



TEST REPORT

According to ANSI/IES LM-80-15
For

shenzhen destar opto-electronics co.,ltd

6th Floor 3rd Building,huanghaida 7th Industry Park,GongMing YuLv Village,Guangming New Disrict,ShenZhen,GuangDong

#Model: DC-2835

Report Type: 9000 Hours Test Report	Product Type: LED Package
Reviewed By:	Pote Wang <i>Pote Wang</i>
Report Number:	R2DG190810080-10-9000
Test Date:	2019-08-12 to 2020-08-21
Report Date:	2020-12-17
Approved by:	Blake Zhang / EE Engineer <i>Blake Zhang</i>
Test Facility:	Test facility was located at No.12, Pulong East 1 st Road, Tangxia Town, Dongguan, Guangdong, China.
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Accreditation:	The IAS Accreditation Number TL-460.



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1 - General Information

1.1 Description of LED Light Sources

Sample Size:

50 PCS test samples were in good condition and received on 2019-08-10. The samples were numbered from 1 to 25 and 26 to 50.

#Manufacturer:	shenzhen destar opto-electronics co.,ltd
#Part Number:	DC-2835
#Part Type:	LED Package
#Drive Level:	DC 60mA
#Nominal CCT:	2700K
#Power:	0.2W
#Average Current Density per LED die:	6.122mA/mm ²
#Average Power Density per LED die:	0.0204W/mm ²
#CRI:	80
#Die Spacing:	N/A

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 and Reference Documentations

- ANSI/IES LM-80-15: IES Approved Method for Measuring Lumen Maintenance of LED Light Sources.
- CIE 127:2007: Measurement of LEDs
- 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	Calibration date	Calibration due date
0.5m integrating sphere	EVERFINE	AIS-2	G185304TA1381172	2019-10-22	2020-10-21
LED Test Source	EVERFINE	LTS-300	P185616CD1371113	2019-10-21	2020-10-20
High Accuracy Array Spectroradiometer	EVERFINE	HAAS-2000	P600674CM1381123	2019-10-22	2020-10-21
Standard Light Source	EVERFINE	D062	1011093	2019-10-20	2020-10-19
Multilayer aging machine	BACL	B2-270	20023	2020-03-11	2021-03-10
DC Power Supply	BACL	B12001-12	90023	2020-03-16	2021-03-15

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 ±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°C ± 2°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'. 2π measurement was used and sample was driven by DC power supply. The forward current was regulated to within ±0.5% of the nominal value. The test system was calibrated by halogen reference lamp. The ambient temperature during test was set to 25°C ± 2°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=21K (K=2), at the 95% confidence level.

The uncertainty of the temperature is U=0.8671°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: 85°C, 60mA

Part Number: DC-2835
Number of Units: 25
Case Temperature: >83°C
Ambient Temperature: >80°C
Life Test Drive Current: 60mA
Measurement Current: 60mA

Data Set 2: 105°C, 60mA

Part Number: DC-2835
Number of Units: 25
Case Temperature: >103°C
Ambient Temperature: >100°C
Life Test Drive Current: 60mA
Measurement Current: 60mA

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	9000hrs	2.456E-06	1.005	>54000 hours
2	25	0	1000hrs	9000hrs	2.904E-06	1.006	>54000 hours

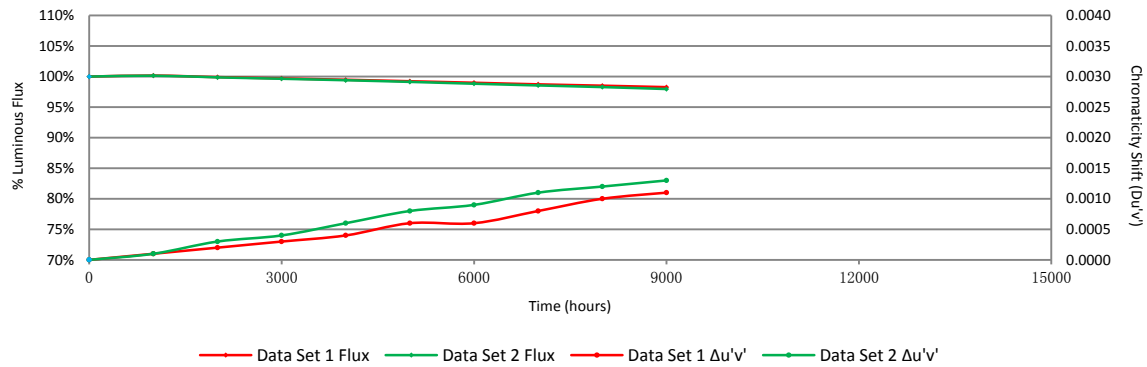
Average Lumen Maintenance (Percentage of Initial Luminous Flux)

Data Set:	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs
1	100.17%	99.91%	99.70%	99.48%	99.24%	98.99%	98.73%	98.51%	98.27%
2	100.15%	99.87%	99.64%	99.40%	99.13%	98.83%	98.55%	98.28%	97.96%

Average Chromaticity Shift

Data Set:	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs
1	0.0001	0.0002	0.0003	0.0004	0.0006	0.0006	0.0008	0.0010	0.0011
2	0.0001	0.0003	0.0004	0.0006	0.0008	0.0009	0.0011	0.0012	0.0013

Average Lumen Maintenance and Chromaticity Shift VS. Time



3 - Test Data

3.1 Data Set 1, 85°C, 60mA (Lumen Maintenance)

No.	Φ(lm)	Lumen Maintenance (%)								
	0hr(Initial)	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs
1	29.78	100.20	100.07	99.97	99.60	99.50	99.19	99.03	98.76	98.56
2	29.85	100.17	99.90	99.80	99.46	99.43	99.10	98.79	98.73	98.69
3	29.86	100.27	100.03	99.87	99.73	99.43	99.30	99.03	98.83	98.43
4	30.07	100.13	99.87	99.70	99.53	99.30	99.14	98.84	98.77	98.40
5	29.83	100.13	99.97	99.77	99.60	99.33	99.20	98.89	98.69	98.39
6	30.35	100.03	99.93	99.84	99.57	99.31	99.04	98.75	98.62	98.39
7	30.08	100.07	99.83	99.63	99.34	99.24	99.00	98.57	98.34	98.24
8	29.98	100.03	99.70	99.40	99.23	99.07	98.83	98.40	98.03	97.97
9	30.07	100.07	99.73	99.47	99.27	99.07	98.90	98.67	98.40	98.04
10	29.85	100.27	99.93	99.73	99.60	99.43	99.16	98.93	98.76	98.29
11	30.24	100.30	100.10	99.83	99.74	99.34	99.14	99.04	98.97	98.78
12	30.09	100.37	100.13	99.73	99.70	99.60	99.30	99.10	99.04	98.64
13	30.10	100.07	99.97	99.63	99.50	99.17	99.07	98.97	98.74	98.34
14	30.38	100.13	99.77	99.54	99.14	98.98	98.55	98.22	98.06	97.83
15	29.58	100.10	99.86	99.73	99.59	99.29	98.92	98.61	98.44	98.28
16	29.84	100.23	99.83	99.77	99.63	99.20	98.99	98.69	98.39	98.29
17	30.23	100.23	99.87	99.77	99.60	99.34	99.07	98.74	98.35	98.21
18	29.90	100.03	99.77	99.53	99.30	99.13	98.96	98.66	98.33	98.23
19	29.79	100.27	100.07	99.70	99.40	99.13	98.86	98.62	98.56	98.49
20	29.51	100.17	99.90	99.66	99.32	99.05	98.71	98.41	98.24	98.00
21	30.29	100.23	99.90	99.70	99.31	99.08	98.68	98.45	98.12	97.76
22	29.87	100.10	99.97	99.70	99.36	99.13	98.86	98.83	98.39	98.06
23	29.79	100.30	99.90	99.70	99.33	99.16	98.83	98.69	98.36	97.95
24	30.16	100.10	99.97	99.64	99.47	99.07	98.91	98.77	98.47	98.24
25	29.87	100.17	99.90	99.63	99.60	99.33	98.93	98.63	98.49	98.16
Avg.	29.97	100.17	99.91	99.70	99.48	99.24	98.99	98.73	98.51	98.27
Med.	29.90	100.17	99.90	99.70	99.50	99.24	98.99	98.74	98.47	98.28
st dev	0.23	0.10	0.11	0.13	0.17	0.16	0.19	0.22	0.27	0.26
Min.	29.51	100.03	99.70	99.40	99.14	98.98	98.55	98.22	98.03	97.76
Max.	30.38	100.37	100.13	99.97	99.74	99.60	99.30	99.10	99.04	98.78

3.2 Data Set 1, 85°C, 60mA (Forward Voltage)

No.	Forward Voltage (V)									
	0hr(Initial)	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs
1	3.022	3.045	3.035	3.035	3.025	3.059	3.022	3.031	3.021	3.034
2	3.077	3.069	3.068	3.067	3.074	3.074	3.069	3.066	3.054	3.075
3	3.058	3.058	3.072	3.058	3.056	3.037	3.040	3.053	3.044	3.077
4	3.114	3.115	3.114	3.116	3.113	3.117	3.117	3.115	3.117	3.110
5	3.056	3.056	3.058	3.055	3.056	3.051	3.079	3.058	3.062	3.056
6	3.150	3.179	3.149	3.153	3.152	3.149	3.140	3.157	3.147	3.144
7	3.036	3.047	3.041	3.037	3.046	3.063	3.079	3.045	3.043	3.032
8	3.146	3.147	3.141	3.148	3.148	3.159	3.150	3.121	3.153	3.142
9	3.114	3.109	3.106	3.111	3.117	3.119	3.117	3.112	3.114	3.119
10	3.081	3.077	3.090	3.087	3.097	3.092	3.077	3.098	3.095	3.097
11	3.048	3.036	3.034	3.035	3.075	3.030	3.047	3.071	3.080	3.022
12	3.037	3.029	3.026	3.025	3.087	3.048	3.088	3.066	3.073	3.056
13	3.057	3.052	3.055	3.039	3.052	3.071	3.064	3.069	3.060	3.051
14	3.109	3.106	3.117	3.093	3.108	3.115	3.109	3.103	3.112	3.108
15	2.984	3.007	3.009	3.001	3.009	2.993	3.007	3.008	3.008	3.003
16	3.000	3.005	3.008	3.009	2.998	3.009	3.003	3.003	2.997	3.005
17	3.007	3.007	3.002	3.008	3.008	3.004	3.001	3.007	2.998	3.001
18	3.018	3.046	3.014	3.027	3.069	3.041	3.024	3.046	3.015	3.021
19	3.021	3.060	3.032	3.052	3.067	3.065	3.029	3.036	3.026	3.056
20	3.009	3.008	3.007	3.003	3.026	3.023	3.036	3.016	3.027	3.031
21	3.043	3.047	3.028	3.045	3.055	3.024	3.041	3.041	3.045	3.065
22	2.985	3.008	3.009	3.001	3.001	3.001	3.006	3.014	3.005	3.005
23	3.095	3.106	3.103	3.103	3.098	3.093	3.105	3.102	3.101	3.105
24	3.057	3.081	3.052	3.058	3.052	3.045	3.059	3.058	3.054	3.052
25	3.003	3.002	3.013	3.005	3.002	3.014	3.001	3.011	3.009	3.007
Avg.	3.053	3.060	3.055	3.055	3.064	3.060	3.060	3.060	3.058	3.059
Med.	3.048	3.052	3.041	3.045	3.056	3.051	3.059	3.058	3.054	3.056
st dev	0.048	0.047	0.045	0.045	0.044	0.046	0.045	0.042	0.046	0.044
Min.	2.984	3.002	3.002	3.001	2.998	2.993	3.001	3.003	2.997	3.001
Max.	3.150	3.179	3.149	3.153	3.152	3.159	3.150	3.157	3.153	3.144

3.3 Data Set 1, 85°C, 60mA (Chromaticity Shift)

No.	u'	v'	CCT(K)	Chromaticity Shift ($\Delta u'v'$)								
				0hr(Initial)	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs
1	0.2629	0.5259	2697	0.0002	0.0004	0.0004	0.0006	0.0008	0.0009	0.0010	0.0013	0.0014
2	0.2620	0.5271	2711	0.0000	0.0001	0.0004	0.0004	0.0005	0.0005	0.0006	0.0009	0.0010
3	0.2636	0.5265	2681	0.0000	0.0001	0.0002	0.0004	0.0006	0.0006	0.0008	0.0011	0.0012
4	0.2630	0.5278	2687	0.0000	0.0001	0.0002	0.0004	0.0006	0.0006	0.0006	0.0008	0.0011
5	0.2644	0.5297	2653	0.0001	0.0001	0.0003	0.0004	0.0005	0.0006	0.0008	0.0009	0.0012
6	0.2601	0.5244	2764	0.0001	0.0002	0.0003	0.0004	0.0006	0.0007	0.0008	0.0009	0.0012
7	0.2601	0.5229	2771	0.0000	0.0000	0.0001	0.0002	0.0004	0.0004	0.0006	0.0007	0.0008
8	0.2621	0.5279	2706	0.0001	0.0002	0.0004	0.0004	0.0005	0.0006	0.0007	0.0008	0.0010
9	0.2609	0.5266	2736	0.0002	0.0004	0.0004	0.0005	0.0006	0.0006	0.0007	0.0008	0.0010
10	0.2637	0.5254	2684	0.0000	0.0002	0.0003	0.0004	0.0004	0.0005	0.0006	0.0007	0.0008
11	0.2623	0.5262	2708	0.0001	0.0002	0.0004	0.0004	0.0004	0.0004	0.0005	0.0006	0.0009
12	0.2601	0.5245	2763	0.0001	0.0003	0.0004	0.0005	0.0005	0.0006	0.0007	0.0008	0.0008
13	0.2603	0.5252	2756	0.0001	0.0003	0.0004	0.0005	0.0006	0.0006	0.0008	0.0009	0.0009
14	0.2625	0.5260	2706	0.0001	0.0002	0.0004	0.0004	0.0004	0.0006	0.0007	0.0008	0.0011
15	0.2639	0.5254	2678	0.0001	0.0002	0.0004	0.0006	0.0006	0.0006	0.0008	0.0009	0.0011
16	0.2640	0.5266	2673	0.0003	0.0003	0.0004	0.0006	0.0007	0.0009	0.0011	0.0011	0.0011
17	0.2639	0.5308	2657	0.0003	0.0003	0.0005	0.0006	0.0006	0.0007	0.0010	0.0011	0.0011
18	0.2620	0.5255	2719	0.0000	0.0002	0.0002	0.0003	0.0006	0.0006	0.0009	0.0011	0.0011
19	0.2623	0.5269	2707	0.0000	0.0001	0.0002	0.0003	0.0006	0.0006	0.0009	0.0011	0.0011
20	0.2647	0.5284	2651	0.0001	0.0001	0.0001	0.0002	0.0004	0.0004	0.0007	0.0008	0.0010
21	0.2630	0.5269	2691	0.0002	0.0004	0.0004	0.0004	0.0006	0.0007	0.0009	0.0011	0.0012
22	0.2642	0.5301	2655	0.0000	0.0003	0.0004	0.0004	0.0006	0.0007	0.0008	0.0011	0.0011
23	0.2650	0.5274	2648	0.0000	0.0002	0.0005	0.0006	0.0006	0.0007	0.0009	0.0011	0.0012
24	0.2636	0.5292	2670	0.0000	0.0001	0.0002	0.0004	0.0006	0.0007	0.0008	0.0011	0.0013
25	0.2623	0.5279	2702	0.0000	0.0003	0.0004	0.0006	0.0008	0.0011	0.0011	0.0014	0.0017
Avg.	0.2627	0.5268	2699	0.0001	0.0002	0.0003	0.0004	0.0006	0.0006	0.0008	0.0010	0.0011
Med.	0.2629	0.5266	2697	0.0001	0.0002	0.0004	0.0004	0.0006	0.0006	0.0008	0.0009	0.0011
st dev	0.0015	0.0019	37	0.0001	0.0001	0.0001	0.0001	0.0001	0.0002	0.0002	0.0002	0.0002
Min.	0.2601	0.5229	2648	0.0000	0.0000	0.0001	0.0002	0.0004	0.0004	0.0005	0.0006	0.0008
Max.	0.2650	0.5308	2771	0.0003	0.0004	0.0005	0.0006	0.0008	0.0011	0.0011	0.0014	0.0017

3.4 Data Set 2, 105°C, 60mA (Lumen Maintenance)

No.	Φ(lm)	Lumen Maintenance (%)								
	Ohr(Initial)	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs
26	29.40	100.24	99.90	99.69	99.59	99.46	99.08	98.84	98.61	98.30
27	29.57	100.24	99.93	99.53	99.26	98.92	98.75	98.68	98.55	98.21
28	29.30	100.24	99.76	99.42	99.08	98.94	98.60	98.43	98.23	98.09
29	29.80	100.20	99.77	99.40	98.99	98.89	98.69	98.46	98.19	98.09
30	29.77	100.27	99.93	99.46	99.19	98.89	98.56	98.22	97.98	97.65
31	29.52	100.20	99.80	99.46	99.12	98.71	98.31	98.17	97.66	97.43
32	30.27	100.13	99.93	99.74	99.41	99.31	99.14	98.84	98.58	98.28
33	29.84	99.93	99.87	99.66	99.43	99.33	98.96	98.83	98.56	98.26
34	29.97	100.20	99.87	99.57	99.27	98.90	98.70	98.47	98.03	97.66
35	30.06	99.97	99.87	99.73	99.40	98.97	98.77	98.54	98.27	98.00
36	29.92	100.17	99.90	99.60	99.36	98.96	98.46	98.09	97.79	97.46
37	29.58	100.17	99.83	99.66	99.43	99.02	98.65	98.44	98.34	98.07
38	30.07	100.23	99.83	99.53	99.47	99.17	98.84	98.64	98.27	97.97
39	29.94	100.13	99.80	99.57	99.30	99.00	98.63	98.26	97.80	97.33
40	29.97	99.90	99.83	99.60	99.30	99.00	98.70	98.30	98.03	97.56
41	30.07	100.13	99.83	99.60	99.43	99.20	99.10	98.80	98.60	98.10
42	30.06	100.20	99.87	99.73	99.60	99.14	99.00	98.74	98.50	98.10
43	29.85	100.17	99.90	99.70	99.63	99.30	98.96	98.79	98.49	98.09
44	29.74	100.13	99.76	99.66	99.63	99.39	99.09	98.79	98.45	98.15
45	29.91	99.97	99.80	99.70	99.60	99.43	98.96	98.56	98.43	98.23
46	29.79	100.13	99.93	99.80	99.36	99.30	98.96	98.49	98.19	98.02
47	29.41	100.03	99.97	99.86	99.56	99.42	99.08	98.67	98.54	98.10
48	29.71	100.27	99.90	99.70	99.60	99.36	99.09	98.82	98.49	98.15
49	29.43	100.20	99.90	99.80	99.46	99.15	98.74	98.44	98.34	98.03
50	29.31	100.20	99.97	99.73	99.52	99.18	98.91	98.36	97.99	97.58
Avg.	29.77	100.15	99.87	99.64	99.40	99.13	98.83	98.55	98.28	97.96
Med.	29.80	100.17	99.87	99.66	99.43	99.15	98.84	98.54	98.34	98.09
st dev	0.27	0.11	0.06	0.12	0.18	0.21	0.23	0.23	0.28	0.29
Min.	29.30	99.90	99.76	99.40	98.99	98.71	98.31	98.09	97.66	97.33
Max.	30.27	100.27	99.97	99.86	99.63	99.46	99.14	98.84	98.61	98.30

3.5 Data Set 2, 105°C, 60mA (Forward Voltage)

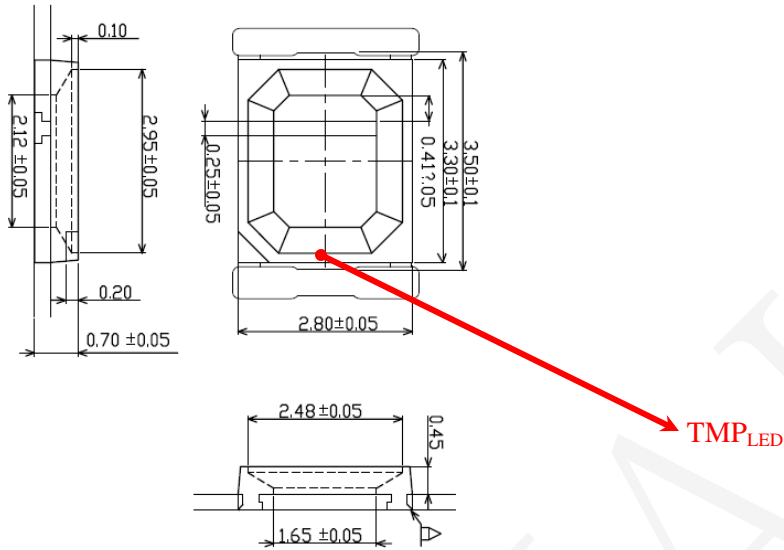
No.	Forward Voltage (V)									
	0hr(Initial)	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs
26	3.069	3.072	3.068	3.063	3.066	3.067	3.073	3.074	3.083	3.086
27	3.070	3.077	3.076	3.074	3.077	3.073	3.078	3.071	3.071	3.079
28	3.023	3.031	3.034	3.036	3.041	3.031	3.037	3.034	3.032	3.036
29	3.115	3.127	3.117	3.108	3.104	3.111	3.109	3.115	3.105	3.109
30	3.105	3.091	3.103	3.107	3.105	3.106	3.092	3.106	3.102	3.104
31	2.985	2.994	2.991	2.993	2.999	2.991	2.998	2.994	2.999	2.991
32	2.979	2.995	2.978	2.986	2.982	2.982	2.987	2.987	2.987	2.982
33	3.008	3.004	2.999	2.993	3.018	3.018	3.003	3.001	3.001	3.008
34	3.008	3.004	3.011	3.017	3.009	3.009	3.019	3.019	3.014	3.018
35	3.034	3.027	3.034	3.033	3.035	3.033	3.034	3.035	3.029	3.029
36	2.992	2.997	3.003	3.007	3.008	2.992	3.010	3.013	3.002	3.003
37	2.997	3.001	3.011	3.001	3.009	3.002	3.010	3.015	3.014	3.013
38	3.006	3.015	3.019	3.019	3.009	3.012	3.014	3.015	3.026	3.014
39	3.024	3.009	3.031	3.039	3.013	3.029	3.018	3.037	3.021	3.038
40	2.992	3.006	3.004	2.991	3.015	3.008	3.014	3.018	3.011	3.021
41	2.990	3.008	3.001	3.004	3.009	3.011	3.017	3.017	3.014	3.014
42	3.048	3.055	3.054	3.058	3.056	3.055	3.057	3.056	3.057	3.052
43	2.984	2.992	2.997	3.000	3.001	2.995	3.008	3.002	3.007	3.001
44	3.061	3.071	3.076	3.075	3.074	3.071	3.076	3.071	3.083	3.075
45	3.048	3.054	3.053	3.067	3.066	3.054	3.063	3.059	3.058	3.056
46	3.073	3.071	3.072	3.076	3.086	3.081	3.092	3.077	3.086	3.075
47	3.043	3.056	3.050	3.052	3.048	3.050	3.054	3.052	3.047	3.053
48	3.083	3.098	3.099	3.071	3.078	3.078	3.092	3.081	3.044	3.071
49	3.072	3.074	3.077	3.071	3.070	3.070	3.069	3.076	3.076	3.082
50	3.095	3.093	3.089	3.073	3.077	3.089	3.072	3.081	3.068	3.082
Avg.	3.036	3.041	3.042	3.041	3.042	3.041	3.044	3.044	3.041	3.044
Med.	3.034	3.031	3.034	3.039	3.041	3.033	3.037	3.037	3.032	3.038
st dev	0.042	0.040	0.040	0.038	0.036	0.038	0.036	0.036	0.035	0.037
Min.	2.979	2.992	2.978	2.986	2.982	2.982	2.987	2.987	2.987	2.982
Max.	3.115	3.127	3.117	3.108	3.105	3.111	3.109	3.115	3.105	3.109

3.6 Data Set 2, 105°C, 60mA (Chromaticity Shift)

No.	u'	v'	CCT(K)	Chromaticity Shift ($\Delta u'v'$)								
	Ohr(Initial)			1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs
26	0.2628	0.5280	2692	0.0001	0.0001	0.0002	0.0005	0.0008	0.0009	0.0009	0.0012	0.0014
27	0.2650	0.5273	2649	0.0001	0.0002	0.0004	0.0004	0.0006	0.0007	0.0010	0.0012	0.0014
28	0.2617	0.5277	2716	0.0001	0.0003	0.0005	0.0007	0.0008	0.0010	0.0012	0.0012	0.0013
29	0.2634	0.5264	2684	0.0000	0.0002	0.0003	0.0005	0.0006	0.0007	0.0009	0.0011	0.0014
30	0.2622	0.5232	2724	0.0000	0.0001	0.0004	0.0005	0.0007	0.0009	0.0009	0.0010	0.0011
31	0.2654	0.5280	2639	0.0000	0.0002	0.0004	0.0006	0.0007	0.0009	0.0010	0.0013	0.0013
32	0.2613	0.5260	2731	0.0001	0.0002	0.0004	0.0005	0.0007	0.0009	0.0009	0.0012	0.0013
33	0.2662	0.5290	2620	0.0001	0.0003	0.0004	0.0007	0.0008	0.0010	0.0011	0.0012	0.0014
34	0.2643	0.5252	2671	0.0001	0.0002	0.0004	0.0006	0.0007	0.0008	0.0010	0.0011	0.0012
35	0.2617	0.5275	2716	0.0000	0.0001	0.0003	0.0004	0.0005	0.0006	0.0009	0.0012	0.0013
36	0.2631	0.5250	2697	0.0001	0.0002	0.0002	0.0005	0.0008	0.0011	0.0014	0.0015	0.0017
37	0.2644	0.5248	2671	0.0001	0.0004	0.0006	0.0006	0.0006	0.0009	0.0011	0.0012	0.0014
38	0.2634	0.5284	2677	0.0000	0.0002	0.0004	0.0006	0.0006	0.0008	0.0009	0.0011	0.0012
39	0.2630	0.5274	2691	0.0000	0.0002	0.0004	0.0006	0.0008	0.0008	0.0010	0.0011	0.0013
40	0.2629	0.5286	2686	0.0001	0.0003	0.0004	0.0006	0.0007	0.0007	0.0009	0.0010	0.0012
41	0.2616	0.5262	2723	0.0002	0.0004	0.0005	0.0008	0.0009	0.0010	0.0012	0.0015	0.0016
42	0.2629	0.5265	2694	0.0001	0.0003	0.0004	0.0006	0.0007	0.0007	0.0009	0.0011	0.0013
43	0.2625	0.5245	2711	0.0001	0.0003	0.0004	0.0005	0.0008	0.0010	0.0010	0.0012	0.0013
44	0.2628	0.5260	2699	0.0001	0.0004	0.0004	0.0006	0.0010	0.0011	0.0011	0.0011	0.0013
45	0.2623	0.5237	2718	0.0000	0.0002	0.0004	0.0006	0.0010	0.0010	0.0011	0.0013	0.0014
46	0.2648	0.5283	2649	0.0001	0.0003	0.0004	0.0005	0.0008	0.0010	0.0010	0.0011	0.0011
47	0.2607	0.5238	2753	0.0001	0.0004	0.0005	0.0006	0.0008	0.0011	0.0012	0.0012	0.0013
48	0.2637	0.5251	2685	0.0001	0.0004	0.0006	0.0006	0.0009	0.0011	0.0012	0.0013	0.0013
49	0.2640	0.5257	2677	0.0002	0.0005	0.0007	0.0008	0.0009	0.0012	0.0014	0.0018	0.0019
50	0.2637	0.5263	2679	0.0001	0.0004	0.0006	0.0007	0.0008	0.0011	0.0011	0.0013	0.0013
Avg.	0.2632	0.5263	2690	0.0001	0.0003	0.0004	0.0006	0.0008	0.0009	0.0011	0.0012	0.0013
Med.	0.2630	0.5263	2691	0.0001	0.0003	0.0004	0.0006	0.0008	0.0009	0.0010	0.0012	0.0013
st dev	0.0013	0.0017	31	0.0001	0.0001	0.0001	0.0001	0.0001	0.0002	0.0001	0.0002	0.0002
Min.	0.2607	0.5232	2620	0.0000	0.0001	0.0002	0.0004	0.0005	0.0006	0.0009	0.0010	0.0011
Max.	0.2662	0.5290	2753	0.0002	0.0005	0.0007	0.0008	0.0010	0.0012	0.0014	0.0018	0.0019

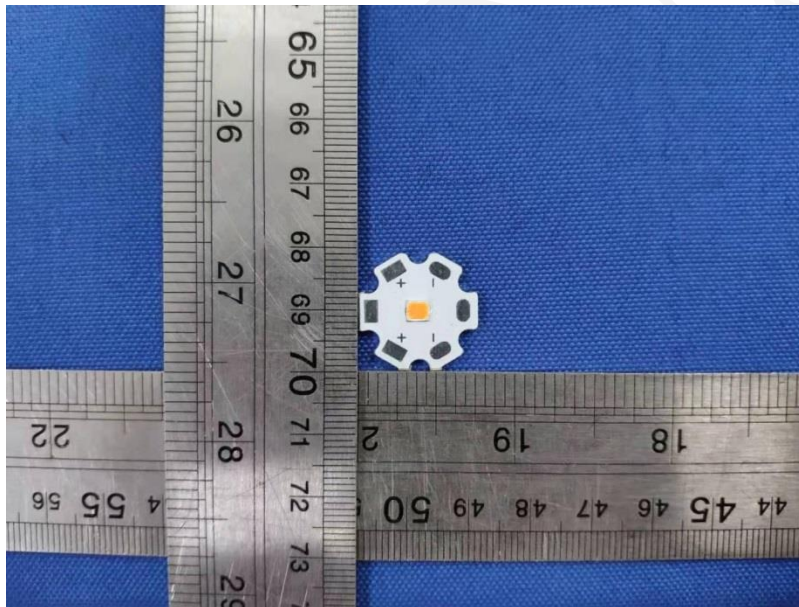
4 - DUT Photo

4.1 #Mechanical Dimensions



All dimensions are in millimeter

4.2 DUT Photo



Directions

1. The information marked “superscript #” is provided by the applicant, the laboratory is not responsible for its authenticity and this information can affect the validity of the result in the test report.
2. Unless otherwise stated the results shown in this test report refer only to the sample(s) tested.
3. Otherwise required by the applicant or Product Regulations, Decision Rule in this report did not consider the uncertainty.
4. The extended uncertainty given in this report is obtained by combining the standard uncertainty times the coverage factor K with the 95% confidence interval.
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*****END OF REPORT*****