



TEST REPORT

ACCORDING TO IES LM-80-2015

For

Hongli Zhihui Group Co.,Ltd. Guangzhou Branch

Room 316, Building 2, No.1, Xianke Yi Road, Huadong Town, Huadu District, Guangzhou, China

Model: HL-AS-2835DW-2C-S1-08-PCT-HR3 (R9)

| | |
|---|-------------------------------------|
| Report Type: 9000 Hours Test Report | Product Type: LED Package |
| Test Engineer: Pote Wang | |

Note: The test data was only valid for the test sample(s). This test report is prepared for the customer shown above and for the device described herein. It may not be duplicated or used in part without prior written consent from Bay Area Compliance Laboratories Corp. (Dongguan).
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1 - General Information

1.1 Description of LED Light Sources

Sample Size:

60 PCS samples were received on 2016-08-26. The samples were numbered from 1 to 30 and 31 to 60.

| | |
|--------------------------------------|--|
| Manufacturer: | Hongli Zihui Group Co.,Ltd. Guangzhou Branch |
| Part Number: | HL-AS-2835DW-2C-S1-08-PCT-HR3 (R9) |
| Part Type: | LED Package |
| Drive Level: | DC 150mA |
| Nominal CCT: | 2700K |
| Power: | 1.224W |
| Average Current Density per LED die: | 401.88mA/mm ² |
| Average Power Density per LED die: | 1.64 W/mm ² |
| CRI: | 80 |
| Die Spacing: | 0.15mm |

Family products covered by this report:

According to ENERGY STAR[®] Requirements for the Use of LM-80 Data, the following products can be covered by this report base on the information and declaration provided by manufacturer. The information of these models shows that the covered products meet all section 4 requirements of ENERGY STAR[®] Requirements for the Use of LM-80 Data (September 28, 2017)

| Test Model Number | Multiple Models | Details |
|-----------------------------------|--------------------------------------|---|
| HL-AS-2835DW-2C-S1-08-PCT-HR3(R9) | HL-AS-2835DW-2C-S1-08-PCT-HR3 | Only different Model name for different market. |
| | HL-AS-PU2835DW-2C-S1-08-PCT-HR3 | |
| | HL-AS-PU2835DW-2C-S1-08-PCT-HR3(R9) | |
| | HL-AS-2835HW-2C-S1-08-PCT-HR3 | |
| | HL-AS-2835HW-2C-S1-08-PCT-HR3(R9) | |
| | HL-AS-PU2835HW-2C-S1-08-PCT-HR3 | |
| | HL-AS-PU2835HW-2C-S1-08-PCT-HR3(R9) | |
| | HL-A-2835DW-2C-S1-08-PCT-HR3 | |
| | HL-A-2835DW-2C-S1-08-PCT-HR3(R9) | |
| | HL-A-PU2835DW-2C-S1-08-PCT-HR3 | |
| | HL-A-PU2835DW-2C-S1-08-PCT-HR3(R9) | |
| | HL-A-2835HW-2C-S1-08-PCT-HR3 | |
| | HL-A-2835HW-2C-S1-08-PCT-HR3(R9) | |
| | HL-A-PU2835HW-2C-S1-08-PCT-HR3 | |
| | HL-A-PU2835HW-2C-S1-08-PCT-HR3(R9) | |
| | HL-AS-2835DW-2C-S1-08L-PCT-HR3(R9) | |
| | HL-AS-2835DW-2C-S1-08L-PCT-HR3 | |
| | HL-AS-PU2835DW-2C-S1-08L-PCT-HR3 | |
| | HL-AS-PU2835DW-2C-S1-08L-PCT-HR3(R9) | |
| | HL-AS-2835HW-2C-S1-08L-PCT-HR3 | |

| Test Model Number | Multiple Models | Details |
|-------------------|--------------------------------------|---------|
| | HL-AS-2835HW-2C-S1-08L-PCT-HR3(R9) | |
| | HL-AS-PU2835HW-2C-S1-08L-PCT-HR3 | |
| | HL-AS-PU2835HW-2C-S1-08L-PCT-HR3(R9) | |
| | HL-A-2835DW-2C-S1-08L-PCT-HR3 | |
| | HL-A-2835DW-2C-S1-08L-PCT-HR3(R9) | |
| | HL-A-PU2835DW-2C-S1-08L-PCT-HR3 | |
| | HL-A-PU2835DW-2C-S1-08L-PCT-HR3(R9) | |
| | HL-A-2835HW-2C-S1-08L-PCT-HR3 | |
| | HL-A-2835HW-2C-S1-08L-PCT-HR3(R9) | |
| | HL-A-PU2835HW-2C-S1-08L-PCT-HR3 | |
| | HL-A-PU2835HW-2C-S1-08L-PCT-HR3(R9) | |

Disclaimer:

The truthfulness and accuracy of all the technical information above for the covered LED products is ensured by manufacturer of LED light source. Bay Area Compliance Laboratories Corp. (Dongguan) isn t responsible or gives any guarantees for the truthfulness of the technical information.

1.2 Standards Used:

IESNA LM-80-15: IES Approved Method for Measuring Lumen Maintenance of LED Light Sources.

ENERGY STAR® Requirements for the Use of LM-80 Data (This standard was not accredited by IAS)

1.3 Testing Equipment

| Device | Manufacture | Model No | Serial No | Test Range | Calibration date | Calibration due date |
|--|-------------|---------------|----------------------|------------|------------------|----------------------|
| Integral Sphere | EVERFINE | Diameter 0.3m | 1011119 | 0.3m | 2017-03-09 | 2018-03-08 |
| Programmable Test Power for LEDs | EVERFINE | LED300E | 1008002 | 15V/2000mA | 2017-03-03 | 2018-03-02 |
| High accuracy array spectroradiometer | EVERFINE | HAAS-2000 | 1012016T | 380-780nm | 2017-03-09 | 2018-03-08 |
| Standard Light Source | EVERFINE | D062 | 1011093 | 3000K | 2016-09-13 | 2017-09-12 |
| Precision digital stabilized DC power supply | EVERFINE | WY605-V110 | G115987C J7321114 | 300VA | 2017-03-03 | 2018-03-02 |
| Multilayer aging machine | BACL | B2-270 | 20005 | 25°C~130°C | 2017-09-01 | 2018-09-01 |
| Digital CC&CV DC Power Supply | EVERFINE | WY5015 | 11090009 | (50/15A) | 2016-12-15 | 2017-12-14 |

| Device | Manufacture | Model No | Serial No | Test Range | Calibration date | Calibration due date |
|-------------------------------|-------------|----------|-----------|------------|------------------|----------------------|
| Digital CC&CV DC Power Supply | EVERFINE | WY5015 | 11090004 | (50/15A) | 2017-03-03 | 2018-03-02 |

1.4 Drive Level

Samples are driven with a constant direct current (DC) during maintenance test, photometric and electrical measurement. The current value was regulated to within $\pm 3\%$ of the specified value of the manufacturer during maintenance test, and was within $\pm 0.5\%$ during photometric and electrical measurement test.

1.5 Ambient Conditions for Maintenance Test

For maintenance test, samples were placed in thermal chambers with minimal ambient airflow. The case temperature and ambient temperature was monitored by thermocouples which one was mounted at the location, while the other is mounted at a distance of 5 mm above the TMP location.

During life testing, TMP_{LED} of the coldest LEDs were maintained at a temperature that was greater than or equal to 2°C below the corresponding nominal case temperature. Surrounding air was maintained at a temperature that was greater than or equal to 5°C below the corresponding nominal case temperature. Thermocouples were shielded from direct DUT optical radiation and

Samples were connected to DC power supply in series circuits with a constant current. The forward current was regulated to within $\pm 3\%$ of the specified value of the manufacturer.

1.8 Sample Set

Data Set 1: 55°C, 150mA

Part Number: HL-AS-2835DW-2C-S1-08-PCT-HR3 (R9)
Number of Units: 30
Case Temperature: >53°C
Ambient Temperature: >50°C
Life Test Drive Current: 150mA
Measurement Current: 150mA

Data Set 2: 105°C,150mA

Part Number: HL-AS-2835DW-2C-S1-08-PCT-HR3 (R9)
Number of Units: 30
Case Temperature: >103°C
Ambient Temperature: >100°C
Life Test Drive Current: 150mA
Measurement Current: 150mA

2 - Summary of Test Result

| Data Set: | Sample Size | Failures Observed: | Test Interval | Test Duration | Reported TM-21 L ₇₀ Lifetime |
|-----------|-------------|--------------------|---------------|---------------|---|
| 1 | 30 | 0 | 1000 | 9000 | >54000 hours |
| 2 | 30 | 0 | 1000 | 9000 | >54000 hours |

Average Lumen Maintenance (Percentage of Initial Luminous Flux)

| Data Set: | 1000 | 2000 | 3000 | 4000 | 5000 | 6000 | 7000 | 8000 | 9000 |
|-----------|---------|---------|--------|--------|--------|--------|--------|--------|--------|
| 1 | 100.25% | 100.03% | 99.83% | 99.62% | 99.37% | 99.10% | 98.86% | 98.66% | 98.45% |
| 2 | 99.81% | 99.48% | 99.15% | 98.82% | 98.50% | 98.17% | 97.90% | 97.62% | 97.34% |

Average Color Maintenance

| Data Set: | 1000 | 2000 | 3000 | 4000 | 5000 | 6000 | 7000 | 8000 | 9000 |
|-----------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| 1 | 0.0003 | 0.0008 | 0.0011 | 0.0012 | 0.0015 | 0.0017 | 0.0020 | 0.0025 | 0.0028 |
| 2 | 0.0007 | 0.001 | 0.0015 | 0.0017 | 0.0019 | 0.0022 | 0.0023 | 0.0028 | 0.0031 |

3 - Test Data

3.1 Data Set 1, 55°C, 150mA (Lumen Maintenance)

| No. | Lumen Maintenance (%) | | | | | | | | | |
|--------|-----------------------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| | 0hr(Initial) | 1000hrs | 2000hrs | 3000hrs | 4000hrs | 5000hrs | 6000hrs | 7000hrs | 8000hrs | 9000hrs |
| 1 | 112.4 | 100.27 | 100.18 | 99.91 | 99.64 | 99.29 | 99.11 | 98.93 | 98.67 | 98.58 |
| 2 | 112.1 | 100.18 | 99.82 | 99.64 | 99.46 | 99.38 | 99.02 | 98.66 | 98.48 | 98.13 |
| 3 | 112.0 | 100.36 | 100.18 | 99.91 | 99.82 | 99.55 | 99.29 | 99.20 | 99.11 | 99.02 |
| 4 | 109.0 | 100.09 | 99.82 | 99.63 | 99.45 | 99.17 | 98.90 | 98.53 | 98.44 | 98.17 |
| 5 | 111.0 | 100.36 | 100.09 | 99.91 | 99.82 | 99.64 | 99.46 | 99.19 | 98.92 | 98.74 |
| 6 | 110.3 | 100.27 | 99.91 | 99.64 | 99.37 | 99.09 | 98.91 | 98.55 | 98.37 | 98.19 |
| 7 | 122.6 | 100.16 | 99.92 | 99.67 | 99.51 | 99.18 | 98.78 | 98.37 | 98.12 | 97.88 |
| 8 | 119.6 | 100.17 | 100.08 | 99.92 | 99.58 | 99.16 | 98.75 | 98.58 | 98.24 | 97.99 |
| 9 | 111.3 | 100.36 | 100.18 | 100.09 | 99.82 | 99.73 | 99.28 | 98.92 | 98.74 | 98.38 |
| 10 | 113.6 | 100.18 | 100.09 | 99.91 | 99.82 | 99.56 | 99.47 | 99.21 | 98.94 | 98.68 |
| 11 | 111.5 | 100.09 | 99.91 | 99.73 | 99.46 | 99.37 | 99.01 | 98.74 | 98.48 | 98.12 |
| 12 | 111.9 | 100.18 | 99.82 | 99.55 | 99.37 | 99.29 | 99.02 | 98.84 | 98.57 | 98.30 |
| 13 | 111.4 | 100.27 | 100.18 | 99.91 | 99.64 | 99.37 | 99.19 | 98.92 | 98.56 | 98.20 |
| 14 | 123.1 | 100.32 | 100.08 | 99.92 | 99.68 | 99.59 | 99.35 | 99.19 | 98.94 | 98.70 |
| 15 | 111.3 | 100.27 | 100.09 | 99.91 | 99.55 | 99.37 | 99.10 | 98.92 | 98.74 | 98.65 |
| 16 | 110.7 | 100.18 | 99.91 | 99.73 | 99.55 | 99.28 | 99.19 | 98.92 | 98.64 | 98.55 |
| 17 | 121.8 | 100.33 | 100.16 | 99.92 | 99.67 | 99.43 | 99.26 | 99.18 | 98.85 | 98.69 |
| 18 | 119.7 | 100.25 | 99.92 | 99.67 | 99.50 | 99.08 | 98.83 | 98.75 | 98.66 | 98.50 |
| 19 | 113.4 | 100.35 | 100.09 | 99.82 | 99.74 | 99.38 | 99.12 | 98.94 | 98.85 | 98.59 |
| 20 | 110.8 | 100.27 | 100.18 | 100.09 | 99.82 | 99.64 | 99.28 | 99.10 | 98.92 | 98.74 |
| 21 | 120.1 | 100.17 | 100.08 | 99.92 | 99.83 | 99.67 | 99.58 | 99.42 | 99.25 | 99.08 |
| 22 | 126.9 | 100.32 | 100.16 | 100.08 | 99.76 | 99.68 | 99.45 | 99.37 | 99.21 | 99.05 |
| 23 | 122.9 | 100.24 | 100.08 | 99.84 | 99.76 | 99.59 | 99.35 | 99.10 | 98.94 | 98.78 |
| 24 | 110.2 | 100.36 | 100.09 | 99.82 | 99.64 | 99.46 | 99.27 | 99.09 | 99.00 | 98.91 |
| 25 | 109.7 | 100.27 | 99.91 | 99.82 | 99.64 | 99.18 | 98.72 | 98.45 | 98.27 | 98.09 |
| 26 | 111.1 | 100.09 | 99.82 | 99.64 | 99.19 | 98.74 | 98.38 | 98.20 | 97.93 | 97.84 |
| 27 | 110.9 | 100.36 | 100.18 | 100.09 | 99.82 | 99.46 | 99.01 | 98.65 | 98.38 | 98.20 |
| 28 | 110.8 | 100.27 | 100.09 | 99.91 | 99.82 | 99.55 | 99.10 | 98.83 | 98.65 | 98.38 |
| 29 | 115.1 | 100.26 | 99.91 | 99.83 | 99.57 | 99.39 | 99.04 | 98.70 | 98.61 | 98.35 |
| 30 | 120.5 | 100.17 | 99.92 | 99.59 | 99.34 | 98.92 | 98.76 | 98.42 | 98.26 | 97.93 |
| Ave. | 114.6 | 100.25 | 100.03 | 99.83 | 99.62 | 99.37 | 99.10 | 98.86 | 98.66 | 98.45 |
| Med. | 112.0 | 100.27 | 100.08 | 99.87 | 99.64 | 99.38 | 99.11 | 98.92 | 98.65 | 98.44 |
| st dev | 5.2 | 0.0862 | 0.1296 | 0.1549 | 0.1758 | 0.2360 | 0.2697 | 0.3094 | 0.3238 | 0.3564 |
| Min. | 109.0 | 100.09 | 99.82 | 99.55 | 99.19 | 98.74 | 98.38 | 98.20 | 97.93 | 97.84 |
| Max. | 126.9 | 100.36 | 100.18 | 100.09 | 99.83 | 99.73 | 99.58 | 99.42 | 99.25 | 99.08 |

TM-21 Projection:

Test Duration: 9000 hours
Failures Observed: 0
 2.372E-06
 1.005
Reported L₇₀: >54000 hours

3.2 Data 1, 55°C, 150mA (Forward Voltage)

| No. |) | Forward Voltage (V) | | | | | | | | |
|-----|-------|---------------------|---------|---------|---------|---------|---------|---------|---------|---------|
| | | 1000hrs | 2000hrs | 3000hrs | 4000hrs | 5000hrs | 6000hrs | 7000hrs | 8000hrs | 9000hrs |
| 1 | | 6.041 | 6.034 | 6.033 | 6.047 | 6.042 | 6.058 | 6.031 | 6.033 | 6.041 |
| 2 | | 6.058 | 6.044 | 6.050 | 6.055 | 6.054 | 6.055 | 6.043 | 6.049 | 6.053 |
| 3 | | 6.054 | 6.043 | 6.042 | 6.055 | 6.047 | 6.052 | 6.037 | 6.035 | 6.045 |
| 4 | | 6.055 | 6.044 | 6.045 | 6.055 | 6.050 | 6.052 | 6.040 | 6.049 | 6.045 |
| 5 | | 6.060 | 6.055 | 6.054 | 6.056 | 6.059 | 6.057 | 6.049 | 6.056 | 6.055 |
| 6 | | 6.042 | 6.029 | 6.027 | 6.038 | 6.035 | 6.036 | 6.026 | 6.032 | 6.032 |
| 7 | | 6.050 | 6.037 | 6.043 | 6.043 | 6.045 | 6.044 | 6.030 | 6.039 | 6.039 |
| 8 | | 6.062 | 6.052 | 6.059 | 6.057 | 6.061 | 6.057 | 6.059 | 6.056 | 6.055 |
| 9 | | 6.043 | 6.032 | 6.033 | 6.038 | 6.038 | 6.036 | 6.034 | 6.024 | 6.032 |
| 10 | | 6.050 | 6.043 | 6.040 | 6.043 | 6.046 | 6.045 | 6.033 | 6.039 | 6.039 |
| 11 | | 6.056 | 6.045 | 6.055 | 6.045 | 6.049 | 6.049 | 6.043 | 6.040 | 6.044 |
| 12 | | 6.047 | 6.032 | 6.043 | 6.041 | 6.038 | 6.042 | 6.030 | 6.024 | 6.033 |
| 13 | | 6.043 | 6.034 | 6.050 | 6.040 | 6.037 | 6.040 | 6.029 | 6.025 | 6.033 |
| 14 | | 6.062 | 6.051 | 6.050 | 6.056 | 6.058 | 6.059 | 6.047 | 6.042 | 6.051 |
| 15 | | 6.052 | 6.041 | 6.042 | 6.047 | 6.046 | 6.044 | 6.033 | 6.031 | 6.040 |
| 16 | | 6.058 | 6.042 | 6.046 | 6.052 | 6.053 | 6.051 | 6.035 | 6.043 | 6.044 |
| 17 | | 6.055 | 6.048 | 6.061 | 6.051 | 6.055 | 6.049 | 6.036 | 6.038 | 6.047 |
| 18 | | 6.061 | 6.047 | 6.051 | 6.055 | 6.060 | 6.060 | 6.044 | 6.039 | 6.052 |
| 19 | 6.041 | 6.043 | 6.035 | 6.035 | 6.043 | 6.044 | 6.043 | 6.029 | 6.028 | 6.041 |
| 20 | 6.046 | 6.056 | 6.042 | 6.047 | 6.052 | | | | | |

3.3 Data Set 1, 55°C, 150mA (Chromaticity Shift)

| No. | | | CCT(K) | < Z L | | | | | | | | |
|-----|--------------|--------|--------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| | 0hr(Initial) | | | 1000hrs | 2000hrs | 3000hrs | 4000hrs | 5000hrs | 6000hrs | 7000hrs | 8000hrs | 9000hrs |
| 1 | 0.2630 | 0.5295 | 2681 | 0.0004 | 0.0008 | 0.0012 | 0.0013 | 0.0018 | 0.0021 | 0.0026 | 0.0026 | 0.0030 |
| 2 | 0.2626 | 0.5290 | 2692 | 0.000 | | | | | | | | |

FINAL

3.4 Data Set 2, 105°C, 150mA (Lumen Maintenance) 9000hrs

| No. | Ohr(Initial) | Lumen Maintenance (%) | | | | | | | | |
|------|--------------|-----------------------|---------|---------|---------|---------|---------|---------|---------|---------|
| | | 1000hrs | 2000hrs | 3000hrs | 4000hrs | 5000hrs | 6000hrs | 7000hrs | 8000hrs | 9000hrs |
| 31 | 119.1 | 99.83 | 99.66 | 99.41 | 98.91 | 98.66 | 98.40 | 98.32 | 98.15 | 97.98 |
| 32 | 118.5 | 99.92 | 99.58 | 99.24 | 99.07 | 98.82 | 98.65 | 98.31 | 98.06 | 97.81 |
| 33 | 117.1 | 99.83 | 99.57 | 99.23 | 98.98 | 98.46 | 98.04 | 97.78 | 97.52 | 97.35 |
| 34 | 106.3 | 100.09 | 99.81 | 99.62 | 99.25 | 98.87 | 98.68 | 98.31 | 98.21 | 98.02 |
| 35 | 112.2 | 99.91 | 99.82 | 99.55 | 99.38 | 99.11 | 98.66 | 98.31 | 98.04 | 97.86 |
| 36 | 112.8 | 99.73 | 99.47 | 99.11 | 98.85 | 98.58 | 98.32 | 97.96 | 97.61 | 97.25 |
| 37 | 110.0 | 99.82 | 99.55 | 99.09 | 98.73 | 98.64 | 98.09 | 97.91 | 97.55 | 97.18 |
| 38 | 113.5 | 99.91 | 99.65 | 99.30 | 99.03 | 98.77 | 98.59 | 98.41 | 98.15 | 97.97 |
| 39 | 109.5 | 99.82 | 99.45 | 99.27 | 98.81 | 98.63 | 98.26 | 98.08 | 97.99 | 97.72 |
| 40 | 118.0 | 99.75 | 99.41 | 98.98 | 98.73 | 98.47 | 98.22 | 97.97 | 97.71 | 97.54 |
| 41 | 117.0 | 99.83 | 99.57 | 99.06 | 98.72 | 98.46 | 97.86 | 97.61 | 97.35 | 97.09 |
| 42 | 121.4 | 99.67 | 99.34 | 99.01 | 98.52 | 98.19 | 97.78 | 97.61 | 97.20 | 96.95 |
| 43 | 108.3 | 99.82 | 99.45 | 99.17 | 99.08 | 98.71 | 98.52 | 98.34 | 98.06 | 97.60 |
| 44 | 118.8 | 99.75 | 99.24 | 98.91 | 98.65 | 98.32 | 97.98 | 97.73 | 97.56 | 97.39 |
| 45 | 111.5 | 99.73 | 99.37 | 99.01 | 98.65 | 98.30 | 98.03 | 97.76 | 97.31 | 97.04 |
| 46 | 108.2 | 99.82 | 99.45 | 99.08 | 98.61 | 98.24 | 97.78 | 97.60 | 97.32 | 97.04 |
| 47 | 117.9 | 99.75 | 99.41 | 98.98 | 98.64 | 98.05 | 97.63 | 97.46 | 97.20 | 96.95 |
| 48 | 118.2 | 99.83 | 99.32 | 98.90 | 98.48 | 98.05 | 97.63 | 97.29 | 96.87 | 96.45 |
| 49 | 117.7 | 99.75 | 99.32 | 98.98 | 98.64 | 98.39 | 98.05 | 97.62 | 97.20 | 97.03 |
| 50 | 111.2 | 99.91 | 99.64 | 99.28 | 99.01 | 98.65 | 98.29 | 98.11 | 97.75 | 97.48 |
| 51 | 110.9 | 99.82 | 99.46 | 99.19 | 98.92 | 98.56 | 98.29 | 98.11 | 97.75 | 97.29 |
| 52 | 111.7 | 99.91 | 99.55 | 99.19 | 98.84 | 98.57 | 98.39 | 98.03 | 97.76 | 97.49 |
| 53 | 111.2 | 99.82 | 99.46 | 99.01 | 98.83 | 98.56 | 98.20 | 97.84 | 97.66 | 97.30 |
| 54 | 116.9 | 99.66 | 99.23 | 98.89 | 98.63 | 98.29 | 98.12 | 97.86 | 97.52 | 97.26 |
| 55 | 122.1 | 99.84 | 99.34 | 99.02 | 98.61 | 98.28 | 98.03 | 97.79 | 97.30 | 96.89 |
| 56 | 123.0 | 99.76 | 99.43 | 99.19 | 98.94 | 98.54 | 98.05 | 97.72 | 97.32 | 96.99 |
| 57 | 120.4 | 99.75 | 99.42 | 99.17 | 98.75 | 98.59 | 98.17 | 97.84 | 97.43 | 97.18 |
| 58 | 115.5 | 99.65 | 99.39 | 99.05 | 98.53 | 98.18 | 97.84 | 97.49 | 97.40 | 97.14 |
| 59 | 118.3 | 99.92 | | 99.41 | 98.99 | 98.56 | 98.22 | 98.14 | 97.97 | 97.63 |
| 60 | 120.1 | 99.83 | 99.50 | 99.33 | 98.92 | 98.50 | 98.25 | 97.84 | 97.67 | 97.34 |
| Ave. | 115.2 | 99.81 | | | | | | | | |

Bay Area Compliance Laboratories Corp. (Dongguan)

No.69, Pulongcun, Puxinhu Industrial Area Tangxia ,
Dongguan, Guangdong, China.

150mA (Forward Voltage)

| Forward Voltage (V) | | | | | | | |
|---------------------|---------|---------|---------|---------|---------|---------|---------|
| 2000hrs | 3000hrs | 4000hrs | 5000hrs | 6000hrs | 7000hrs | 8000hrs | 9000hrs |
| 6.035 | 6.031 | 6.037 | 6.036 | 6.038 | 6.022 | 6.024 | 6.030 |
| 6.031 | 6.037 | 6.037 | 6.037 | 6.030 | 6.027 | 6.024 | 6.027 |
| 6.050 | 6.064 | 6.055 | 6.053 | 6.055 | 6.042 | 6.051 | 6.050 |
| 6.036 | 6.048 | 6.039 | 6.041 | 6.040 | 6.031 | 6.026 | 6.038 |
| 6.031 | 6.031 | 6.043 | 6.039 | 6.036 | 6.029 | 6.030 | 6.035 |
| 6.035 | 6.064 | 6.043 | 6.038 | 6.038 | 6.030 | 6.037 | 6.036 |
| 6.030 | 6.062 | 6.031 | 6.035 | 6.031 | 6.022 | 6.022 | 6.033 |
| 6.035 | 6.039 | 6.047 | 6.041 | 6.043 | 6.032 | 6.035 | 6.037 |
| 6.031 | 6.041 | 6.043 | 6.048 | 6.043 | 6.026 | 6.030 | 6.036 |
| 6.025 | 6.036 | 6.038 | 6.039 | 6.036 | 6.021 | 6.030 | 6.030 |
| 6.040 | 6.054 | 6.045 | 6.048 | 6.049 | 6.035 | 6.034 | 6.042 |
| 6.047 | 6.053 | 6.060 | 6.063 | 6.061 | 6.049 | 6.051 | 6.051 |
| 6.028 | 6.042 | 6.037 | 6.039 | 6.036 | 6.034 | 6.029 | 6.032 |
| 6.032 | 6.039 | 6.042 | 6.047 | 6.044 | 6.028 | 6.028 | 6.039 |
| 6.033 | 6.055 | 6.041 | 6.045 | 6.040 | 6.031 | 6.028 | 6.036 |
| 6.041 | 6.096 | 6.050 | 6.050 | 6.046 | 6.046 | 6.036 | 6.044 |
| 6.047 | 6.069 | 6.055 | 6.063 | 6.051 | 6.040 | 6.038 | 6.053 |
| 6.038 | 6.041 | 6.044 | 6.049 | 6.045 | 6.037 | 6.036 | 6.041 |
| 6.046 | 6.072 | 6.053 | 6.056 | 6.053 | 6.039 | 6.046 | 6.050 |
| 6.043 | 6.076 | 6.055 | 6.057 | 6.055 | 6.045 | 6.048 | 6.048 |
| 6.042 | 6.077 | 6.055 | 6.056 | 6.053 | 6.046 | 6.045 | 6.057 |
| 6.043 | 6.059 | 6.052 | 6.054 | 6.054 | 6.040 | 6.040 | 6.048 |
| 6.033 | 6.049 | 6.036 | 6.039 | 6.040 | 6.023 | 6.026 | 6.040 |
| 6.022 | 6.028 | 6.032 | 6.033 | 6.034 | 6.026 | 6.027 | 6.030 |
| 6.033 | 6.043 | 6.054 | 6.039 | 6.043 | 6.030 | 6.035 | 6.035 |

4 - EUT Photo

4.1 Mechanical Dimensions

All dimensions are in millimeter

4.2 EUT Photo

4.3 Report Revision

| Report Number | Report Date | Contents |
|----------------------|-------------|----------|
| RSZ160826506-10-9000 | 2017-09-11 | |
| RSZ160826506-10 | | |