



Report No.: GZE151161-B1

NVLAP LAB CODE 201011-0

In Situ Temperature Measurement Test Report

For

AOK LED Light Company Limited

(Brand Name: AOK)

Building 1, St George's Science and Technology Industrial Park, Shajin Street, Shenzhen, Guangdong
Province, China Zip 518104

Outdoor Pole/Arm-Mounted Area and Roadway Luminaires

Model name(s): AOK-180WiT

Representative (Tested) Model: AOK-180WiT (3000K)

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

Test & Report By:

Jack Luo

Engineer: Jack Luo

Date: 2015-12-30

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-C1/0

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>



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1 General

1.1 Product Information

Brand Name	AOK
Model Number	AOK-180WiT
Luminaire Type	Outdoor Pole/Arm-Mounted Areaand Roadway Luminaires
Rated Voltage / Frequency	100~ 240/277Vac, 50/60Hz
Nominal Power	180W
Rated Initial Lamp Lumen	--
Declared CCT	3000K,3500K,4000K,4500K,5000K,5700K
LED Manufacturer	Philips Lumileds
LED Model	LUXEON 3030 2D
Sample Receipt Date	2015-12-14
Sample Number	GZN151161-B1(3000K)

Photo



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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	2015-07-01	2016-06-30
ST-R-181A	Temperature Tester	2015-07-01	2016-06-30

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.

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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

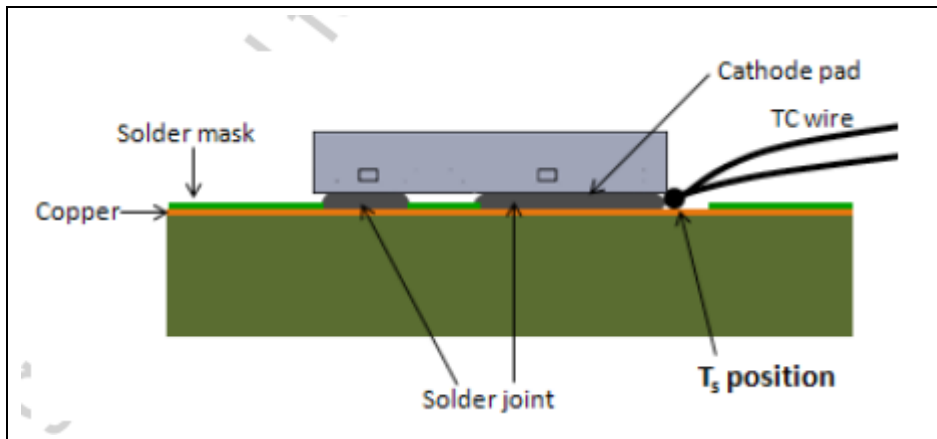
Test date	2015-12-30	Test Ambient	25.1 °C
Sample No.		LED Package Model	
GZN151161-B1		LUXEON 3030 2D	
LED driver of Each Lamp	Output voltage V	Measured LED working current (Max.) mA	
1	41.9	90.29	

3.1 Test Data:

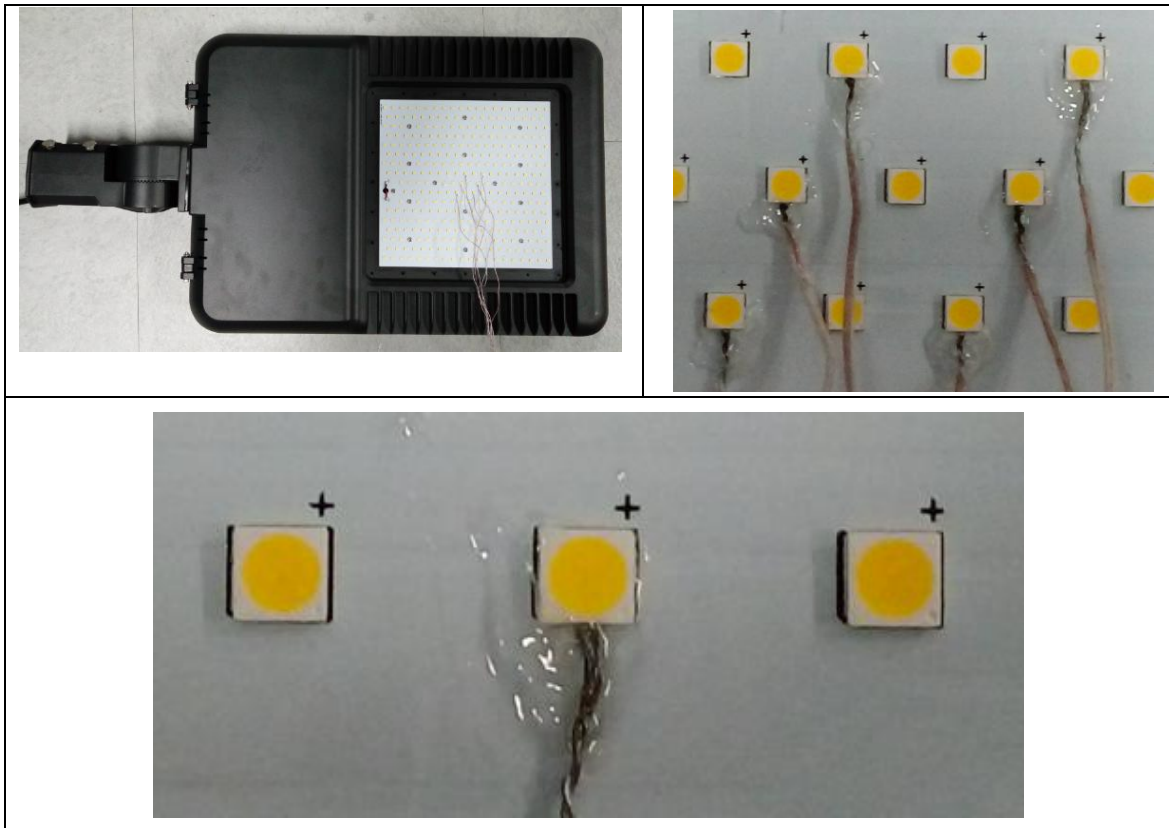
Input Vol.	120.0V	Input Current	1.508A	Input Wattage	180.1W	Temperature stabilization time:	500 min	
No.	Temperature (°C)		No.	Temperature (°C)		No.	Temperature (°C)	
	Measured	Corrected at 25°C		Measured	Corrected at 25°C		Measured	Corrected at 25°C
1	67.6	67.5	3	68.2	68.1	5	67.9	67.8
2	68.0	67.9	4	68.7	68.6	6	68.4	68.3
The highest in-situ measured temperature LED is 68.6°C								

3.2 Test Photo:

Ts Position:



Thermocouple Location on Temperature Measurement Point (TMP):



Results

Time (t) at which to estimate lumen maintenance (hours):	36,000
Lumen maintenance at time (t) (%):	83.19%
Reported L70 (hours):	>54000

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