In Situ Temperature Measurement Test Report

For

Antec Lighting Inc

(Brand Name: AOK)

Uniy C, 3979 E Guasti Road, Ontario, CA 91761

Outdoor Pole/Arm-Mounted Area and Roadway Luminaires

Model name(s): AOK-200WoT-NV-L5-XX-XX70-T402-P

Remark: The first “XX” can be “00” for without sensor or “SN” for with sensor function or “PH” for Plug-In photocontrol, The last “XX” represents different CCT as below: 30=3000K,35=3500K,40=4000K,45=4500K,50=5000K,57=5700K.

Representative (Tested) Model: AOK-200WoT-NV-L5-00-3070-T402-P

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

Test & Report By:

Bill Luo

Engineer: Bill Luo

Date: Feb.26,2018

Review By:

Univ Xie

Manager: Univ Xie

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 NVLAP, NIST, or any agency of the Federal Government.

Table of Contents

1 General

1.1 Product Information

Brand Name	AOK
Model Number	AOK-200WoT-NV-L5-XX-XX70-T402-P
Luminaire Type	Outdoor Pole/Arm-Mounted Area and Roadway Luminaires
Nominal Power	200W
Rated Initial Lamp Lumen	--
Declared CCT	3000K
LED Manufacturer	Lumileds
LED Model	L150-3070502400000, L150-5770502400000
Sample Receipt Date	Dec.08,2017
Sample Number	GZE1711117-J1
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	2017-07-01	2018-06-30
ST-R-401	Temperature Tester	2018-01-29	2019-01-28

2 Test conducted and method

2.1 Ambient Condition

Test was conducted in an ambient temperature of 25±5℃. Ambient temperature variations above or below 25℃ 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℃ 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	2018-02-25	Test Ambient	25.1 °C
Sample No.		LED Package Model	
GZE1711117-I1		LUXEON 5050	
LED driver of Each Lamp	Output voltage V	Measured LED working current (Max.) mA	
1	46.0	49.5	

3.1 Test Data:

Input Vol.	120.0V	Input Current	1.7283A	Input Wattage	206.4W	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	57.7	57.6	3	56.8	56.7	5	56.4	56.3
2	58.0	57.9	4	55.5	55.4	6	57.1	57.0
The highest in-situ measured temperature LED is 57.9°C								

3.2 Test Photo:

Ts Position:

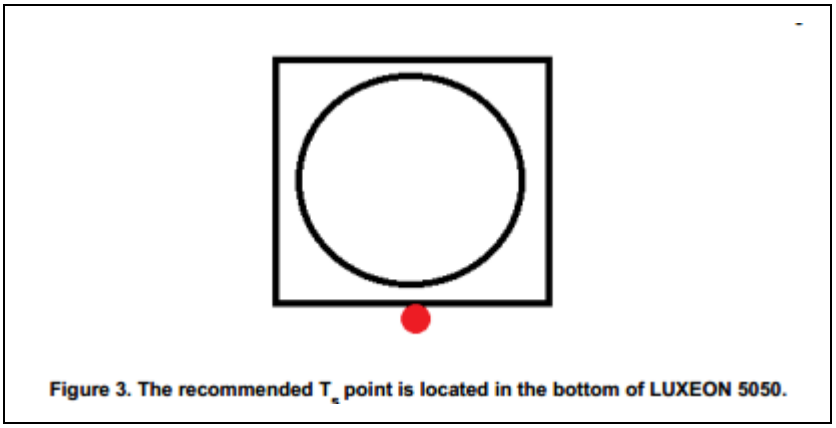
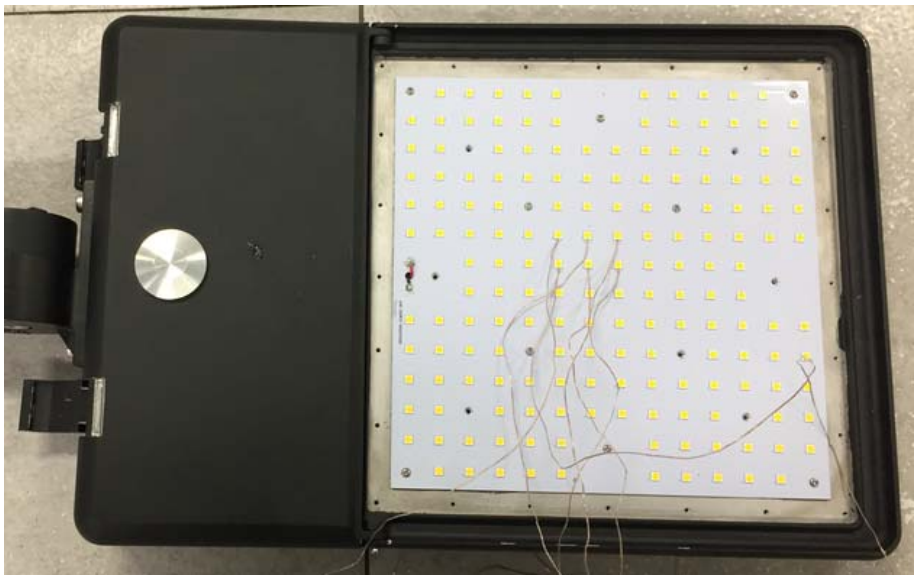
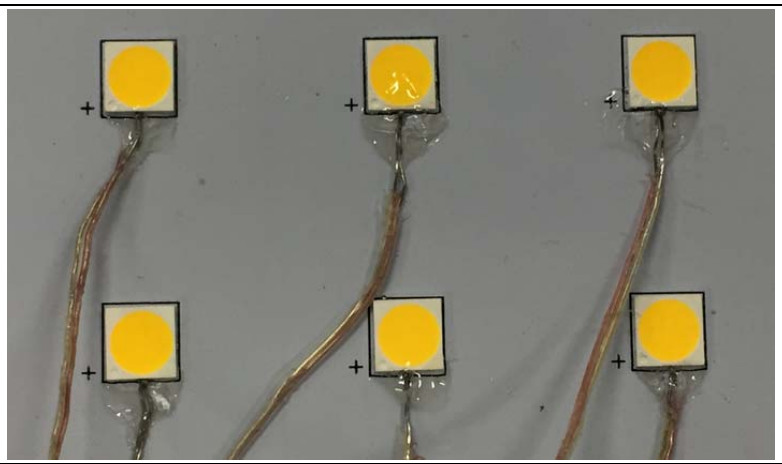
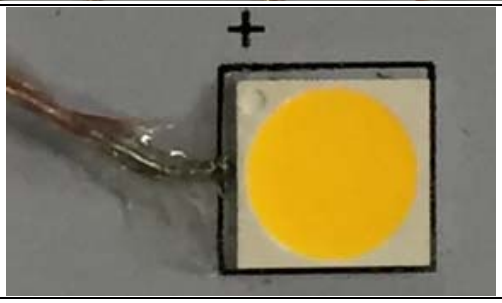


Figure 3. The recommended T_c point is located in the bottom of LUXEON 5050.

Thermocouple Location on Temperature Measurement Point (TMP):







Results

Time (t) at which to estimate lumen maintenance (hours):	50,000
Lumen maintenance at time (t) (%):	89.22%
Reported L70 (hours):	>36000

Results

Time (t) at which to estimate lumen maintenance (hours):	36,000
Lumen maintenance at time (t) (%):	92.20%
Reported L90 (hours):	>36000

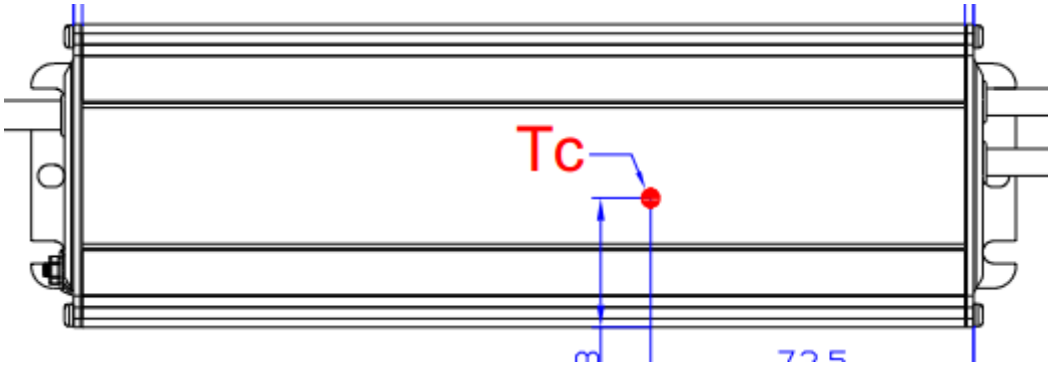
3.3 Test Data of LED Driver:

Input Vol.	120.0V	Input Current	1.7283A	Input Wattage	206.4W	Temperature stabilization time:	500 min

No	Measured TC Temperature (°C)		Temperature Limited of Life ⩾ 50000 hours
	Measured	Corrected at 25°C	
1	56.5	56.4	70

3.4 Test Photo:

Thermocouple Location on Temperature Measurement Point (TMP):



Lifetime	-	85,000 Hours	-	Measured at 220Vac input, 80%Load and 70°C case temperature; See lifetime vs. Tc curve for the details

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