

## In Situ Temperature Measurement Test Report

For

**Antec Lighting Inc**

(Brand Name:  **AOK**)  
Quality, Honesty, Service and Innovation

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

## Outdoor Pole/Arm-Mounted Area and Roadway Luminaires

Model name(s): AOK-75WoT-NV-X5-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-75WoT-NV-X5-00-3070-T402-P

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

Test & Report By:

*Bill Luo*

Engineer: Bill Luo

Date: Mar.23,2018

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.

**Laboratory: Standard-tech Co., Ltd. Testing Center**  
**NVLAP CODE: 201011-0**

Report Format Number STD/QR4918-A/0

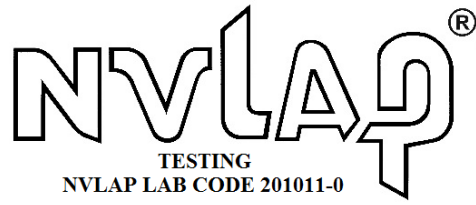
Address: Standard-Tech Building, No.6 Guanhong Road,Guangzhou Science City, Guangzhou 510663, China

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**STANDARD-TECH**



Report No.: GZE1711117-B1

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**NVLAP CODE: 201011-0**

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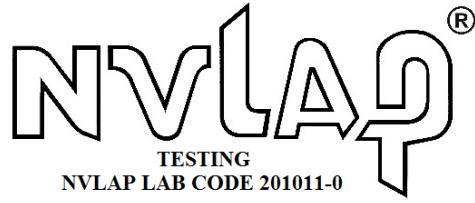
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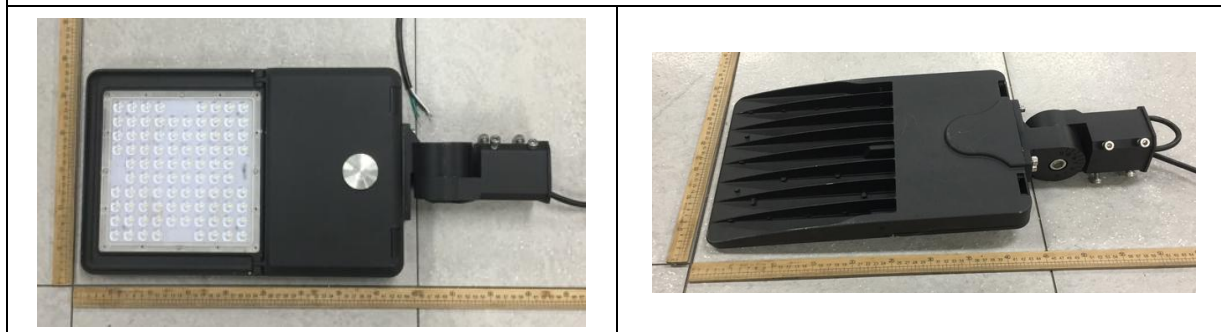
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# 1 General

## 1.1 Product Information

|                          |   |
|--------------------------|---|
| Brand Name               |  |
| Model Number             | AOK-75WoT-NV-X5-XX-XX70-T402-P  |
| Luminaire Type           | Outdoor Pole/Arm-Mounted Area and Roadway Luminaires                              |
| Nominal Power            | 75W   |
| Rated Initial Lamp Lumen | --  |
| Declared CCT             | 3000K   |
| LED Manufacturer         | Lumileds  |
| LED Model                | L150-3070502400000  |
| Sample Receipt Date      | Dec.08,2017   |
| Sample Number            | GZE1711117-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 |
|--------------|--------------------|-----------------------|-----------------------|
| 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  $25 \pm 5^\circ\text{C}$ . 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               | 2018-03-22       | Test Ambient                           | 25.1 °C |
| Sample No.              |                  | LED Package Model                      |         |
| GZE1711117-B1           |                  | L150-3070502400000                     |         |
| LED driver of Each Lamp | Output voltage V | Measured LED working current (Max.) mA |         |
| 1                       | 44.5             | 34.1                                   |         |

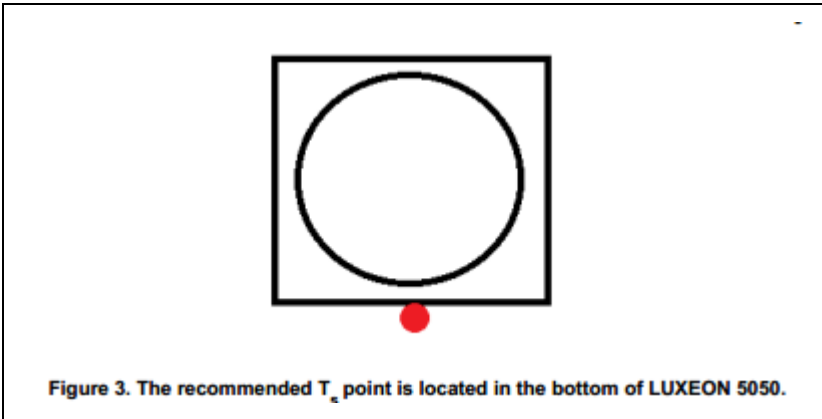
#### 3.1 Test Data:

| Input Vol.   | 120.0V           | Input Current     | 0.6484A | Input Wattage    | 77.60W            | 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  | 47.3             | 47.2              | 3       | 46.8             | 46.7              | 5                               | 47.6             | 47.5              |
| 2  | 47.9             | 47.8              | 4       | 46.5             | 46.4              | 6                               | 45.7             | 45.6              |
| The highest in-situ measured temperature LED is 47.8°C |                  |                   |         |                  |                   |                                 |                  |                   |

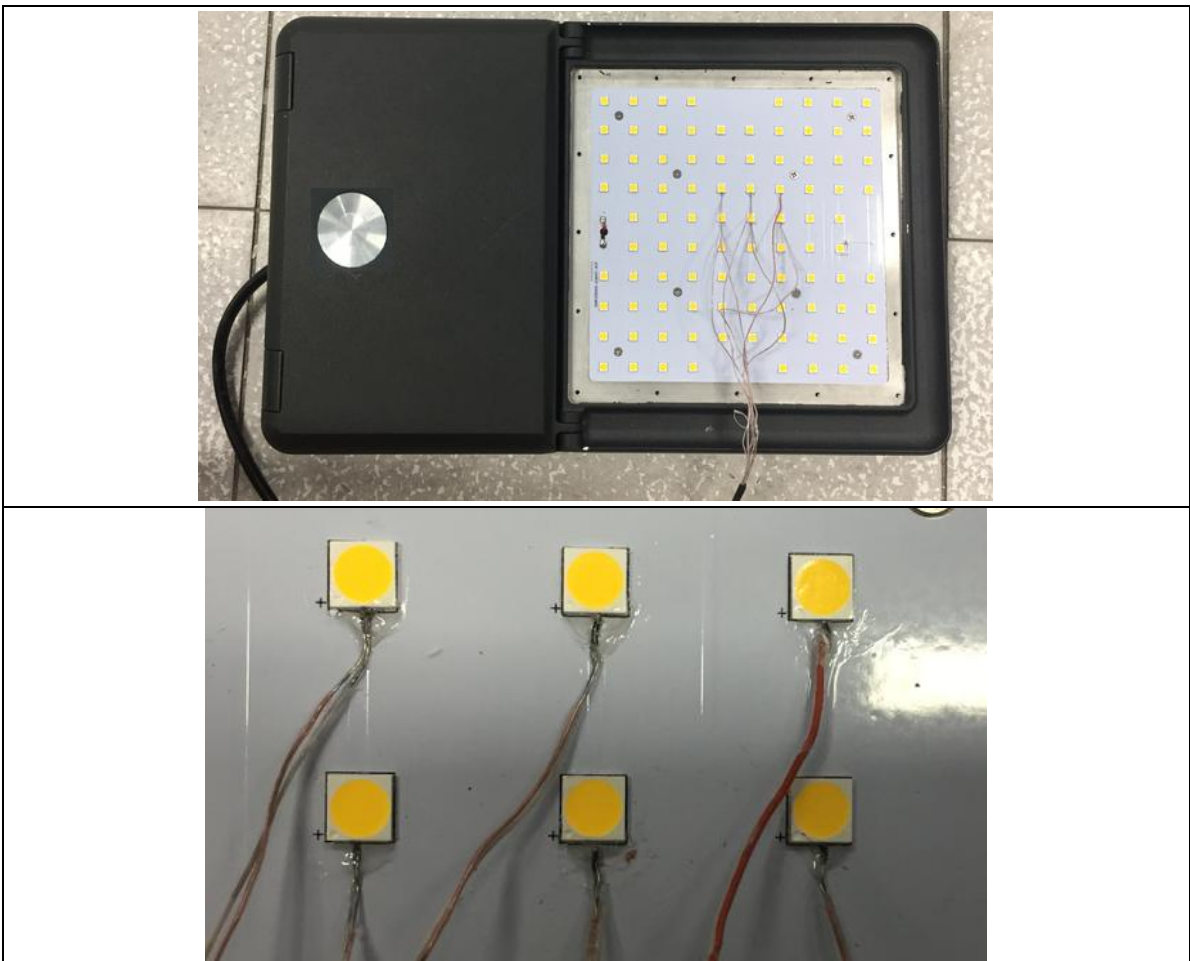
#### 3.2 Test Photo:

Ts Position:





Thermocouple Location on Temperature Measurement Point (TMP):



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**Results**

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

**Results**

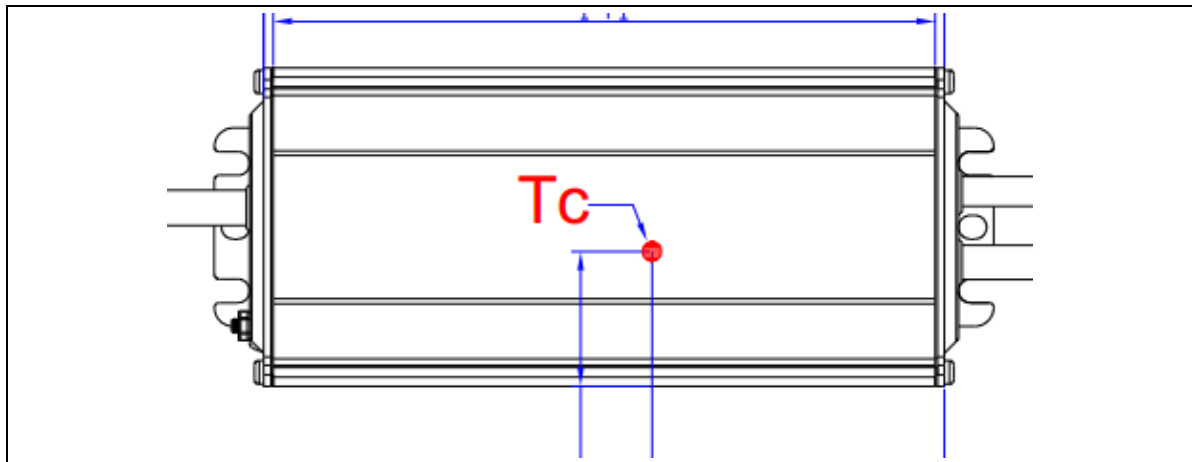
|  |        |
|--|--------|
| Time (t) at which to estimate lumen maintenance (hours): | 36,000 |
| Lumen maintenance at time (t) (%):                       | 92.20% |
| Reported L90 (hours):                                    | >36000 |

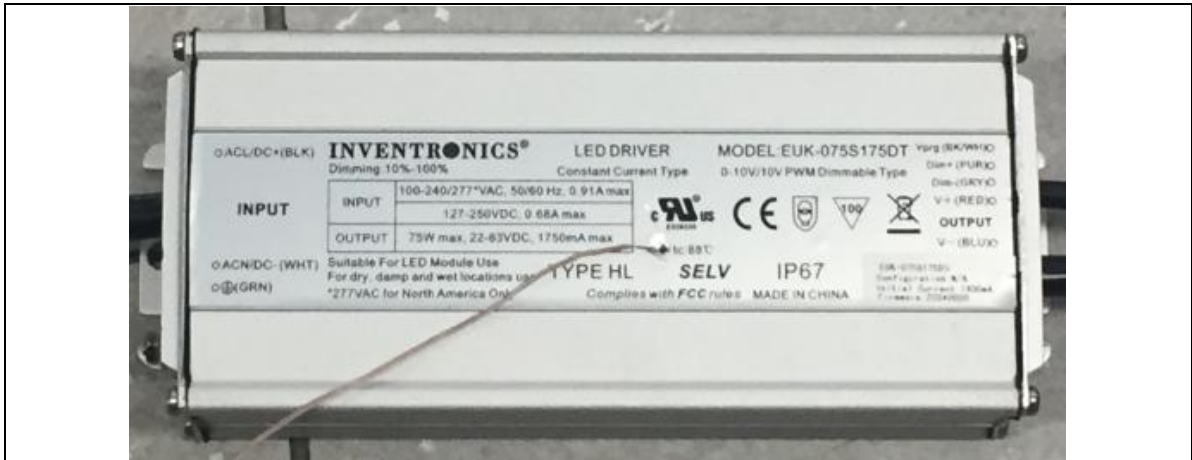
**3.3 Test Data of LED Driver:**

|            |                              |                   |  |               |        |                                 |         |
|------------|------------------------------|-------------------|--|---------------|--------|---------------------------------|---------|
| Input Vol. | 120.0V                       | Input Current     | 0.6484A  | Input Wattage | 77.60W | Temperature stabilization time: | 500 min |
| No         | Measured TC Temperature (°C) |                   | Temperature Limited of Life $\geq$ 50000 hours |               |        |                                 |         |
|            | Measured                     | Corrected at 25°C |  |               |        |                                 |         |
| 1          | 52.6                         | 52.5              | 70   |               |        |                                 |         |

**3.4 Test Photo:**

Thermocouple Location on Temperature Measurement Point (TMP):





|          |   |              |   |  |
|----------|---|--------------|---|--|
| Lifetime | - | 84,000 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\*\*\*\*\*