>
2025-03-25	2025-03-25	2025-04-11	Commission Test

Prüflabor (Testlabor) / Testing Laboratory:
Shenzhen Southern LCS Compliance Testing Co., Ltd.
Room 101-201, Building 39, Xialang Industrial Zone, Heshuikou Community, Matian Street, Guangming District, Shenzhen, Guangdong, China

Test von/Test by:  Rose Cao / Project Engineer	Check von/Check by:  Torres He / Director	Genehmigt von/Approved by:  Jesse Liu / Manager
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Modified Information

Version	Report No.	Revision Date	Summary
V1.0	LCSB03245008S	/	Original Version

General product information:

- Measurement was conducted at a stable ambient temperature 40° C±2°C

Model List:

Item	Model	Rating
1	ST040PE	AC100-277V, 50/60Hz, 40W

LED specification:

Model/Series	Manufacturer	VF (V)	IF (mA)
JR5050 24-V Q CLASS	Cree Venture LED Company Limited	23.68-23.77V	150mA

Equipment list:

Equipment No.	Equipment Name	Specification data	Cal. Date
SLCS-S-004	Digital Power Meter	YOKOGAWA/ WT210 / 91L424211	2024/5/6
SLCS-S-011	Thermocouple	DE AO/J	2024/4/29
SLCS-S-210	Temperature rising recorder	34972A	2024/5/6
SLCS-S-102	Aging House	LA-201207002	2024/12/22





1. GENERAL INFORMATION

1.1 Product Information

Information of product:	
Product description	LED STREET LIGHT
Model Number	ST040PE
Manufacturer of LED Driver	Guangdong Sosen Power Technology Co., Ltd
LED Driver models	SS-40VH-E54B
Rated Inputs	AC100-277V, 50/60Hz
Rated Power	40W
Declared CCT.	4000K
LED Package, Array or Module	2S16P, total 32pcs LED chip(s)
Date of Receipt Samples	2025-03-25
Quantity of Receipt Samples	1 unit
Information of LED chip:	
LED Chip Manufacturer	Cree Venture LED Company Limited
LED type	LED Package
Model of the LED chip(s)	JR5050 24-V Q CLASS
Forward voltage of the LED chip	23.68-23.77V
Forward current of the LED chip	150mA
ISTMT temperature of the LED chip	105°C
IES LM-80 Test Report	Report Number: CLJ-LM80-006 REV 12 Issue Date: 2025-01-20 Tested and Prepared By: CREE





1.2 Reference Standards or Methods

According to requirement clause 12.4.1 of IEC 60598-1:2020

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.

2. Test Result of ISTMT

2.1 Electrical data

Criteria Item	Result
Input voltage	230Vac, 50Hz
Input current	0.181A
Total power	40.7W
Power factor	0.973
Current on each LED module	48.88mA
Remark: There are 2S16P, total 32 pcs LED chip(s) in models ST040PE, That we are measurement the total current of driver output was 782mA, and current on each parallel was 48.88mA (782mA/16=48.88mA), Because in each series that the forward current on each LED chip(s) was equivalent, so forward current on each LED chip(s) was 48.88mA.	

2.2 Temperature data

Ambient Temperature, °C :	40±2°C	Relative Humidity, %Rh :	45%Rh~75%Rh	
Supply voltage:	230Vac, 50Hz	Type of thermocouples:	J	
Test Product Model	ST040PE			
Test LED Model	JR5050 24-V Q CLASS			
Test LED Driver Model	SS-40VH-E54B			
Test Duration	≥3.5Hours			
Item	Parts	Test Result (°C)	Revise to ta. (°C)	Limit (°C)
1	Measured maximum Temperature @ TEMLED	60.5	60.4	105
2	tc of LED driver	63.4	63.3	90
3	Ambient	40.1	40.0	--



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Add: Room 101-201, Building 39, Xialang Industrial Zone, Heshuikou Community, Matian Street, Guangming District, Shenzhen, Guangdong, China

Tel: +(86) 0755-29871520 | E-mail: webmaster@lcs-cert.com | Web: www.lcs-cert.com

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3. Lumen Maintenance Projection (IESNA TM-21-11 Method)

3.1 LM-80 report summary for LED chip(s)

Manufactured by	Cree Venture LED Company Limited		
LED Model	JR5050 24-V Q CLASS		
Number of LED light source tested	20 Units		
Drive Current	150mA		
Case temperature	85°C	105°C	--
18144 hours lumen maintenance	97.42%	98.26%	--
18144 hours color maintenance ($\Delta u'v'$)	0.0029	0.0025	--

3.2 Lumen Maintenance Projection for luminaires

Test data from LM-80 report CLJ-LM80-006 REV 12 was referenced to calculate the lumen maintenance life according to IES TM-21-11.

Sample No.	Calculated L ₇₀	Calculated L ₈₀
1	226000	141000
2	235000	151500
3	223000	139000
4	222000	138500
5	215000	135000
6	234000	144000
7	223600	139500
8	227000	141000
9	228900	142500
10	223700	139000
11	223000	140000
12	215000	133000
13	210700	131600
14	235700	149700
15	237000	146500
16	228700	146000
17	237000	148000
18	229000	143000
19	211700	131800
20	212500	132000

Projected from calculated L₇₀B₁₀: L₇₀B₁₀=179000 hours

Projected from calculated L₈₀B₁₀: L₈₀B₁₀=112000 hours



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4. Photos

4.1 Thermocouple contact photo of @ TEM_{LED}

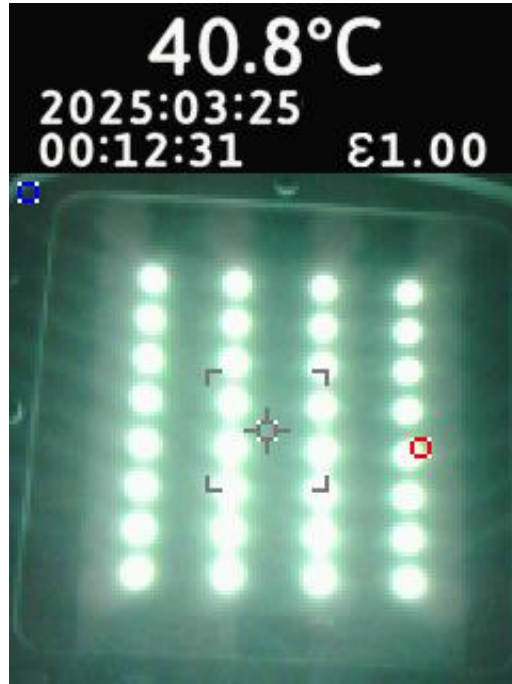


Figure 1

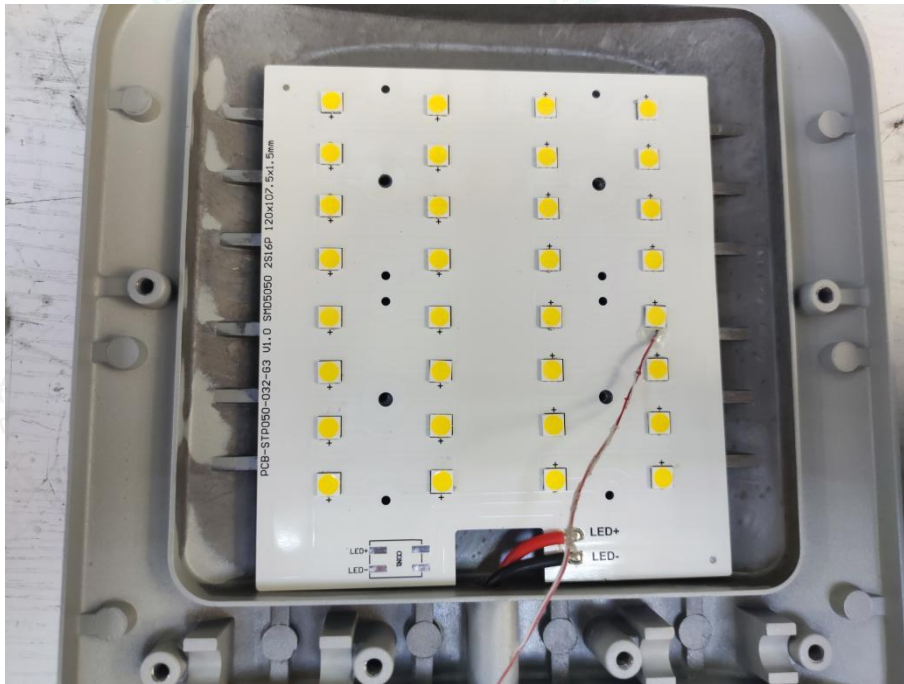


Figure 2



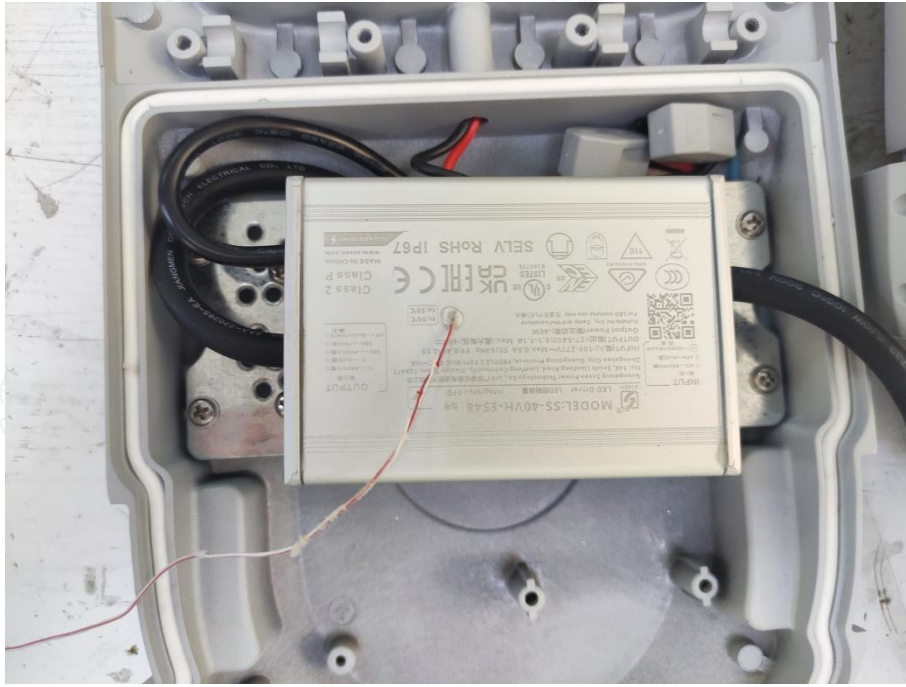


Figure 3

4.2 Product Photos



Photo 1



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Photo 2



Photo 3 (Label)

----- End of test report -----

