

## In Situ Temperature Measurement Test Report

For

### LIGHT EFFICIENT DESIGN

(Brand Name: N/A)

188 S. Northwest Highway Cary, IL60013

### Replacement Lamps for Outdoor Pole/Arm-Mounted Area and Roadway Luminaires (UL Type B)

Model name(s): LED-8089MXX

Remark: "XX" in the model name represents CCT as below:

40=4000K,50=5000K

Representative (Tested) Model: LED-8089M40

Model Different: All construction and rating are the same, except CCT

Test & Report By:

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Date: Mar.28,2017

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Note: This report does not imply product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government.

Laboratory: Standard-Tech Co. Ltd Testing Center  
NVLAP CODE: 201011-0

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# 1 General

## 1.1 Product Information

Brand Name	N/A
Model Number	LED-8089MXX
Luminaire Type	Replacement Lamps for Outdoor Pole/Arm-Mounted Area and Roadway Luminaires (UL Type B)
Nominal Power	80W
Rated Initial Lamp Lumen	--
Declared CCT	4000K,5000K
LED Manufacturer	SAMSUNG
LED Model	SPMWHT327FXXXXXXXXXX
Sample Receipt Date	Mar.10,2017
Sample Number	GZE170301-H-L1(4000K)

**Photo**



## 1.2 Standards or methods

The following standards are partly or totally used or referenced for test:

No.	Name
ANSI/UL 1598:2008	Luminaires

## 1.3 Equipment list

Equipment ID	Equipment Name	Last Calibration Date	Next Calibration Date
ST-R-049	Power Meter	2016-07-07	2017-07-06
ST-R-401	Temperature Tester	2017-01-29	2018-01-28

# 2 Test conducted and method

## 2.1 Ambient Condition

Test was conducted in an ambient temperature of  $25 \pm 5^\circ\text{C}$ . Ambient temperature variations above or below  $25^\circ\text{C}$  was subtracted from or added to temperatures recorded at points on the luminaire.

The ambient temperature was measured by a thermocouple which was immersed in 15ml of mineral oil in a glass container.

## 2.2 Temperature Stabilization

Temperatures were measured after they have stabilized when the test has been running for a minimum of 7.5 hours, or the test has been running for a minimum of 3 hours and three successive reading taken at 15 minutes intervals are with  $1^\circ\text{C}$  of another and are not rising.

## 2.3 Thermocouples

Type J thermocouple was used for temperature measurement. The thermocouple was 0.05mm<sup>2</sup>(30AWG), and complied with the requirements specified in ASTM MNL 12 and limits of error specified in NIST ITS 90 and ISA MC96.1.

## 2.4 Thermocouples contact

Thermocouples were in contact with the TMP LED location described in LM-80 test report. In order to gain the maximum temperature, if appropriate, more than one thermocouple were contact in these locations. For details information, please refer to clause 3.3 for the photo of thermocouple contact.

### 3 Test Results

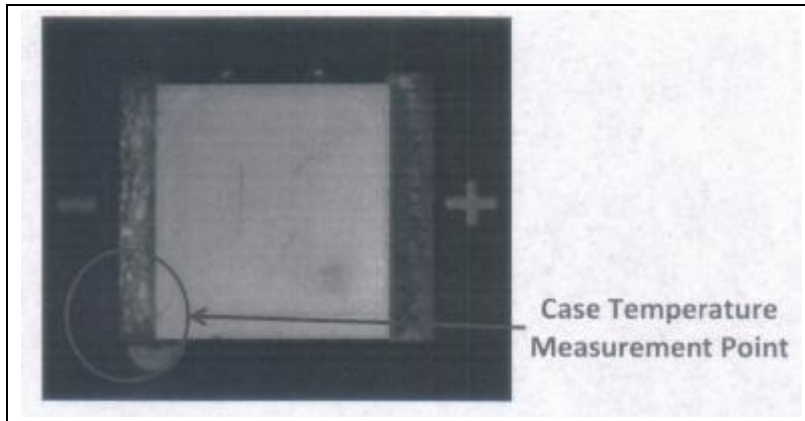
Test date	2017-03-22	Test Ambient	25.1 °C
Sample No.		LED Package Model	
GZE170301-H-L1		SPMWHT327FXXXXXXXXX	
LED driver of Each Lamp	Output voltage V	Measured LED working current (Max.) mA	
1	69.5	89.7	

#### 3.1 Test Data In GE M250R2 Roadway Lamp:

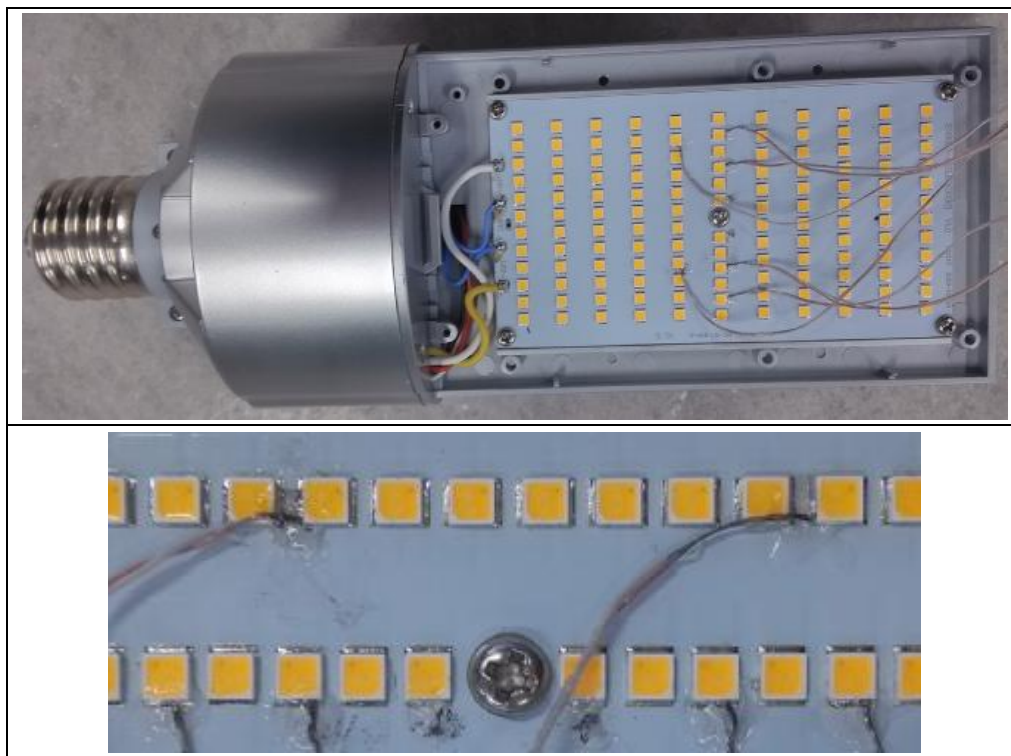
Input Vol.	120.0V	Input Current	0.6606A	Input Wattage	78.03W	Temperature stabilization time:	500 min	
No.	Temperature (°C)		No.	Temperature (°C)		No.	Temperature (°C)	
	Measured	Corrected at 25°C		Measured	Corrected at 25°C		Measured	Corrected at 25°C
1	65.4	65.3	3	64.8	64.7	5	65.1	65.0
2	66.2	66.1	4	65.7	65.6	6	64.5	64.4
The highest in-situ measured temperature LED is 66.1°C								

#### 3.2 Test Photo:

Ts Position:



Thermocouple Location on Temperature Measurement Point (TMP):





### Results

Time (t) at which to estimate lumen maintenance (hours):	50,000
Lumen maintenance at time (t) (%):	92.13%
Reported L70 (hours):	>36000

\*\*\*\*\* END OF THE TEST REPORT\*\*\*\*\*