

## **In Situ Temperature Measurement Test Report**

For

# **LIGHT EFFICIENT DESIGN, LLC**

**(Brand Name: LIGHT EFFICIENT DESIGN)**

188 S.Northwest Highway, Cary, IL60013, USA

### **LED Luminaires**

Model name(s): LED-8089M50C-G5

Representative (Tested) Model: LED-8089M50C-G5

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

Test & Report By:

*Garman Mo*

Engineer: Garman Mo

Date: Sep.11,2019

Review By:

*Johnson Sun*

Manager: Johnson Sun

Note: 1.The results contained in this report pertain only to the tested samples.

2.This report does not imply product certification, approval, or endorsement by A2LA, or any agency of the Federal Government.

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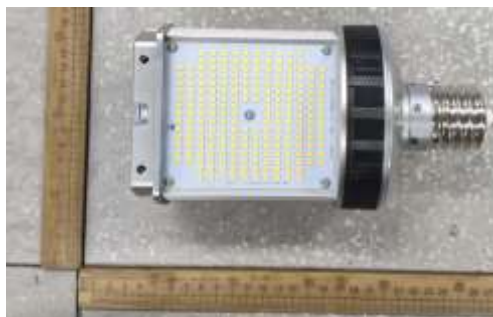
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# 1 General

## 1.1 Product Information

Brand Name	LIGHT EFFICIENT DESIGN
Model Number	LED-8089M50C-G5
Luminaire Type	LED Luminaires
Nominal Power	80W
Rated Initial Lamp Lumen	--
Declared CCT	5000K
LED Manufacturer	Samsung Electronics Co., LTD
LED Model	SPMWHx228xxxxxxxxxx
Sample Receipt Date	Aug.25,2019
Sample Number	JBE190712-H-M1

### 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-411	Power Meter	2019-06-27	2020-06-26
ST-R-401	Temperature Tester	2019-01-24	2020-01-23

## 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

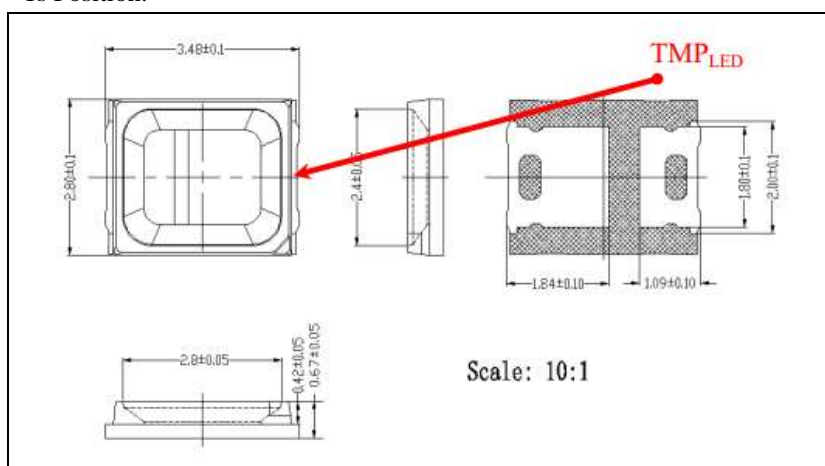
Test date	2019-08-26	Test Ambient	25.1 °C
Sample No.		LED Package Model	
JBE190712-H-M1		SPMWHx228xxxxxxxxxx	
LED driver of Each Lamp	Output voltage V	Measured LED working current (Max.) mA	
1	55.0	112.6	

#### 3.1 Test Data:

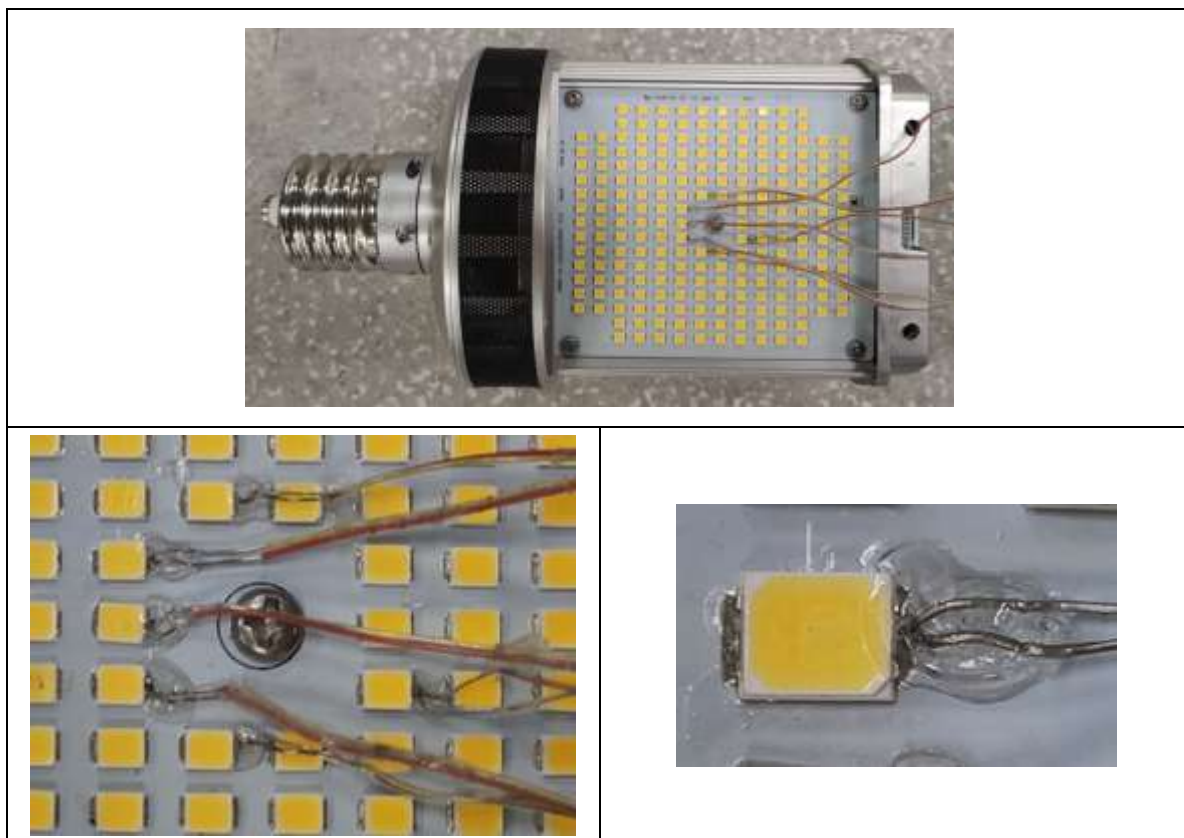
Input Vol.	277.0V	Input Current	0.3124A	Input Wattage	82.33W	Temperature stabilization time:	500 min	
No.	Temperature (°C)		No.	Temperature (°C)		No.	Temperature (°C)	
	Measured	Corrected at 25°C		Measured	Corrected at 25°C		Measured	Corrected at 25°C
1	63.9	63.8	3	63.5	63.4	5	64.1	64.0
2	62.4	62.3	4	64.8	64.7	6	62.6	62.5
The highest in-situ measured temperature LED is 64.7°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) (%):	82.40%
Reported L70 (hours):	>36000

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

**Laboratory: Standard-Tech Co., Ltd. Testing Center**

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