



## In Situ Temperature Measurement Test Report

For

### LIGHT EFFICIENT DESIGN

(Brand Name: REMPHOS OR LIGHT EFFICIENT DESIGN)

188 S. Northwest Highway Cary, IL 60013, USA

#### Model name(s):

**RP-LBI-G1-4F-25W-XXK-[WC,W,C]-[Blank,OCN]  
-[BAA,Blank]-2xYYY**

**Type of Luminaire:** Linear Retrofit Kits for 2x4 Luminaires  
**Report Date:** 2019-04-08  
Ningbo TengLi Testing Co., Ltd

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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.



## Table of Contents

1 General .....	3
1.1 Product Information: .....	3
1.2 Rated Values: .....	3
1.3 Standards or methods .....	4
1.4 Equipment list .....	4
2 Test conducted and method .....	5
2.1 Ambient Condition .....	5
2.2 Temperature Stabilization .....	5
2.3 Thermocouples .....	5
2.4 Thermocouples contact .....	5
3 Test Results .....	6
3.1 Test Data in Lithonia 2PM3N 12 cell 2x4 parabolic: .....	6
3.2 Test Photo: .....	7
4. Product Photo .....	9



<b>1 General</b>		
<b>1.1 Product Information:</b>		
Model Number	RP-LBI-G1-4F-25W-XXK-[WC,W,C]-[Blank,OCN]-[BAA,Blank]-2xYYY	
Remark	[WC,W,C] represents product function, WC represents power adjustable and color turnable, W represents power adjustable, C represents color turnable. [Blank,OCN] represent sensor option, OCN represents occupancy sensor and N can be a number 1 to 4 for sensor number, Blank represents without sensor. [BAA,Blank] where Blank represent NON-BAA,BAA represents BAA Section 1605 Compliant.YYY can be three numbers or letters for different sheet metal naming.	
Representative (Tested) Model	RP-LBI-G1-4F-25W-XXK-WC-2xYYY(0%, 3500K), RP-LBI-G1-4F-25W-XXK-WC-2xYYY(100%, 5000K)	
Model Difference	All construction and rating are the same, except product function and sensor option.	
SKU (if available)	N/A	
Type of Luminaire (for integral lamps, list base type and lamp type)	Linear Retrofit Kits for 2x4 Luminaires	
LED Manufacturer	Hongli Zhihui Group Co., Ltd.	
LED Model	PU2835DW-S1-08-PCT-HR3	
Dimming	Dimmable	
Sample Number	JDE181007-BF1	
Date of Receipt	Apr.04, 2019	
Luminaire Aperture (for downlights)	--	in.
Luminaire Length	--	mm
Luminaires Width	--	mm
Number of Units (modular products)	N/A	s

<b>1.2 Rated Values:</b>	
Rated Voltage / Frequency	100-277Vac, 50/60Hz
Nominal Power	50W
Rated Initial Lamp Lumen	--
Declared CCT	3500K,4000K,5000K



### 1.3 Standards or methods

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

No.	Name
ANSI/UL 1598:2008	Luminaires

### 1.4 Equipment list

Equipment ID	Equipment Name	Last Calibration Date	Next Calibration Date
ST-R-704	Power Meter	2019-01-06	2020-01-05
ST-R-607	Temperature Tester	2019-01-06	2020-01-05



## **2 Test conducted and method**

### **2.1 Ambient Condition**

Test was conducted in an ambient temperature of  $25 \pm 5$  °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 0.05mm<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	2019-04-08	Test Ambient	25.1 °C
Sample No.		LED Package Model	
JDE181007-BF1(0%, 3500K)		PU2835DW-S1-08-PCT-HR3	
LED driver of Each Lamp	Output voltage V	Measured LED working current (Max.) mA	
1	42.8	21.4	

Test date	2019-04-08	Test Ambient	25.1 °C
Sample No.		LED Package Model	
JDE181007-BF1(100%, 5000K)		PU2835DW-S1-08-PCT-HR3	
LED driver of Each Lamp	Output voltage V	Measured LED working current (Max.) mA	
1	42.8	21.3	

#### 3.1 Test Data in Lithonia 2PM3N 12 cell 2x4 parabolic:

(0%, 3500K)

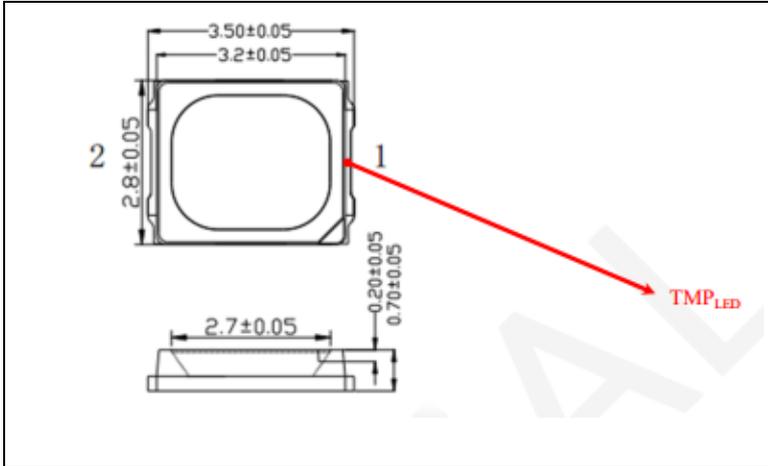
Input Vol.	120.0V	Input Current	0.4106A	Input Wattage	48.96W	Temperature stabilization time:	500 min	
No.	Temperature (°C)		No.	Temperature (°C)		No.	Temperature (°C)	
	Measured	Corrected at 25°C		Measured	Corrected at 25°C		Measured	Corrected at 25°C
1	51.1	51.0	2	51.9	51.8	3	51.5	51.4
The highest in-situ measured temperature LED is 51.8°C								

(100%, 5000K)

Input Vol.	120.0V	Input Current	0.4106A	Input Wattage	48.92W	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	49.5	49.4	2	48.9	48.8	3	49.2	49.1
The highest in-situ measured temperature LED is 49.4°C								

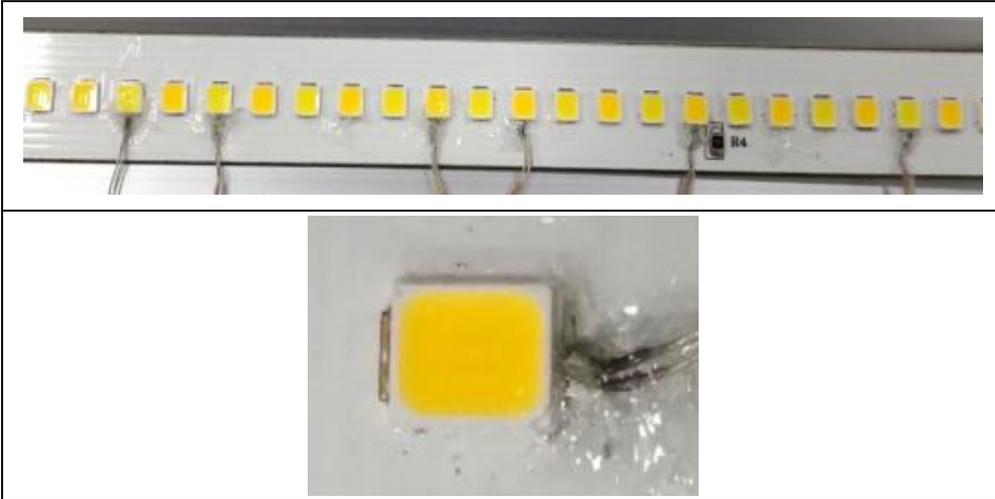
### 3.2 Test Photo:

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) (%):	92.62%
Reported L70 (hours):	>36000

#### 4. Product Photo



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