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In Situ Temperature Measurement Test Report

For

Antec Lighting Inc

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

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

Model name(s):
AOK-115WiE-NV-LV2-XX-XX70-T302-P

Type of Luminaire: Outdoor Pole/Arm-Mounted Area and Roadway Luminaires
Report Date: 2019-04-16
Ningbo TengLi Testing Co., Ltd

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Test & Report By:

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Review By:

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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.



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| 1 General | | |
|---|---|-----|
| 1.1 Product Information: | | |
| Model Number | AOK-115WiE-NV-LV2-XX-XX70-T302-P | |
| Remark | The first “XX” can be “00” =no photocontrol or “PH”=photocontrol provided. The second “XX” could be 27/30/35/40/45/50/57 refers to CCT. This is multiple listed report, the Project Number of the original report is JAE190121-G1 | |
| Representative (Tested) Model | AOK-115WiE-NV-LV2-00-2770-T302-P | |
| Model Difference | All construction and rating are the same, except CCT and optical function | |
| SKU (if available) | N/A | |
| Type of Luminaire (for integral lamps, list base type and lamp type) | Outdoor Pole/Arm-Mounted Area and Roadway Luminaires | |
| LED Manufacturer | Lumileds | |
| LED Model | LUXEON V Family | |
| Dimming | Dimmable | |
| Sample Number | JAE190121-G1 | |
| Date of Receipt | Feb.23, 2019 | |
| Luminaire Aperture (for downlights) | -- | in. |
| Luminaire Length | -- | mm |
| Luminaires Width | -- | mm |
| Number of Units (modular products) | N/A | s |

| 1.2 Rated Values: | |
|---------------------------|--|
| Rated Voltage / Frequency | 100-277Vac, 50/60Hz |
| Nominal Power | 115W |
| Rated Initial Lamp Lumen | -- |
| Declared CCT | 2700K,3000K,3500K,4000K,4500K,5000K, 5700K |



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 ± 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 0.05mm²(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

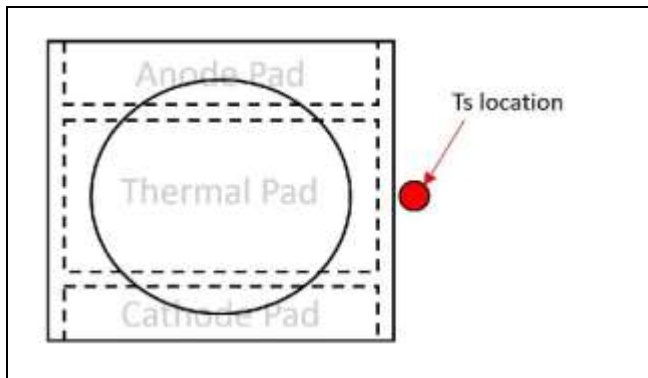
| | | | |
|-------------------------|------------------|--|---------|
| Test date | 2019-03-01 | Test Ambient | 25.3 °C |
| Sample No. | | LED Package Model | |
| JAE190121-G1 | | LUXEON V Family | |
| LED driver of Each Lamp | Output voltage V | Measured LED working current (Max.) mA | |
| 1 | 69.8 | 507.3 | |

3.1 Test Data:

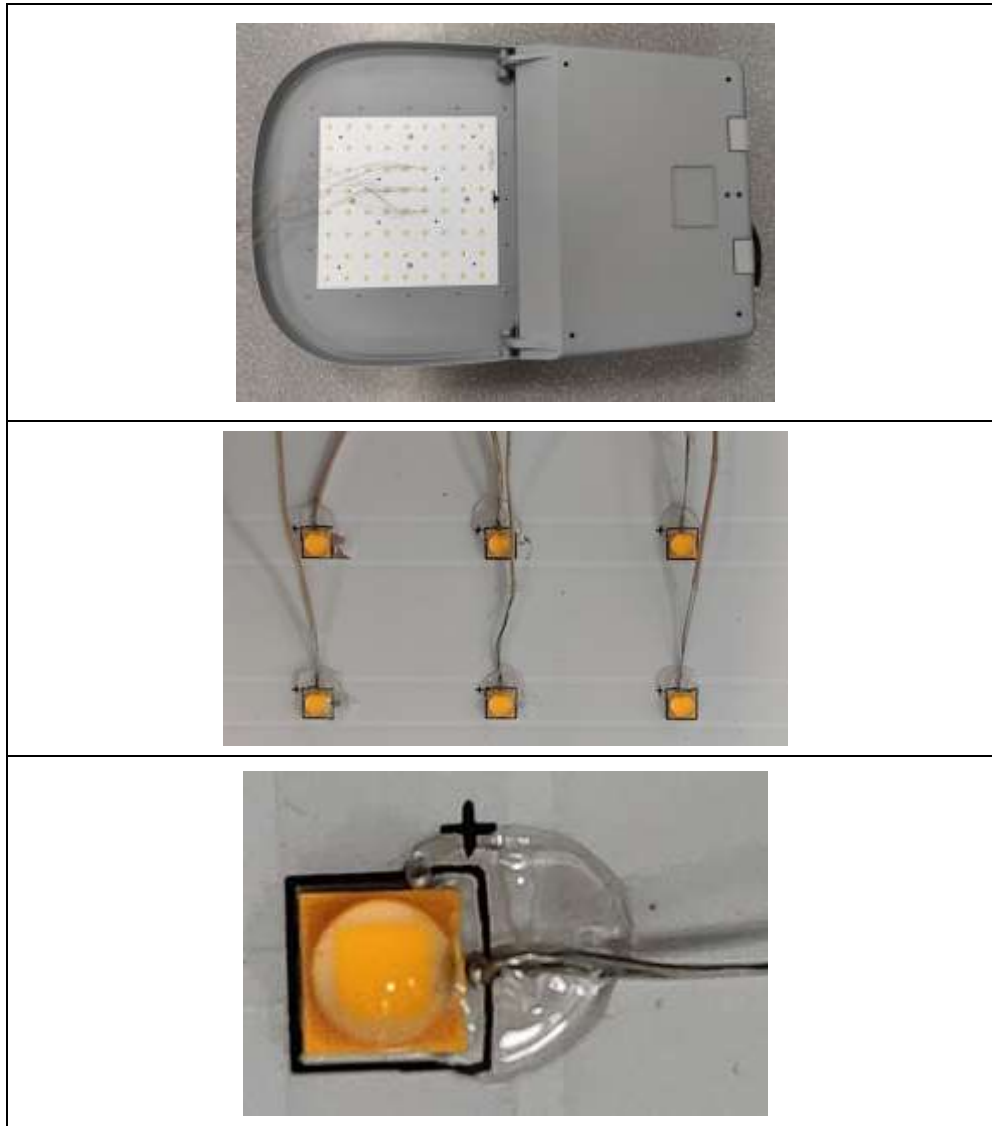
| Input Vol. | 120.0V | Input Current | 0.9972A | Input Wattage | 116.5W | Temperature stabilization time: | 500 min | |
|--|------------------|-------------------|---------|------------------|-------------------|---------------------------------|------------------|-------------------|
| No. | Temperature (°C) | | No. | Temperature (°C) | | No. | Temperature (°C) | |
| | Measured | Corrected at 25°C | | Measured | Corrected at 25°C | | Measured | Corrected at 25°C |
| 1 | 57.1 | 56.8 | 3 | 56.2 | 55.9 | 5 | 55.9 | 55.6 |
| 2 | 56.6 | 56.3 | 4 | 56.8 | 56.5 | 6 | 55.2 | 54.9 |
| The highest in-situ measured temperature LED is 56.8°C | | | | | | | | |

3.2 Test Photo:

Ts Position:



Thermocouple Location on Temperature Measurement Point (TMP):



| | |
|--|--------|
| Time (t) at which to estimate lumen maintenance (hours): | 36,000 |
| Lumen maintenance at time (t) (%): | 97.84% |
| Reported L90 (hours): | >54000 |

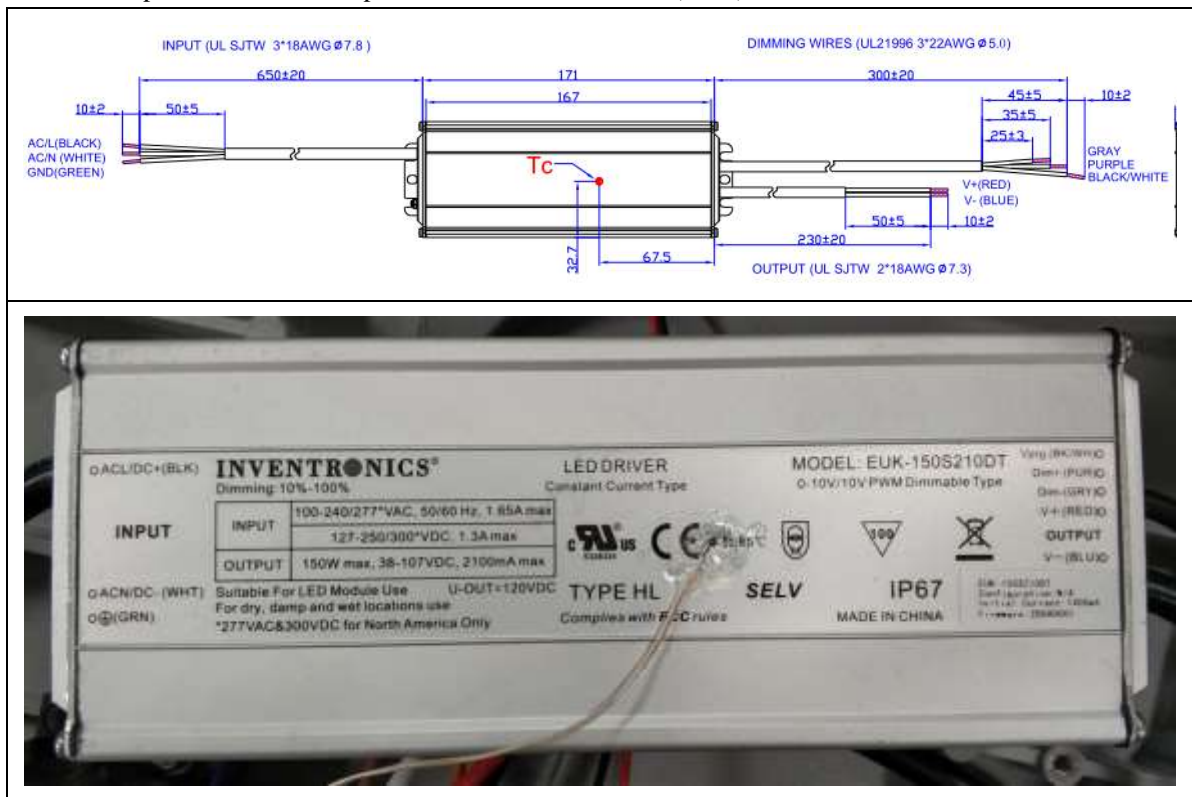
| | |
|--|--------|
| Time (t) at which to estimate lumen maintenance (hours): | 50,000 |
| Lumen maintenance at time (t) (%): | 97.80% |
| Reported L70 (hours): | >54000 |

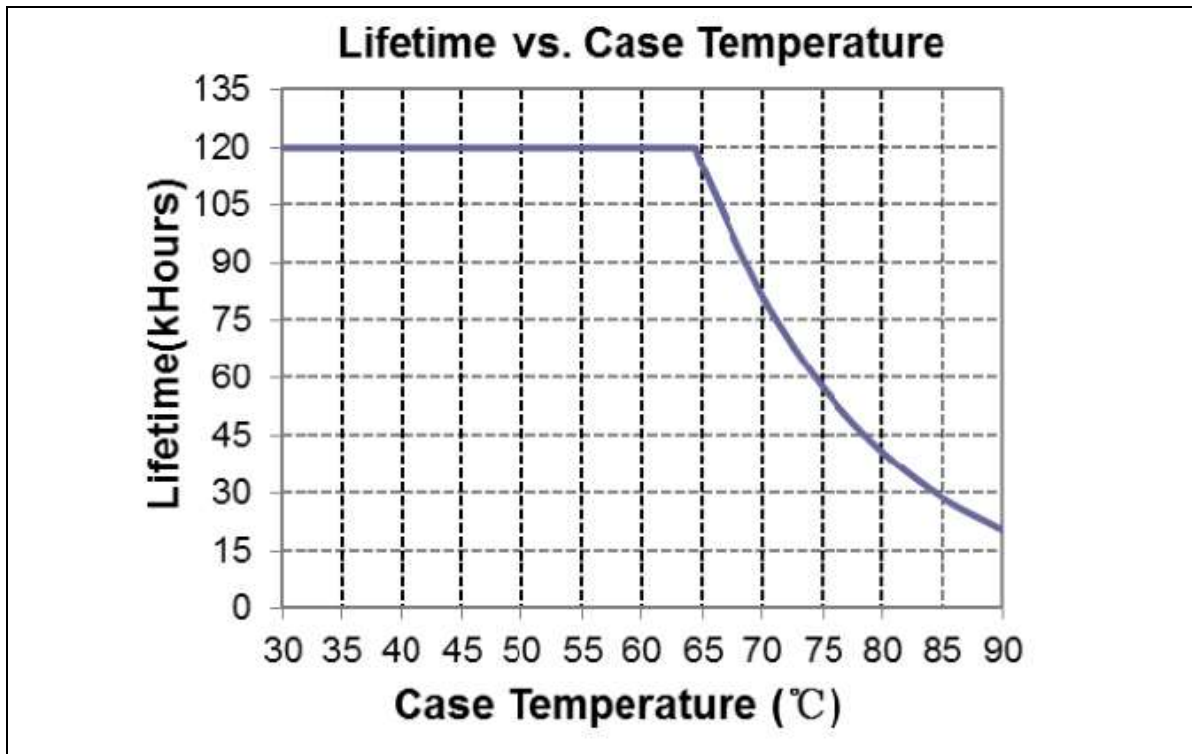
3.3 Test Data of LED Driver:

| | | | | | | | |
|------------|------------------------------|-------------------|--|---------------|--------|---------------------------------|---------|
| Input Vol. | 120.0V | Input Current | 0.9972A | Input Wattage | 116.5W | Temperature stabilization time: | 500 min |
| No | Measured TC Temperature (°C) | | Temperature Limited of Life \geq 50000 hours | | | | |
| | Measured | Corrected at 25°C | | | | | |
| 1 | 62.1 | 61.8 | 75 | | | | |

3.4 Test Photo:

Thermocouple Location on Temperature Measurement Point (TMP):





4. Product Photo



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