



Report No.: GZE160848-B1

In Situ Temperature Measurement Test Report

For

GL LED LLC

5F, Bld 5, Ji 'AnTai Hi-tech Park, Fuqiao 1st Zone, Qiaotou of Fuyong, Bao'an District, Shenzhen 518103, China

2x2 Luminaires for Ambient Lighting of Interior Commercial Spaces

Model name(s): GL-PL-22-40W

Representative (Tested) Model: GL-PL-22-40W (3500K)

Model Different: N/A

Test & Report By:

Garman Mo

Engineer: Garman Mo

Date: Sept 13, 2016

Review By:

Tommy Liang

Manager: Tommy Liang

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

Report Format Number STD/QR4918-A/0

Address: Standard-Tech Building, No.6 Guanhong Road, Guangzhou Science City, Guangzhou 510663, China

Tel: 8620-3229 0320

Fax: 8620-32290422

<http://www.standard-tech.com>



Table of Contents

1 General	3
1.1 Product Information	3
1.2 Standards or methods	4
1.3 Equipment list	4
2 Test conducted and method	4
2.1 Ambient Condition	4
2.2 Temperature Stabilization	4
2.3 Thermocouples	5
2.4 Thermocouples contact	5
3 Test Results	6
3.1 Data:	6
3.2 Test Photo:	6

Laboratory: Standard-Tech Co. Ltd Testing Center

NVLAP CODE: 201011-0

Report Format Number STD/QR4918-A/0

Address: Standard-Tech Building, No.6 Guanhong Road,Guangzhou Science City, Guangzhou 510663, China

Tel: 8620-3229 0320

Fax: 8620-32290422

<http://www.standard-tech.com>

1 General

1.1 Product Information

Brand Name	GL LED
Model Number	GL-PL-22-40W
Luminaire Type	2x2 Luminaires for Ambient Lighting of Interior Commercial Spaces
Nominal Power	40W
Rated Initial Lamp Lumen	--
Declared CCT	3500K,4000K,4500K,5000K
LED Manufacturer	EVERLIGHT ELECTRONICS CO., LTD
LED Model	67-21S Series (3000K)
Sample Receipt Date	Sept.04,2016
Sample Number	GZE160848-B1

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
PF210	Power Meter	2016-07-01	2017-06-30
ST-R-181A	Temperature Tester	2016-07-01	2017-06-30

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°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°C of another and are not rising.



2.3 Thermocouples

Type J thermocouple was used for temperature measurement. The thermocouple was 0.05mm²(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

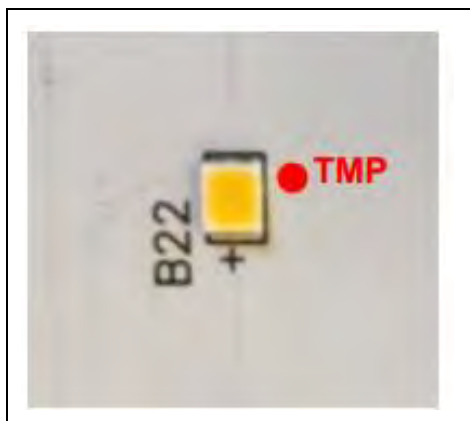
Test date	2016-09-05	Test Ambient	25.1 °C
Sample No.		LED Package Model	
GZE160848-B1		67-21S Series (3000K)	
LED driver of Each Lamp	Output voltage V	Measured LED working current (Max.) mA	
1	33.9	38.7	

3.1 Test Data In:

Input Vol.	120.0V	Input Current	0.3406A	Input Wattage	40.63W	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	47.6	47.5	3	46.2	46.1	5	48.8	48.7
2	49.5	49.4	4	48.1	48.0	6	46.7	46.6
The highest in-situ measured temperature LED is 49.4°C								

3.2 Test Photo:

Ts Position:



Thermocouple Location on Temperature Measurement Point (TMP):

Laboratory: Standard-Tech Co. Ltd Testing Center

NVLAP CODE: 201011-0

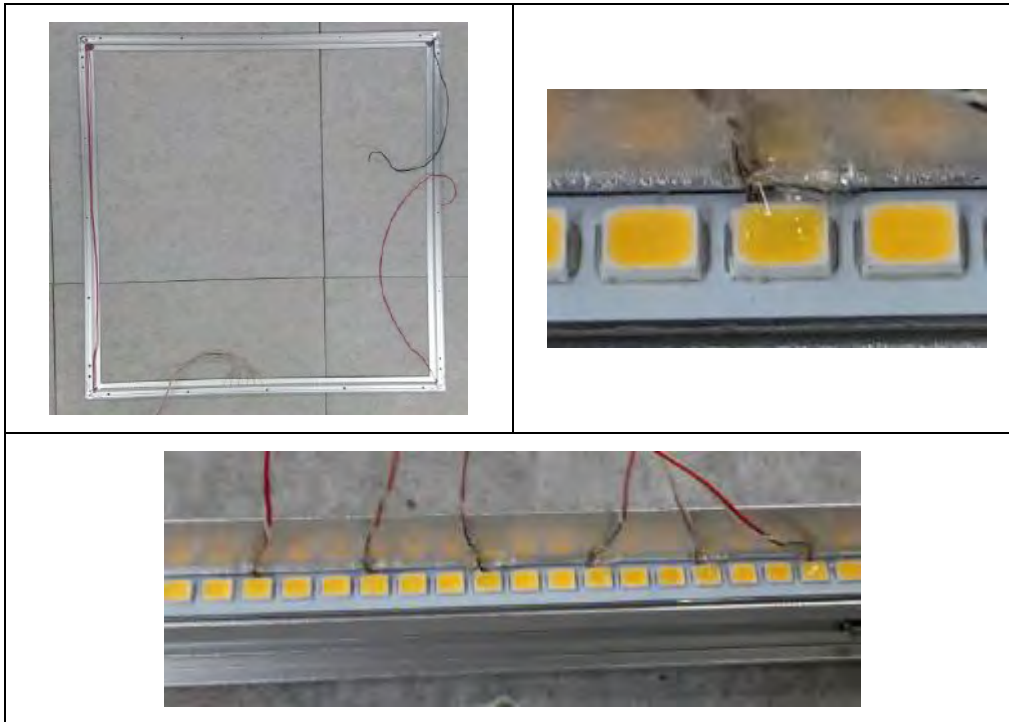
Report Format Number STD/QR4918-A/0

Address: Standard-Tech Building, No.6 Guanhong Road, Guangzhou Science City, Guangzhou 510663, China

Tel: 8620-3229 0320

Fax: 8620-32290422

<http://www.standard-tech.com>



Results

Time (t) at which to estimate lumen maintenance (hours):	50,000
Lumen maintenance at time (t) (%):	87.20%
Reported L70 (hours):	>54000

Results

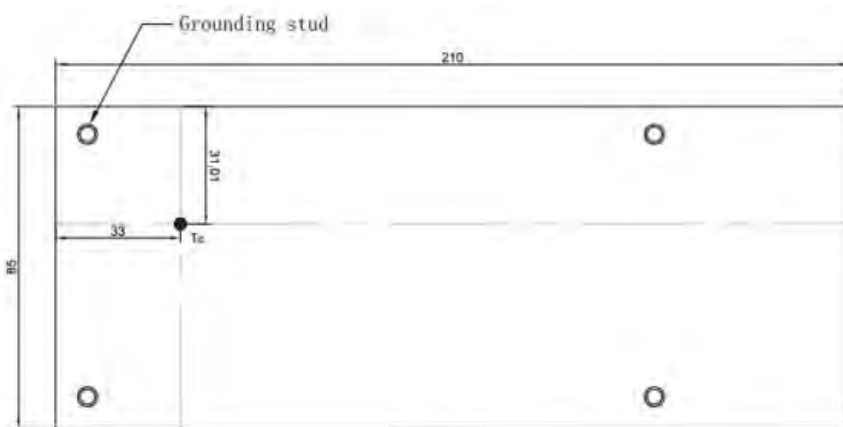
Time (t) at which to estimate lumen maintenance (hours):	36,000
Lumen maintenance at time (t) (%):	91.03%
Reported L90 (hours):	40,000

3.3 Test Data of LED Driver:

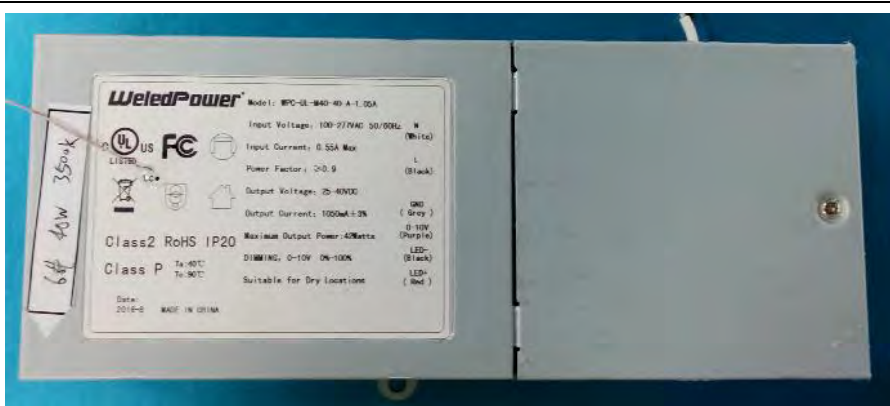
Input Vol.	120.0V	Input Current	0.3406A	Input Wattage	40.63W	Temperature stabilization time:	500 min
No	Measured TC Temperature (°C)			Temperature Limited of Life \geq 50000 hours			
	Measured		Corrected at 25°C				
1	50.6		50.5	55			

3.4 Test Photo:

Thermocouple Location on Temperature Measurement Point (TMP):



TC unit: mm



Tc (°C)	25	30	35	40	45	50	55
Lifespan (KHours)	120	120	120	120	105	74	52

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