



TEST REPORT

According to IES LM-80-2015
For

Xiamen Dacol Photoelectronics Technology Co.,Ltd.

8021 Xiang' an West Road(Xiang' an)industrial zone,Torch Hi-Tech Industrial Development
Zone,Xiamen City,Fujian,China

Model: SMD 2835

Report Type: 6000 Hours Test Report		Product Type: LED Package
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Report Number:	R2DG161011050-10	
Test Date:	2016-10-12 to 2017-06-19	
Report Date:	2017-10-26	
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Test Facility:	Test facility was located at No.69,Pulongcun ,Puxinhu Industrial Area, Tangxia , Dongguan, Guangdong, China.	
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Accreditation:	The IAS Accreditation Number TL-460.	

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:

75 PCS samples were received on 2016-10-11. The samples were numbered from 1 to 25, 26 to 50 and 51 to 75.

Manufacturer:	Xiamen Dacol Photoelectronics Technology Co., Ltd
Part Number:	SMD 2835
Part Type:	LED Package
Drive Level:	DC 30mA
Nominal CCT:	3500K
Power:	0.85W
Current Density per LED die:	155mA/mm ²
Power Density per LED die:	1.46W/mm ²
CRI:	80
Die Spacing:	0.2mm

Sampling Method:

LED samples for IESNA LM-80 testing consist of units built from a minimum of three manufacturing lots with each manufacturing lot built from different wafer lots built on non-consecutive days. These manufacturing lots are picked to represent a wide parametric distribution.

1.2 Standards Used:

- IESNA LM-80-15: IES Approved Method for Measuring Lumen Maintenance of LED Light Sources.
- CIE 127:2007: Measurement of LEDs (This standard was not accredited by IAS)
- 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
0.3m integrating sphere	EVERFINE	Diameter 0.3m	1011119	0.3m	2017-03-09	2018-03-09
Programmable Test Power for LEDs	EVERFINE	LED300E	1008002	15V/2000mA	2017-03-03	2018-03-03
High accuracy array spectroradiometer	EVERFINE	HAAS-2000	1012016T	380-780nm	2017-03-09	2018-03-09
Standard Light Source	EVERFINE	D062	1011093	3000K	2017-09-13	2018-09-13
Precision digital stabilized DC power supply	EVERFINE	WY605-V110	G115987CJ7 321114	300VA	2017-03-03	2018-03-03
Digital CC&CV DC Power Supply	EVERFINE	WY5015	11060010	(50/15A)	2017-03-03	2018-03-03
Digital CC&CV DC Power Supply	EVERFINE	WY5015	11090008	(50/15A)	2017-07-07	2018-07-07
Digital CC&CV DC Power Supply	EVERFINE	WY5015	11060002	(50/15A)	2017-07-07	2018-07-07
Multilayer aging machine	BACL	B2-270	20015	25°C~130°C	2017-03-03	2018-03-03

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 lumen maintenance test, samples within one data set, were installed on cooling boards in thermal chambers with minimal ambient airflow. The case temperature and ambient temperature was monitored by thermocouples which one was soldered to the coldest DUTs' case (TMP_{LED}) 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 comply with ASTM E230 Table 1 "Special Limits".

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.

The relative humidity within chamber was kept less than 65% during test.

For photometry measurement, the ambient temperature during test was set to $25^{\circ}\text{C} \pm 2^{\circ}\text{C}$, RH <65%.

1.6 Photometric Measurement Method and Uncertainty

Integrating sphere and spectroradiometer is used to measure luminous flux and chromaticity coordinate u'v'. 2 π measurement was used and sample was driven by DC power supply. The forward current was regulated to within $\pm 0.5\%$ of the nominal value. The test system was calibrated by halogen reference lamp. The ambient temperature during test was set to $25^{\circ}\text{C} \pm 2^{\circ}\text{C}$, RH <65%. The temperature measurement point was located in the sphere and the temperature was detected by a temperature probe.

The uncertainty of the light output measurements is $U=1.59\%$ ($K=2$), at the 95% confidence level. The uncertainty of the correlated color temperature measurements is $U=21\text{K}$ ($K=2$), at the 95% confidence level.

The uncertainty of the temperature is $U=0.8671^{\circ}\text{C}$ ($K=2$), at the 95% confidence level.

1.7 Statement of Traceability

Bay Area Compliance Laboratories Corp. (Dongguan) attested that all calibration has been performed using suitable standards traceable to National Primary Standards and International System of Units (SI).

1.8 Sample Set

Data Set 1: 55°C, 30mA

Part Number: SMD 2835
Number of Units: 25
Case Temperature: >53°C
Ambient Temperature: >50°C
Life Test Drive Current: 30mA
Measurement Current: 30mA

Data Set 2: 85°C, 30mA

Part Number: SMD 2835
Number of Units: 25
Case Temperature: >83°C
Ambient Temperature: >80°C
Life Test Drive Current: 30mA
Measurement Current: 30mA

Data Set 2: 105°C, 30mA

Part Number: SMD 2835
Number of Units: 25
Case Temperature: >103°C
Ambient Temperature: >100°C
Life Test Drive Current: 30mA
Measurement Current: 30mA

2 - Summary of Test Result

Data Set:	Sample Size	Failures Observed:	Test Interval	Test Duration	α :	β :	Reported TM-21 L ₇₀ Lifetime
1	25	0	1000hrs	6000hrs	2.217E-06	1.005	>36000 hours
2	25	0	1000hrs	6000hrs	2.938E-06	1.005	>36000 hours
3	25	0	1000hrs	6000hrs	3.460E-06	1.004	>36000 hours

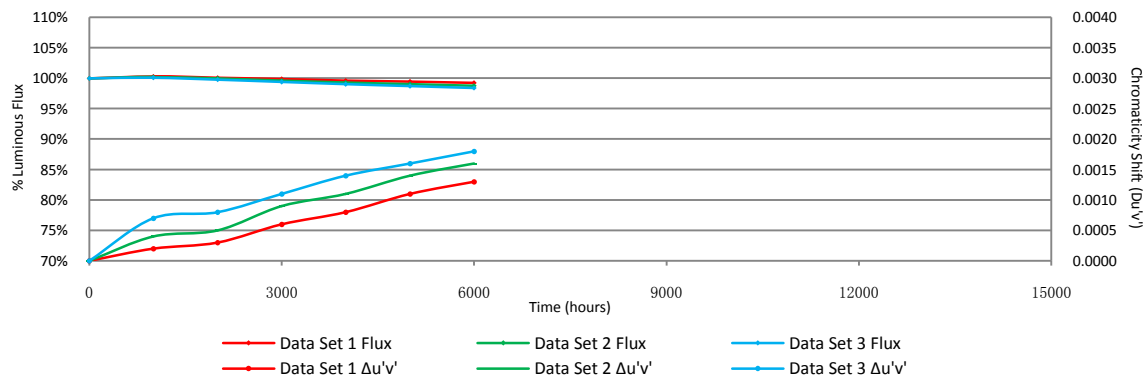
Average Lumen Maintenance (Percentage of Initial Luminous Flux)

Data Set:	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs
1	100.31%	100.11%	99.88%	99.63%	99.43%	99.22%
2	100.21%	99.96%	99.63%	99.31%	99.04%	98.78%
3	100.10%	99.79%	99.40%	99.02%	98.71%	98.42%

Average Chromaticity Shift

Data Set:	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs
1	0.0002	0.0003	0.0006	0.0008	0.0011	0.0013
2	0.0004	0.0005	0.0009	0.0011	0.0014	0.0016
3	0.0007	0.0008	0.0011	0.0014	0.0016	0.0018

Average Lumen Maintenance and Chromaticity Shift VS. Time



3 - Test Data

3.1 Data Set 1, 55°C, 30mA (Lumen Maintenance)

No.	Φ(lm)	Lumen Maintenance (%)					
	0hr(Initial)	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs
1	104.4	100.38	100.19	99.90	99.71	99.43	99.23
2	104.6	100.19	99.90	99.81	99.43	99.24	98.95
3	103.6	100.29	100.19	99.81	99.52	99.42	99.23
4	105.6	100.28	100.19	99.91	99.62	99.43	99.15
5	105.3	100.47	100.38	100.09	99.91	99.53	99.34
6	104.7	100.29	100.10	99.81	99.52	99.24	98.95
7	103.8	100.19	100.10	99.90	99.71	99.42	99.33
8	104.0	100.48	100.29	100.19	99.81	99.71	99.52
9	105.3	100.28	100.19	99.81	99.53	99.34	99.05
10	104.5	100.29	99.90	99.62	99.43	99.14	98.95
11	106.1	100.09	99.81	99.53	99.34	99.15	98.87
12	104.8	100.10	99.90	99.71	99.33	99.24	99.14
13	105.9	100.19	99.81	99.53	99.24	99.15	98.87
14	104.7	100.29	99.90	99.71	99.62	99.33	99.14
15	104.3	100.29	100.10	99.90	99.62	99.33	99.14
16	103.2	100.39	100.29	100.19	99.90	99.81	99.71
17	104.5	100.48	100.29	100.10	99.90	99.71	99.52
18	106.1	100.38	100.19	100.09	99.81	99.53	99.25
19	106.9	100.37	100.19	99.91	99.63	99.53	99.44
20	105.3	100.19	99.91	99.72	99.53	99.34	99.15
21	103.2	100.39	100.19	99.90	99.81	99.61	99.22
22	106.2	100.47	100.09	99.91	99.72	99.62	99.44
23	105.0	100.38	100.29	100.19	99.90	99.81	99.52
24	103.2	100.39	100.10	99.90	99.81	99.52	99.42
25	105.9	100.28	100.19	99.91	99.53	99.24	99.06
Ave.	104.8	100.31	100.11	99.88	99.63	99.43	99.22
Med.	104.7	100.29	100.19	99.90	99.62	99.42	99.22
st dev	1.0	0.1121	0.1635	0.1888	0.1947	0.2019	0.2260
Min.	103.2	100.09	99.81	99.53	99.24	99.14	98.87
Max.	106.9	100.48	100.38	100.19	99.91	99.81	99.71

3.2 Data Set 1, 55°C, 30mA (Forward Voltage)

No.	Forward Voltage (V)						
	Ohr(Initial)	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs
1	27.18	26.19	26.17	26.27	26.27	26.15	26.16
2	27.14	26.14	26.14	26.21	26.24	26.12	26.11
3	27.18	26.21	26.19	26.28	26.28	26.15	26.16
4	27.11	26.13	26.11	26.20	26.20	26.09	26.08
5	27.14	26.17	26.15	26.24	26.24	26.12	26.13
6	27.16	26.20	26.17	26.26	26.26	26.13	26.16
7	27.14	26.17	26.14	26.25	26.23	26.12	26.13
8	27.11	26.16	26.13	26.23	26.20	26.10	26.12
9	27.08	26.10	26.08	26.19	26.17	26.06	26.09
10	27.11	26.15	26.12	26.22	26.21	26.09	26.12
11	27.02	26.05	26.03	26.12	26.11	26.00	26.02
12	27.07	26.10	26.07	26.18	26.15	26.16	26.08
13	27.07	26.09	26.07	26.17	26.16	26.04	26.07
14	27.12	26.15	26.13	26.24	26.21	26.10	26.13
15	27.12	26.16	26.13	26.24	26.22	26.10	26.12
16	27.13	26.17	26.15	26.27	26.24	26.11	26.13
17	27.13	26.17	26.13	26.24	26.22	26.10	26.13
18	27.02	26.06	26.03	26.13	26.11	26.00	26.04
19	27.02	26.05	26.04	26.14	26.12	26.00	26.03
20	27.04	26.08	26.06	26.15	26.13	26.03	26.05
21	27.14	26.18	26.15	26.27	26.24	26.12	26.15
22	27.00	26.04	26.00	26.12	26.09	25.99	26.01
23	27.08	26.11	26.09	26.22	26.18	26.07	26.10
24	27.13	26.17	26.14	26.28	26.24	26.12	26.14
25	27.02	26.04	26.03	26.14	26.10	26.02	26.03
Ave.	27.10	26.13	26.11	26.21	26.19	26.08	26.10
Med.	27.11	26.15	26.13	26.22	26.21	26.10	26.12
st dev	0.05	0.05	0.05	0.05	0.06	0.05	0.05
Min.	27.00	26.04	26.00	26.12	26.09	25.99	26.01
Max.	27.18	26.21	26.19	26.28	26.28	26.16	26.16

3.3 Data Set 1, 55°C, 30mA (Chromaticity Shift)

No.	u'	v'	CCT(K)	Chromaticity Shift ($\Delta u'v'$)					
				1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs
1	0.2353	0.5167	3453	0.0001	0.0003	0.0006	0.0008	0.0012	0.0015
2	0.2349	0.5150	3486	0.0001	0.0004	0.0005	0.0008	0.0011	0.0014
3	0.2349	0.5150	3483	0.0002	0.0005	0.0008	0.0010	0.0013	0.0015
4	0.2345	0.5146	3502	0.0001	0.0004	0.0006	0.0008	0.0011	0.0014
5	0.2351	0.5154	3474	0.0002	0.0003	0.0006	0.0008	0.0011	0.0013
6	0.2359	0.5159	3446	0.0002	0.0002	0.0006	0.0008	0.0011	0.0013
7	0.2348	0.5155	3482	0.0001	0.0002	0.0005	0.0007	0.0010	0.0012
8	0.2350	0.5158	3473	0.0002	0.0005	0.0008	0.0010	0.0013	0.0015
9	0.2358	0.5152	3453	0.0002	0.0001	0.0004	0.0006	0.0009	0.0012
10	0.2348	0.5160	3476	0.0001	0.0003	0.0006	0.0009	0.0010	0.0013
11	0.2355	0.5163	3454	0.0001	0.0003	0.0005	0.0008	0.0011	0.0013
12	0.2357	0.5153	3458	0.0001	0.0001	0.0005	0.0008	0.0011	0.0012
13	0.2359	0.5133	3472	0.0001	0.0003	0.0006	0.0009	0.0011	0.0013
14	0.2347	0.5165	3474	0.0001	0.0001	0.0005	0.0008	0.0011	0.0011
15	0.2351	0.5168	3460	0.0001	0.0003	0.0006	0.0008	0.0011	0.0013
16	0.2356	0.5154	3457	0.0004	0.0004	0.0006	0.0009	0.0011	0.0013
17	0.2354	0.5158	3460	0.0002	0.0001	0.0005	0.0006	0.0009	0.0012
18	0.2346	0.5154	3488	0.0004	0.0003	0.0006	0.0009	0.0012	0.0013
19	0.2355	0.5154	3462	0.0002	0.0006	0.0009	0.0012	0.0015	0.0016
20	0.2357	0.5147	3463	0.0004	0.0006	0.0008	0.0011	0.0013	0.0014
21	0.2358	0.5153	3454	0.0003	0.0003	0.0007	0.0010	0.0012	0.0014
22	0.2355	0.5159	3456	0.0003	0.0003	0.0005	0.0008	0.0010	0.0013
23	0.2352	0.5146	3479	0.0003	0.0003	0.0006	0.0009	0.0011	0.0013
24	0.2348	0.5150	3486	0.0004	0.0004	0.0005	0.0008	0.0010	0.0012
25	0.2350	0.5147	3486	0.0004	0.0007	0.0007	0.0009	0.0011	0.0013
Ave.	0.2352	0.5154	3469	0.0002	0.0003	0.0006	0.0008	0.0011	0.0013
Med.	0.2352	0.5154	3472	0.0002	0.0003	0.0006	0.0008	0.0011	0.0013
st dev	0.0004	0.0008	15	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
Min.	0.2345	0.5133	3446	0.0001	0.0001	0.0004	0.0006	0.0009	0.0011
Max.	0.2359	0.5168	3502	0.0004	0.0007	0.0009	0.0012	0.0015	0.0016

3.4 Data Set 2, 85°C, 30mA (Lumen Maintenance)

No.	Φ(lm)	Lumen Maintenance (%)					
	Ohr(Initial)	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs
26	104.7	100.29	100.19	99.90	99.71	99.43	99.14
27	103.2	100.19	99.81	99.42	99.13	98.93	98.55
28	104.5	100.29	100.10	99.81	99.62	99.23	99.14
29	105.5	100.28	100.09	99.62	99.34	99.05	98.96
30	104.4	100.29	99.90	99.62	99.33	98.95	98.75
31	104.3	100.10	99.90	99.52	99.23	98.95	98.75
32	102.5	100.29	100.10	99.90	99.71	99.51	99.32
33	104.5	100.38	100.19	99.81	99.43	99.23	98.85
34	104.1	100.19	100.10	99.81	99.52	99.23	98.94
35	106.4	100.09	99.91	99.72	99.44	99.06	98.78
36	105.7	100.28	100.19	99.81	99.53	99.24	98.86
37	104.1	100.10	99.81	99.42	99.14	98.85	98.66
38	103.7	100.19	99.81	99.52	99.04	98.75	98.55
39	105.0	100.10	99.81	99.62	99.14	98.95	98.67
40	104.0	100.19	99.90	99.42	99.04	98.75	98.46
41	105.4	100.09	99.91	99.62	99.15	98.86	98.58
42	106.1	100.28	99.91	99.43	99.06	98.87	98.68
43	103.7	100.19	99.90	99.52	99.04	98.84	98.55
44	105.9	100.28	99.91	99.72	99.43	99.06	98.77
45	104.1	100.10	99.90	99.42	99.04	98.85	98.66
46	104.3	100.19	99.90	99.52	99.42	99.23	98.85
47	105.9	100.28	99.81	99.34	98.96	98.68	98.39
48	105.0	100.29	100.10	99.71	99.24	99.14	98.76
49	106.0	100.28	100.19	99.91	99.62	99.34	99.06
50	103.7	100.10	99.61	99.52	99.42	99.04	98.84
Ave.	104.7	100.21	99.96	99.63	99.31	99.04	98.78
Med.	104.5	100.19	99.91	99.62	99.33	99.04	98.76
st dev	1.0	0.0880	0.1540	0.1748	0.2316	0.2214	0.2242
Min.	102.5	100.09	99.61	99.34	98.96	98.68	98.39
Max.	106.4	100.38	100.19	99.91	99.71	99.51	99.32

3.5 Data Set 2, 85°C, 30mA (Forward Voltage)

No.	Forward Voltage (V)						
	Ohr(Initial)	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs
26	27.10	26.15	26.14	26.25	26.22	26.13	26.14
27	27.20	26.25	26.23	26.38	26.32	26.22	26.23
28	27.06	26.10	26.07	26.20	26.17	26.07	26.09
29	27.03	26.06	26.05	26.16	26.13	26.03	26.04
30	27.10	26.14	26.13	26.25	26.21	26.12	26.13
31	27.06	26.09	26.08	26.19	26.16	26.07	26.08
32	27.17	26.21	26.19	26.32	26.27	26.17	26.20
33	27.16	26.96	26.67	26.79	26.76	26.64	26.66
34	27.08	26.13	26.10	26.21	26.18	26.08	26.11
35	26.94	26.12	25.97	26.06	26.03	25.94	25.96
36	27.07	26.10	26.08	26.19	26.16	26.06	26.09
37	27.11	26.14	26.14	26.24	26.22	26.10	26.13
38	27.06	26.10	26.09	26.20	26.17	26.06	26.09
39	27.06	26.09	26.08	26.19	26.16	26.05	26.08
40	27.07	26.11	26.09	26.19	26.17	26.06	26.10
41	27.08	26.12	26.09	26.20	26.18	26.07	26.11
42	26.99	26.03	26.00	26.10	26.09	25.97	26.01
43	27.08	26.11	26.10	26.21	26.18	26.07	26.11
44	26.99	26.04	26.01	26.13	26.10	25.99	26.02
45	27.12	26.15	26.13	26.27	26.22	26.10	26.14
46	27.13	26.16	26.13	26.27	26.24	26.11	26.13
47	26.97	26.01	25.99	26.09	26.07	25.97	25.99
48	27.08	26.11	26.10	26.22	26.19	26.09	26.09
49	27.06	26.10	26.08	26.20	26.17	26.07	26.08
50	27.13	26.16	26.15	26.27	26.25	26.12	26.14
Ave.	27.08	26.15	26.12	26.23	26.20	26.09	26.12
Med.	27.08	26.11	26.09	26.20	26.18	26.07	26.10
st dev	0.06	0.18	0.13	0.14	0.13	0.13	0.13
Min.	26.94	26.01	25.97	26.06	26.03	25.94	25.96
Max.	27.20	26.96	26.67	26.79	26.76	26.64	26.66

3.6 Data Set 2, 85°C, 30mA (Chromaticity Shift)

No.	u'	v'	CCT(K)	Chromaticity Shift ($\Delta u'v'$)					
	0hr(Initial)			1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs
26	0.2346	0.5157	3487	0.0003	0.0004	0.0008	0.0010	0.0012	0.0015
27	0.2360	0.5135	3467	0.0004	0.0006	0.0010	0.0012	0.0014	0.0016
28	0.2348	0.5139	3498	0.0004	0.0006	0.0008	0.0011	0.0013	0.0015
29	0.2353	0.5126	3496	0.0004	0.0005	0.0008	0.0011	0.0014	0.0016
30	0.2353	0.5165	3458	0.0004	0.0005	0.0008	0.0011	0.0013	0.0016
31	0.2354	0.5147	3474	0.0005	0.0005	0.0009	0.0012	0.0014	0.0017
32	0.2350	0.5154	3477	0.0004	0.0005	0.0008	0.0010	0.0013	0.0015
33	0.2356	0.5163	3449	0.0007	0.0007	0.0011	0.0012	0.0013	0.0015
34	0.2359	0.5149	3454	0.0002	0.0006	0.0009	0.0012	0.0015	0.0017
35	0.2348	0.5151	3484	0.0003	0.0004	0.0008	0.0011	0.0013	0.0015
36	0.2354	0.5143	3477	0.0005	0.0006	0.0008	0.0011	0.0013	0.0015
37	0.2354	0.5135	3487	0.0004	0.0007	0.0011	0.0012	0.0016	0.0017
38	0.2354	0.5153	3465	0.0004	0.0005	0.0009	0.0012	0.0014	0.0016
39	0.2351	0.5152	3475	0.0004	0.0006	0.0009	0.0012	0.0014	0.0016
40	0.2356	0.5146	3467	0.0006	0.0008	0.0010	0.0012	0.0015	0.0017
41	0.2351	0.5152	3475	0.0006	0.0006	0.0009	0.0012	0.0015	0.0016
42	0.2352	0.5167	3456	0.0004	0.0006	0.0009	0.0012	0.0015	0.0016
43	0.2353	0.5148	3474	0.0003	0.0004	0.0009	0.0011	0.0014	0.0016
44	0.2358	0.5164	3441	0.0004	0.0005	0.0008	0.0011	0.0014	0.0015
45	0.2354	0.5165	3452	0.0004	0.0006	0.0009	0.0012	0.0014	0.0016
46	0.2348	0.5153	3483	0.0004	0.0005	0.0008	0.0011	0.0014	0.0016
47	0.2344	0.5137	3512	0.0003	0.0007	0.0009	0.0011	0.0014	0.0016
48	0.2348	0.5152	3485	0.0004	0.0004	0.0008	0.0011	0.0013	0.0016
49	0.2344	0.5156	3492	0.0002	0.0004	0.0006	0.0010	0.0013	0.0015
50	0.2352	0.5168	3456	0.0004	0.0004	0.0008	0.0011	0.0014	0.0016
Ave.	0.2352	0.5151	3474	0.0004	0.0005	0.0009	0.0011	0.0014	0.0016
Med.	0.2353	0.5152	3475	0.0004	0.0005	0.0009	0.0011	0.0014	0.0016
st dev	0.0004	0.0011	17	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
Min.	0.2344	0.5126	3441	0.0002	0.0004	0.0006	0.0010	0.0012	0.0015
Max.	0.2360	0.5168	3512	0.0007	0.0008	0.0011	0.0012	0.0016	0.0017

3.7 Data Set 3, 105°C, 30mA (Lumen Maintenance)

No.	Φ(lm)	Lumen Maintenance (%)					
	Ohr(Initial)	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs
26	105.1	100.19	100.10	99.81	99.52	99.24	98.95
27	103.5	99.90	99.81	99.23	98.74	98.55	98.07
28	103.5	100.10	99.61	99.32	98.94	98.74	98.36
29	105.6	100.19	100.09	99.72	99.34	98.96	98.58
30	106.4	100.09	99.81	99.34	98.97	98.68	98.50
31	105.4	100.19	99.91	99.34	99.05	98.67	98.39
32	104.9	100.10	99.90	99.43	99.14	98.86	98.57
33	104.6	99.90	99.71	99.24	98.85	98.47	98.37
34	106.2	99.91	99.44	99.06	98.78	98.49	98.21
35	106.0	100.19	100.09	99.81	99.34	99.06	98.77
36	105.3	99.91	99.53	99.15	98.77	98.39	98.20
37	106.5	100.19	100.09	99.62	99.34	99.06	98.69
38	103.0	100.29	100.10	99.81	99.51	99.22	98.93
39	104.0	100.19	99.90	99.62	99.23	98.94	98.65
40	104.4	100.10	99.90	99.52	99.04	98.85	98.47
41	104.6	99.81	99.71	99.43	99.04	98.66	98.47
42	105.7	99.91	99.24	98.86	98.49	98.20	97.82
43	105.3	100.19	99.62	99.05	98.77	98.39	98.01
44	106.2	100.09	99.91	99.44	99.06	98.59	98.31
45	106.1	99.91	99.62	99.25	98.77	98.59	98.40
46	105.9	100.19	99.81	99.24	98.87	98.58	98.21
47	106.1	100.28	99.91	99.53	99.06	98.68	98.40
48	105.5	100.19	99.62	99.24	98.86	98.48	98.29
49	104.3	100.10	99.52	99.33	98.85	98.56	98.47
50	103.7	100.29	99.90	99.52	99.23	98.84	98.46
Ave.	105.1	100.10	99.79	99.40	99.02	98.71	98.42
Med.	105.3	100.10	99.81	99.34	99.04	98.67	98.40
st dev	1.0	0.1430	0.2286	0.2487	0.2613	0.2649	0.2651
Min.	103.0	99.81	99.24	98.86	98.49	98.20	97.82
Max.	106.5	100.29	100.10	99.81	99.52	99.24	98.95

3.8 Data Set 3, 105°C, 30mA (Forward Voltage)

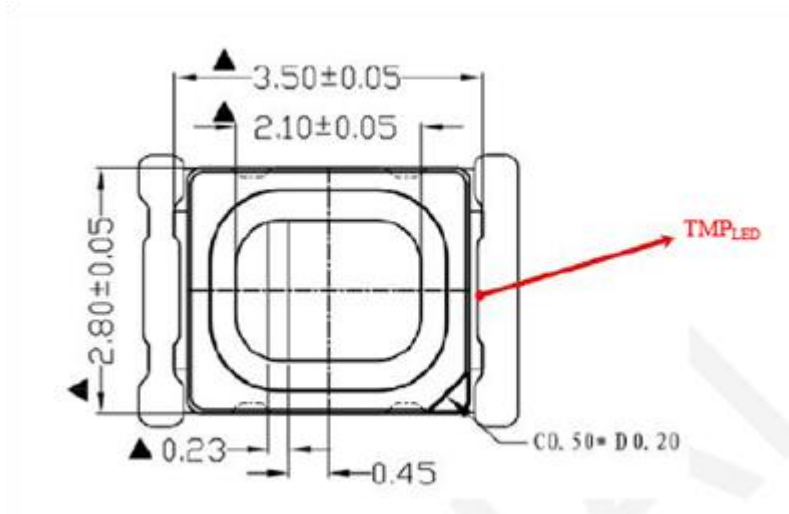
No.	Forward Voltage (V)						
	Ohr(Initial)	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs
26	27.06	26.12	26.08	26.20	26.18	26.07	26.10
27	27.08	26.12	26.10	26.21	26.19	26.10	26.10
28	27.07	26.12	26.10	26.21	26.18	26.09	26.10
29	27.02	26.06	26.04	26.14	26.12	26.03	26.04
30	26.98	26.02	25.99	26.12	26.08	25.99	26.00
31	27.09	26.13	26.12	26.24	26.20	26.09	26.10
32	27.01	26.05	26.04	26.15	26.11	26.01	26.03
33	27.04	26.08	26.07	26.20	26.15	26.04	26.06
34	27.04	26.08	26.07	26.19	26.15	26.04	26.10
35	26.97	26.01	26.02	26.09	26.07	25.96	26.00
36	26.97	26.00	25.99	26.09	26.33	25.96	26.01
37	27.02	26.06	26.08	26.15	26.18	26.02	26.05
38	27.10	26.14	26.15	26.25	26.22	26.13	26.12
39	27.12	26.16	26.17	26.27	26.27	26.13	26.13
40	27.07	26.12	26.12	26.21	26.19	26.08	26.10
41	27.10	26.15	26.15	26.26	26.23	26.13	26.16
42	27.05	26.11	26.09	26.18	26.15	26.07	26.08
43	27.05	26.10	26.08	26.20	26.16	26.07	26.09
44	26.91	25.95	25.94	26.04	26.01	25.92	25.94
45	27.03	26.07	26.07	26.16	26.13	26.06	26.06
46	27.04	26.08	26.07	26.17	26.14	26.06	26.06
47	26.98	26.02	26.02	26.11	26.08	25.99	26.01
48	27.05	26.09	26.08	26.18	26.15	26.06	26.07
49	27.12	26.16	26.15	26.26	26.23	26.12	26.14
50	27.07	26.10	26.09	26.20	26.17	26.07	26.09
Ave.	27.04	26.08	26.08	26.18	26.16	26.05	26.07
Med.	27.05	26.09	26.08	26.19	26.16	26.06	26.08
st dev	0.05	0.05	0.06	0.06	0.07	0.06	0.05
Min.	26.91	25.95	25.94	26.04	26.01	25.92	25.94
Max.	27.12	26.16	26.17	26.27	26.33	26.13	26.16

3.9 Data Set 3, 105°C, 30mA (Chromaticity Shift)

No.	u'	v'	CCT(K)	Chromaticity Shift ($\Delta u'v'$)					
	0hr(Initial)			1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs
26	0.2361	0.5142	3456	0.0005	0.0007	0.0010	0.0012	0.0015	0.0017
27	0.2350	0.5146	3487	0.0006	0.0008	0.0011	0.0013	0.0016	0.0018
28	0.2358	0.5150	3458	0.0006	0.0007	0.0011	0.0013	0.0016	0.0018
29	0.2353	0.5148	3473	0.0006	0.0009	0.0012	0.0014	0.0017	0.0020
30	0.2349	0.5136	3498	0.0006	0.0007	0.0011	0.0013	0.0015	0.0017
31	0.2353	0.5161	3461	0.0008	0.0008	0.0011	0.0014	0.0017	0.0019
32	0.2354	0.5152	3466	0.0007	0.0007	0.0011	0.0014	0.0017	0.0018
33	0.2362	0.5151	3445	0.0008	0.0007	0.0009	0.0012	0.0016	0.0018
34	0.2349	0.5138	3497	0.0006	0.0007	0.0011	0.0013	0.0016	0.0017
35	0.2351	0.5151	3478	0.0007	0.0009	0.0011	0.0013	0.0017	0.0017
36	0.2352	0.5150	3475	0.0007	0.0007	0.0013	0.0015	0.0018	0.0019
37	0.2356	0.5166	3447	0.0008	0.0008	0.0012	0.0015	0.0018	0.0020
38	0.2356	0.5156	3456	0.0007	0.0009	0.0012	0.0014	0.0017	0.0019
39	0.2343	0.5167	3483	0.0007	0.0008	0.0009	0.0012	0.0015	0.0016
40	0.2345	0.5142	3506	0.0007	0.0007	0.0011	0.0013	0.0015	0.0017
41	0.2346	0.5155	3488	0.0007	0.0008	0.0010	0.0013	0.0015	0.0017
42	0.2347	0.5147	3492	0.0006	0.0008	0.0011	0.0013	0.0015	0.0017
43	0.2347	0.5140	3503	0.0008	0.0008	0.0012	0.0014	0.0017	0.0019
44	0.2357	0.5156	3453	0.0007	0.0008	0.0012	0.0014	0.0017	0.0018
45	0.2356	0.5155	3457	0.0007	0.0009	0.0014	0.0016	0.0017	0.0019
46	0.2351	0.5151	3478	0.0008	0.0007	0.0012	0.0014	0.0016	0.0019
47	0.2343	0.5159	3492	0.0006	0.0008	0.0011	0.0014	0.0016	0.0018
48	0.2357	0.5162	3448	0.0007	0.0008	0.0012	0.0014	0.0016	0.0019
49	0.2358	0.5158	3449	0.0007	0.0007	0.0011	0.0014	0.0016	0.0018
50	0.2358	0.5151	3455	0.0006	0.0008	0.0011	0.0013	0.0016	0.0018
Ave.	0.2352	0.5152	3472	0.0007	0.0008	0.0011	0.0014	0.0016	0.0018
Med.	0.2353	0.5151	3473	0.0007	0.0008	0.0011	0.0014	0.0016	0.0018
st dev	0.0005	0.0008	19	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
Min.	0.2343	0.5136	3445	0.0005	0.0007	0.0009	0.0012	0.0015	0.0016
Max.	0.2362	0.5167	3506	0.0008	0.0009	0.0014	0.0016	0.0018	0.0020

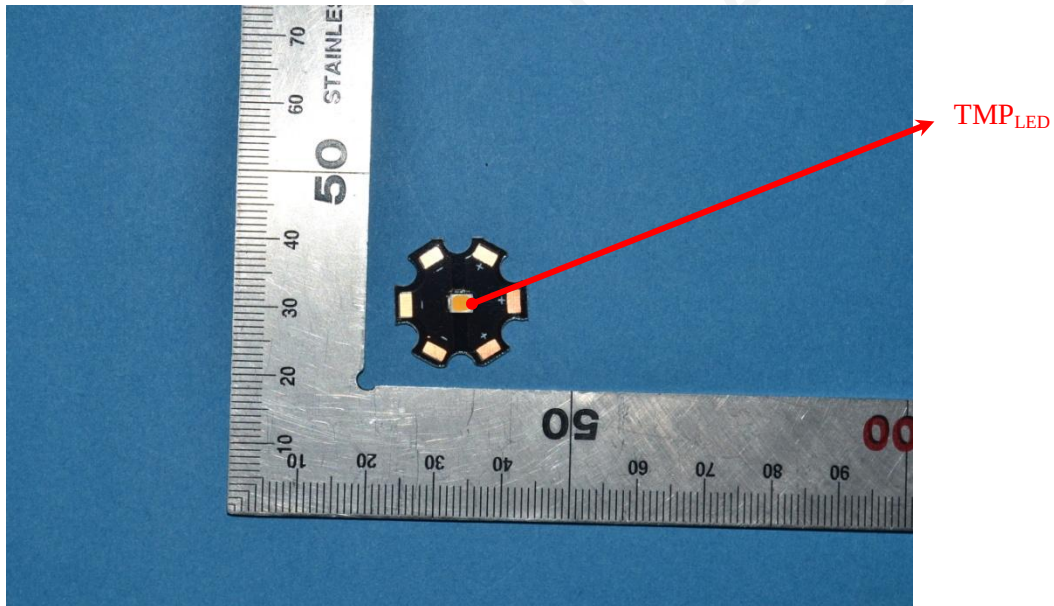
4 - DUT Photo

4.1 Mechanical Dimensions



All dimensions are in millimeter

4.2 DUT Photo



*****END OF REPORT*****