



ACCREDITED
Testing Laboratory

TL-1235

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Report No.: AOC251021002ER

Test Report

Client : Jiangmen DSLOL Optoelectronics Co., Ltd.
Address : Building 3, No. 83 Yunqin Road, Jianghai District, Jiangmen City, Guangdong
Province, China

Description of the submitted sample(s):

Sample Name : LED Package
Model/Type : 2835
Trademark : N/A
Ratings : Vf: 3.0Vdc; If:60mA, 6500K, 80Ra
Test Item : LM-80-21
State of Sample(s) : Normal
Sample Quantity : 75 PCS
Manufacturer : Jiangmen DSLOL Optoelectronics Co., Ltd.
Address : Building 3, No. 83 Yunqin Road, Jianghai District, Jiangmen City,
Guangdong Province, China
Sample Received Date : 2024-04-29
Sample tested Date : 2024-04-29
Test Standard : LM-80-21
Test Laboratory : Shenzhen AOCE Electronic Technology Service Co., Ltd
Room 202, 2nd Floor, No.12th Building of Xinhe Tongfuyu
Testing location : Industrial Park, Fuhai Street, Baoan District, Shenzhen,
Guangdong, China
Remark : The tested sample(s) and the sample information are provided by
the client.

Compiled by: *Bill Hu*

Approved by:

Robin Liu

Robin Liu
Lab Supervisor
2025-10-27

Date :

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General Information

Sampling Method:

LED samples for IESNA LM-80 testing consist of units built from 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.

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)

Disclaimer:

The truthfulness and accuracy of all the technical information above for the covered LED products is ensured by manufacturer of LED light source. Shenzhen AOCE Electronic Technology Service Co., Ltd. isn't responsible or gives any guarantees for the truthfulness of the technical information.

1 Test Condition

1.1 Air Temperature

The ambient temperature in which measurements are being taken shall be maintained at $25^{\circ}\text{C} \pm 1^{\circ}\text{C}$, measured at a point not more than 1 m from the SSL product and at the same height as the SSL product. The temperature sensor shall be shielded from direct optical radiation from the SSL product and optical radiation from any other source. If measurements are performed at other than this recommended temperature, this is a non-standard condition and shall be noted in the test report.

1.2 Thermal Conditions for Mounting SSL Products

The method of mounting can be the primary path for heat flow away from the device and can affect measurement results significantly. The SSL product under test shall be mounted to the measuring instrument so that heat conduction through supporting objects causes negligible cooling effects. If the SSL product under test is provided with a support structure that is designated to be used as a component of the luminaire thermal management system, the product shall be tested with the support structure attached. Any such support structure included in the measurement shall be reported.

1.3 Air Movement

The incidence of air movements on the surface of a SSL product under test may substantially affect electrical and photometric values. Air flow around the SSL product being tested should be such that normal convective air flow induced by device under test is not affected.

1.4 Waveshape of AC Power Supply

The AC power supply, while operating the SSL product, shall have a sinusoidal voltage waveshape at the prescribed frequency typically 50/60 Hz or 50 Hz) such that the RMS summation of the harmonic components does not exceed 3 percent of the fundamental during operation of the test item.

1.5 Voltage Regulation

The voltage of an AC power supply (RMS voltage) or DC power supply (instantaneous voltage) applied to the device under test shall be regulated to within ± 0.2 percent under load.

1.6 Seasoning

For the purpose of rating new SSL products, SSL products shall be tested with no seasoning.

1.7 Stabilization

Before measurements are taken, the SSL product under test shall be operated long enough to reach stabilization and temperature equilibrium. The time required for stabilization depends on the type of SSL products under test. The stabilization time typically ranges from 30 min to 2 or more hours for large SSL products.

1.8 Operating Orientation

The SSL product under test shall be evaluated in the operating orientation recommended by the manufacturer for an intended use of the SSL product. Stabilization and photometric measurements of SSL products shall be done in such operating orientation.

2 Test Method

2.1 Integrating Sphere Measurement

The integrating sphere system includes AC power source, digital power meter, DC power supply, spectrophotometer, and integrating sphere. The system is calibrated by standard lamp before measurement weekly. The standard lamp has been calibrated regularly and traced to the National Primary Standard.

The 4π geometry was used to measure total luminous, luminous efficacy, chromaticity coordinates, correlated color temperature, and color rendering index, the spectral radiant flux measurements taken at 1 nm intervals over the range of 380 to 780 nm. The product was operated in its intended orientation and was recorded in the report.

2.2 Goniophotometer Measurement

The goniophotometer system is calibrated by standard lamp before measurement weekly. The standard lamp has been calibrated regularly and traced to National Primary Standards.

Type C goniophotometer was used for measuring total luminous flux, luminous efficacy, luminous intensity distribution, and color angular uniformity, which were calculated from the software taken at 1° vertical intervals and 22.5° horizontal intervals. The product was operated in its intended orientation and was recorded in the report.

2.3 Electrical Measurement

According to ANSI C82.77-2002, the measurement was made using a digital power meter and power supply, the SSL product under test was operated at rated voltage and stabilized enough before measurement. The total harmonic distortion of current and power factor can be calculated from the digital power meter. The digital power meter was calibrated regularly and traced to National Primary Standards.

3 Test Result

3.1 Sample Set

Data Set 1:55°C,60mA	
Model:	2835
Number of Units:	25
Case Temperature (T _S):	> 53°C
Ambient Temperature (T _A):	> 50°C
Life Test Drive Current:	60mA
Measurement Current:	60mA

Data Set 2:85°C,60mA	
Model:	2835
Number of Units:	25
Case Temperature (T _S):	> 83°C
Ambient Temperature (T _A):	> 50°C
Life Test Drive Current:	60mA
Measurement Current:	60mA

Data Set 3:105°C,60mA	
Model:	2835
Number of Units:	25
Case Temperature (T _S):	> 103°C
Ambient Temperature (T _A):	> 100°C
Life Test Drive Current:	60mA
Measurement Current:	60mA

SUMMARY OF TEST RESULT

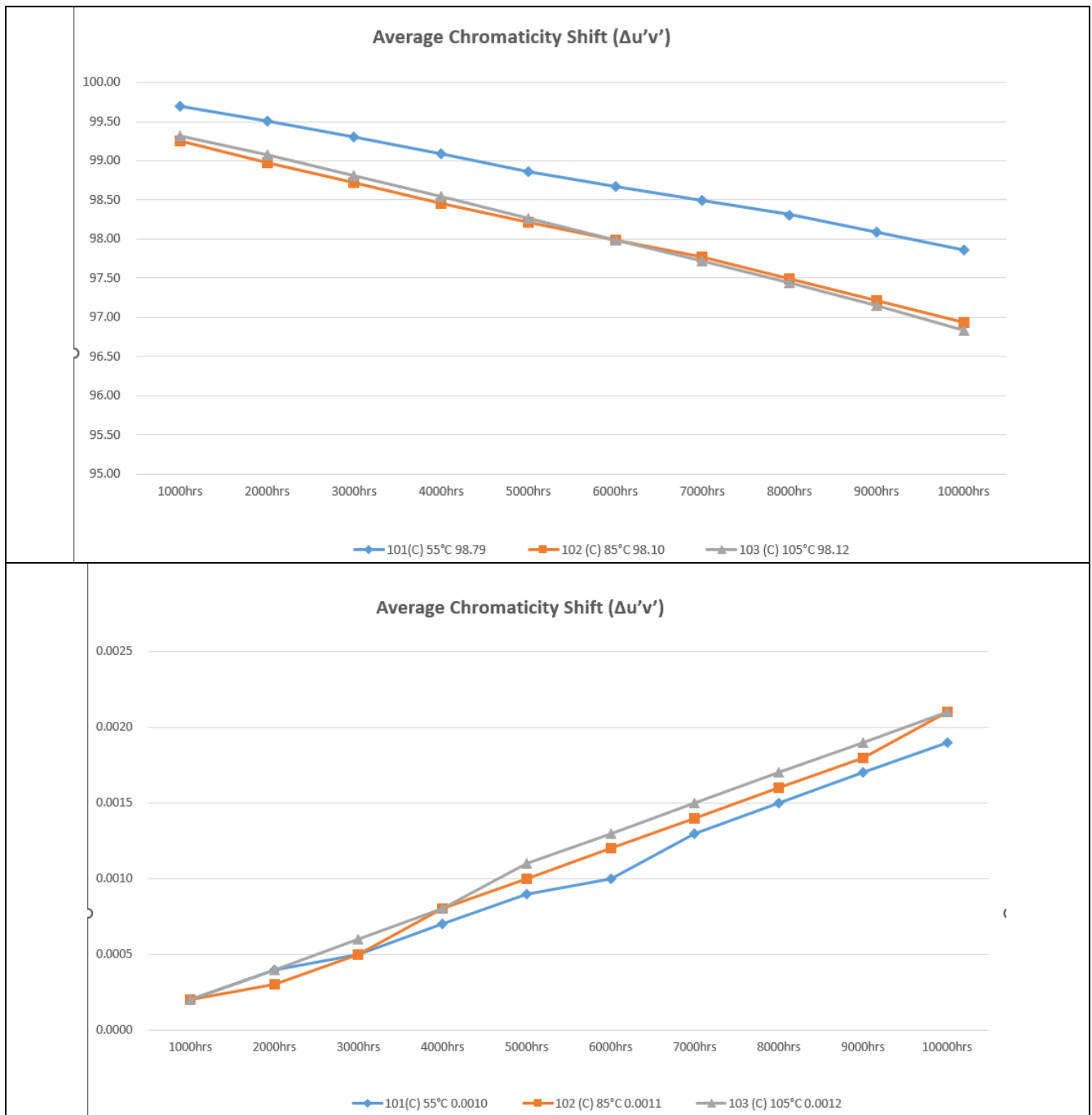
Data Set:	Sample Size	Failures Observed:	Test Interval (hrs)	Test Duration (hrs)	α	B	Reported TM-21 L70 Lifetime (hrs)	Reported TM-21 L90 Lifetime (hrs)
1	25	0	1000	10000	2.010E-06	0.9987	>60000	52000
2	25	0	1000	10000	2.656E-06	0.9956	>60000	38000
3	25	0	1000	10000	2.914E-06	0.9972	>60000	35000

Average Lumen Maintenance (Percentage of Initial Luminous Flux)

Data Set:	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs	10000hrs
1	99.70	99.51	99.30	99.09	98.86	98.67	98.49	98.31	98.09	97.86
2	99.25	98.98	98.72	98.45	98.22	97.99	97.77	97.49	97.21	96.93
3	99.32	99.08	98.81	98.54	98.27	97.99	97.72	97.44	97.15	96.84

Average Chromaticity Shift ($\Delta u'v'$)

Data Set:	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs	10000hrs
1	0.0002	0.0004	0.0005	0.0007	0.0009	0.001	0.0013	0.0015	0.0017	0.0019
2	0.0002	0.0003	0.0005	0.0008	0.001	0.0012	0.0014	0.0016	0.0018	0.0021
3	0.0002	0.0004	0.0006	0.0008	0.0011	0.0013	0.0015	0.0017	0.0019	0.0021



3.2. Test data**3.2.1 Data Set 1, 55°C,60mA (Lumen Maintenance)**

Sample Number	Φ (lm)	Lumen Maintenance (%)									
	0hr (Initial)	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs	10000hrs
S01	20.07	99.71	99.54	99.38	99.14	98.89	98.72	98.54	98.40	98.20	97.95
S02	27.57	99.69	99.52	99.27	99.11	98.87	98.69	98.48	98.26	98.02	97.77
S03	20.38	99.83	99.66	99.41	99.17	98.92	98.74	98.60	98.46	98.21	97.96
S04	26.32	99.77	99.55	99.39	99.15	98.90	98.73	98.55	98.34	98.11	97.86
S05	29.18	99.75	99.58	99.34	99.18	99.02	98.85	98.63	98.42	98.19	97.96
S06	24.01	99.74	99.57	99.32	99.17	98.92	98.78	98.60	98.38	98.16	97.93
S07	24.10	99.82	99.60	99.36	99.20	98.95	98.74	98.56	98.38	98.16	97.96
S08	20.82	99.75	99.58	99.33	99.09	98.85	98.63	98.42	98.20	97.98	97.78
S09	16.22	99.76	99.54	99.30	99.05	98.80	98.63	98.45	98.27	98.02	97.83
S10	18.46	99.82	99.61	99.36	99.12	98.96	98.75	98.60	98.39	98.19	97.99
S11	22.54	99.80	99.63	99.47	99.23	98.98	98.84	98.70	98.52	98.29	98.04
S12	20.01	99.73	99.51	99.27	99.03	98.87	98.69	98.51	98.34	98.11	97.88
S13	19.06	99.67	99.45	99.21	98.96	98.72	98.50	98.29	98.11	97.91	97.66
S14	16.40	99.76	99.58	99.42	99.18	98.93	98.72	98.54	98.40	98.17	97.94
S15	25.40	99.78	99.61	99.37	99.21	98.96	98.79	98.61	98.43	98.18	97.98
S16	19.96	99.72	99.56	99.40	99.16	98.91	98.70	98.52	98.34	98.11	97.86
S17	20.67	99.81	99.63	99.39	99.23	98.98	98.84	98.70	98.55	98.36	98.11
S18	18.26	99.77	99.56	99.31	99.07	98.91	98.77	98.55	98.38	98.18	97.98
S19	23.16	99.81	99.64	99.49	99.33	99.09	98.91	98.76	98.55	98.30	98.10
S20	20.52	99.74	99.56	99.31	99.07	98.83	98.61	98.40	98.19	97.99	97.74
S21	18.47	98.44	98.28	98.13	97.97	97.73	97.55	97.34	97.17	96.97	96.77
S22	17.24	99.66	99.44	99.28	99.03	98.79	98.58	98.43	98.26	98.03	97.83
S23	17.73	99.76	99.55	99.30	99.05	98.90	98.68	98.54	98.39	98.17	97.97
S24	20.07	99.71	99.54	99.38	99.14	98.89	98.72	98.54	98.40	98.20	97.95
S25	27.57	99.69	99.52	99.27	99.11	98.87	98.69	98.48	98.26	98.02	97.77
Average	21.37	99.70	99.51	99.30	99.09	98.86	98.67	98.49	98.31	98.09	97.86
Median	20.38	99.75	99.56	99.34	99.14	98.90	98.72	98.54	98.38	98.16	97.94
Std.dev	3.58	0.26	0.26	0.25	0.24	0.24	0.25	0.26	0.26	0.25	0.25
Max	29.18	99.83	99.66	99.49	99.33	99.09	98.91	98.76	98.55	98.36	98.11
Min	16.22	98.44	98.28	98.13	97.97	97.73	97.55	97.34	97.17	96.97	96.77

3.2.2 Data Set 1, 55°C,60mA (Forward Voltage)

Sample Number	Forward Voltage(V)										
	0hr (Initial)	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs	10000hrs
S01	2.94	2.95	2.96	2.96	2.94	2.94	2.95	2.97	2.94	2.94	2.96
S02	2.93	2.95	2.95	2.92	2.93	2.96	2.94	2.93	2.95	2.94	2.95
S03	2.89	2.91	2.91	2.90	2.91	2.89	2.91	2.91	2.91	2.91	2.91
S04	2.91	2.93	2.94	2.93	2.93	2.92	2.91	2.93	2.93	2.93	2.91
S05	2.89	2.88	2.87	2.91	2.89	2.89	2.90	2.90	2.90	2.89	2.91
S06	2.97	2.99	2.99	2.99	2.98	2.97	3.00	2.97	2.99	2.99	3.00
S07	2.90	2.92	2.90	2.91	2.90	2.91	2.92	2.91	2.92	2.92	2.89
S08	2.97	2.99	2.99	2.99	2.96	2.99	2.98	2.97	2.99	2.96	2.98
S09	2.91	2.92	2.92	2.92	2.91	2.93	2.93	2.91	2.92	2.92	2.92
S10	2.93	2.94	2.94	2.92	2.94	2.92	2.93	2.93	2.94	2.94	2.94
S11	2.92	2.93	2.92	2.92	2.93	2.94	2.90	2.94	2.94	2.91	2.94
S12	2.93	2.93	2.95	2.95	2.96	2.94	2.94	2.93	2.95	2.95	2.92
S13	2.94	2.93	2.96	2.96	2.96	2.96	2.94	2.94	2.97	2.96	2.96
S14	2.94	2.95	2.94	2.93	2.94	2.96	2.94	2.94	2.94	2.96	2.93
S15	2.97	2.96	2.99	2.97	2.99	2.96	2.98	2.97	2.96	2.96	2.97
S16	2.96	2.97	2.98	2.96	2.98	2.96	2.96	2.99	2.96	2.97	2.98
S17	2.90	2.92	2.90	2.91	2.90	2.91	2.92	2.91	2.92	2.92	2.89
S18	2.97	2.99	2.99	2.99	2.96	2.99	2.98	2.97	2.99	2.96	2.98
S19	2.91	2.92	2.92	2.92	2.91	2.93	2.93	2.91	2.92	2.92	2.92
S20	2.93	2.94	2.94	2.92	2.94	2.92	2.93	2.93	2.94	2.94	2.94
S21	2.92	2.93	2.92	2.92	2.93	2.94	2.90	2.94	2.94	2.91	2.94
S22	2.93	2.93	2.95	2.95	2.96	2.94	2.94	2.93	2.95	2.95	2.92
S23	2.94	2.93	2.96	2.96	2.96	2.96	2.94	2.94	2.97	2.96	2.96
S24	2.94	2.95	2.94	2.93	2.94	2.96	2.94	2.94	2.94	2.96	2.93
S25	2.97	2.96	2.99	2.97	2.99	2.96	2.98	2.97	2.96	2.96	2.97
Average	2.93	3	2.94	2.94	2.94	2.94	2.94	2.94	2.95	2.94	2.94
Median	2.93	3	2.94	2.93	2.94	2.94	2.94	2.94	2.94	2.94	2.94
Std.dev	0.03	0	0.03	0.03	0.03	0.03	0.03	0.02	0.02	0.02	0.03
Max	2.97	3	2.99	2.99	2.99	2.99	3.00	2.99	2.99	2.99	3.00
Min	2.89	3	2.87	2.90	2.89	2.89	2.90	2.90	2.90	2.89	2.89

3.2.3 Data Set 1, 55°C,60mA (Chromaticity Shift)

Sample Number	Chromaticity Shift ($\Delta u'v'$)												
	0hr CCT (Initial)	0hr (Initial)		1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs	10000hrs
S01	6533	0.1920	0.4749	0.0001	0.0003	0.0005	0.0007	0.0009	0.001	0.0013	0.0015	0.0018	0.0019
S02	6579	0.1920	0.4748	0.0001	0.0003	0.0005	0.0007	0.0008	0.0013	0.0016	0.0018	0.0021	0.0023
S03	6553	0.1917	0.4746	0.0002	0.0004	0.0006	0.0009	0.001	0.001	0.0013	0.0015	0.0018	0.002
S04	6586	0.1919	0.4747	0.0002	0.0004	0.0005	0.0008	0.0009	0.001	0.0013	0.0015	0.0017	0.0018
S05	6546	0.1916	0.4748	0.0002	0.0004	0.0005	0.0008	0.0009	0.001	0.0013	0.0015	0.0018	0.002
S06	6303	0.1920	0.4750	0.0002	0.0004	0.0005	0.0007	0.0009	0.001	0.0012	0.0015	0.0017	0.0018
S07	6540	0.1922	0.4752	0.0001	0.0003	0.0005	0.0007	0.0009	0.0013	0.0015	0.0017	0.0019	0.0022
S08	6566	0.1920	0.4748	0.0002	0.0004	0.0006	0.0008	0.0009	0.001	0.0013	0.0015	0.0017	0.0019
S09	6573	0.1925	0.4752	0.0001	0.0003	0.0005	0.0007	0.0008	0.0009	0.0011	0.0013	0.0016	0.0018
S10	6559	0.1915	0.4749	0.0002	0.0004	0.0006	0.0009	0.001	0.0011	0.0013	0.0015	0.0018	0.0019
S11	6481	0.1904	0.4774	0.0002	0.0004	0.0006	0.0008	0.001	0.001	0.0012	0.0014	0.0016	0.0018
S12	6527	0.1902	0.4771	0.0001	0.0003	0.0005	0.0008	0.0009	0.0007	0.001	0.0012	0.0014	0.0015
S13	6501	0.1900	0.4774	0.0002	0.0004	0.0006	0.0008	0.0009	0.0009	0.0011	0.0014	0.0016	0.0018
S14	6534	0.1906	0.4776	0.0002	0.0004	0.0005	0.0007	0.0008	0.0011	0.0014	0.0016	0.0018	0.0021
S15	6494	0.1909	0.4776	0.0002	0.0004	0.0005	0.0008	0.0009	0.0011	0.0014	0.0016	0.0018	0.0021
S16	6253	0.1903	0.4773	0.0002	0.0004	0.0005	0.0007	0.0008	0.0012	0.0014	0.0016	0.0019	0.002
S17	6488	0.1903	0.4771	0.0001	0.0003	0.0004	0.0006	0.0007	0.001	0.0012	0.0014	0.0017	0.0019
S18	6514	0.1905	0.4774	0.0002	0.0004	0.0006	0.0009	0.001	0.0009	0.0011	0.0013	0.0016	0.0018
S19	6521	0.1903	0.4772	0.0002	0.0003	0.0004	0.0006	0.0008	0.001	0.0013	0.0015	0.0017	0.0019
S20	6507	0.1899	0.4773	0.0002	0.0003	0.0004	0.0006	0.0008	0.0012	0.0014	0.0016	0.0019	0.0021
S21	6567	0.1918	0.4762	0.0001	0.0003	0.0004	0.0006	0.0008	0.0009	0.0011	0.0013	0.0015	0.0016
S22	6527	0.1924	0.4765	0.0002	0.0004	0.0006	0.0008	0.0009	0.001	0.0013	0.0015	0.0018	0.0019
S23	6285	0.1918	0.4759	0.0002	0.0004	0.0006	0.0008	0.0009	0.0008	0.001	0.0012	0.0014	0.0016
S24	6521	0.1921	0.4764	0.0001	0.0003	0.0005	0.0007	0.0009	0.001	0.0013	0.0015	0.0018	0.0019
S25	6547	0.1913	0.4761	0.0001	0.0003	0.0005	0.0007	0.0008	0.0013	0.0016	0.0018	0.0021	0.0023
Average	6504	0.1913	0.4761	0.0002	0.0004	0.0005	0.0007	0.0009	0.0010	0.0013	0.0015	0.0017	0.0019
Median	6527	0.1916	0.4762	0.0002	0.0004	0.0005	0.0007	0.0009	0.0010	0.0013	0.0015	0.0018	0.0019
Std.dev	87	0.0008	0.0011	0.0000	0.0000	0.0001	0.0001	0.0001	0.0001	0.0002	0.0002	0.0002	0.0002
Max	6586	0.1925	0.4776	0.0002	0.0004	0.0006	0.0009	0.0010	0.0013	0.0016	0.0018	0.0021	0.0023
Min	6253	0.1899	0.4746	0.0001	0.0003	0.0004	0.0006	0.0007	0.0007	0.0010	0.0012	0.0014	0.0015

3.2.4 Data Set 2, 85°C,60mA (Lumen Maintenance)

Sample Number	Φ(lm)	Lumen Maintenance (%)									
	0hr (Initial)	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs	10000hrs
S01	21.82	99.25	98.97	98.70	98.42	98.18	97.95	97.72	97.43	97.14	96.85
S02	24.95	99.33	99.06	98.80	98.53	98.32	98.08	97.84	97.59	97.35	97.11
S03	25.04	99.23	98.98	98.71	98.44	98.23	97.99	97.78	97.53	97.24	96.95
S04	21.37	99.24	98.97	98.72	98.43	98.20	97.99	97.78	97.49	97.20	96.95
S05	22.07	99.15	98.90	98.64	98.38	98.14	97.91	97.69	97.45	97.16	96.87
S06	29.40	99.21	98.93	98.66	98.40	98.18	97.95	97.72	97.43	97.14	96.89
S07	24.50	99.27	99.01	98.74	98.46	98.22	98.01	97.79	97.55	97.26	96.97
S08	23.95	99.37	99.10	98.84	98.59	98.36	98.12	97.88	97.59	97.30	97.01
S09	23.21	99.17	98.88	98.62	98.36	98.13	97.90	97.69	97.40	97.11	96.82
S10	19.57	99.29	99.01	98.72	98.44	98.20	97.96	97.73	97.44	97.15	96.86
S11	23.87	99.26	99.00	98.74	98.47	98.24	98.00	97.78	97.54	97.25	96.96
S12	20.21	99.25	98.97	98.70	98.42	98.18	97.95	97.72	97.43	97.14	96.85
S13	29.24	99.33	99.06	98.80	98.53	98.32	98.08	97.84	97.59	97.35	97.11
S14	21.53	99.24	98.95	98.66	98.38	98.14	97.93	97.72	97.42	97.14	96.85
S15	28.09	99.29	99.03	98.76	98.51	98.30	98.06	97.85	97.56	97.27	96.98
S16	20.27	99.24	98.97	98.72	98.43	98.20	97.99	97.78	97.49	97.20	96.95
S17	26.31	99.15	98.90	98.64	98.38	98.14	97.91	97.69	97.45	97.16	96.87
S18	22.28	99.21	98.93	98.66	98.40	98.18	97.95	97.72	97.43	97.14	96.89
S19	26.20	99.27	99.01	98.74	98.46	98.22	98.01	97.79	97.55	97.26	96.97
S20	18.29	99.37	99.10	98.84	98.59	98.36	98.12	97.88	97.59	97.30	97.01
S21	22.59	99.17	98.88	98.62	98.36	98.13	97.90	97.69	97.40	97.11	96.82
S22	22.40	99.37	99.08	98.82	98.53	98.32	98.08	97.87	97.62	97.38	97.09
S23	24.03	99.17	98.89	98.62	98.34	98.12	97.88	97.66	97.36	97.08	96.79
S24	29.00	99.26	99.01	98.74	98.47	98.25	98.01	97.78	97.49	97.24	96.95
S25	26.67	99.25	98.99	98.70	98.45	98.24	98.01	97.77	97.48	97.19	96.90
Average	23.87	99.25	98.98	98.72	98.45	98.22	97.99	97.77	97.49	97.21	96.93
Median	23.87	99.25	98.98	98.72	98.44	98.20	97.99	97.78	97.49	97.20	96.95
Std.dev	3.02	0.06	0.06	0.07	0.07	0.07	0.07	0.06	0.07	0.08	0.09
Max	29.40	99.37	99.10	98.84	98.59	98.36	98.12	97.88	97.62	97.38	97.11
Min	18.29	99.15	98.88	98.62	98.34	98.12	97.88	97.66	97.36	97.08	96.79

3.2.5 Data Set 2, 85°C,60mA (Forward Voltage)

Sample Number	Forward Voltage(V)										
	0hr (Initial)	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs	10000hrs
S01	2.91	2.92	2.87	2.89	2.88	2.91	2.92	2.89	2.88	2.92	2.89
S02	2.96	2.92	2.94	2.97	2.95	2.94	2.97	2.94	2.93	2.94	2.95
S03	2.93	2.93	2.91	2.93	2.94	2.95	2.94	2.91	2.93	2.91	2.93
S04	2.93	2.94	2.90	2.91	2.92	2.94	2.91	2.92	2.92	2.91	2.93
S05	2.89	2.86	2.86	2.87	2.91	2.86	2.86	2.90	2.90	2.90	2.86
S06	2.94	2.91	2.93	2.92	2.91	2.92	2.91	2.91	2.95	2.92	2.95
S07	2.90	2.87	2.89	2.88	2.88	2.88	2.91	2.91	2.87	2.90	2.88
S08	2.96	2.97	2.96	2.97	2.95	2.97	2.97	2.96	2.97	2.95	2.95
S09	2.94	2.93	2.94	2.93	2.95	2.96	2.93	2.92	2.91	2.95	2.95
S10	2.92	2.89	2.93	2.90	2.93	2.90	2.91	2.89	2.92	2.90	2.91
S11	2.95	2.94	2.94	2.92	2.93	2.96	2.93	2.93	2.94	2.93	2.96
S12	2.89	2.87	2.89	2.87	2.86	2.89	2.90	2.86	2.89	2.89	2.87
S13	2.91	2.92	2.89	2.90	2.93	2.91	2.92	2.90	2.91	2.92	2.91
S14	2.90	2.91	2.89	2.91	2.91	2.89	2.89	2.88	2.88	2.91	2.89
S15	2.92	2.89	2.89	2.93	2.90	2.93	2.93	2.89	2.90	2.91	2.90
S16	2.91	2.90	2.88	2.89	2.92	2.90	2.91	2.88	2.93	2.92	2.90
S17	2.96	2.93	2.97	2.96	2.93	2.97	2.97	2.93	2.97	2.94	2.95
S18	2.91	2.88	2.88	2.91	2.90	2.92	2.89	2.90	2.91	2.88	2.88
S19	2.96	2.97	2.93	2.97	2.93	2.93	2.94	2.94	2.94	2.97	2.97
S20	2.89	2.88	2.86	2.89	2.86	2.88	2.87	2.90	2.90	2.87	2.90
S21	2.91	2.92	2.92	2.90	2.90	2.90	2.88	2.92	2.89	2.92	2.92
S22	2.94	2.92	2.95	2.94	2.95	2.91	2.91	2.92	2.92	2.91	2.95
S23	2.89	2.90	2.90	2.87	2.87	2.88	2.89	2.87	2.86	2.88	2.89
S24	2.95	2.96	2.96	2.94	2.93	2.95	2.95	2.95	2.93	2.93	2.96
S25	2.95	2.95	2.96	2.96	2.96	2.93	2.96	2.96	2.95	2.93	2.93
Average	2.92	2.92	2.91	2.92	2.92	2.92	2.92	2.91	2.92	2.92	2.92
Median	2.92	2.92	2.91	2.91	2.92	2.92	2.91	2.91	2.92	2.92	2.92
Std.dev	0.02	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.02	0.03
Max	2.96	2.97	2.97	2.97	2.96	2.97	2.97	2.96	2.97	2.97	2.97
Min	2.89	2.86	2.86	2.87	2.86	2.86	2.86	2.86	2.86	2.87	2.86

3.2.6 Data Set 2, 85°C,60mA (Chromaticity Shift)

Sample Number	Chromaticity Shift ($\Delta u'v'$)												
	0hr CCT (Initial)	0hr (Initial)		1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs	10000hrs
S01	6393	0.1926	0.4793	0.0002	0.0004	0.0006	0.0009	0.0012	0.0012	0.0014	0.0016	0.0018	0.0022
S02	6438	0.1924	0.4792	0.0002	0.0004	0.0006	0.0008	0.0011	0.0010	0.0012	0.0014	0.0017	0.0021
S03	6412	0.1935	0.4818	0.0002	0.0003	0.0005	0.0008	0.0011	0.0012	0.0014	0.0016	0.0018	0.0021
S04	6444	0.1922	0.4789	0.0002	0.0004	0.0005	0.0007	0.0010	0.0012	0.0014	0.0016	0.0019	0.0019
S05	6406	0.1924	0.4790	0.0002	0.0003	0.0005	0.0008	0.0011	0.0013	0.0015	0.0017	0.0019	0.0020
S06	6168	0.1920	0.4792	0.0002	0.0003	0.0005	0.0007	0.0010	0.0013	0.0015	0.0017	0.0019	0.0020
S07	6399	0.1933	0.4815	0.0002	0.0003	0.0005	0.0008	0.0010	0.0012	0.0014	0.0016	0.0018	0.0020
S08	6425	0.1918	0.4786	0.0002	0.0004	0.0005	0.0008	0.0010	0.0013	0.0016	0.0018	0.0019	0.0022
S09	6431	0.1923	0.4787	0.0002	0.0003	0.0005	0.0009	0.0011	0.0012	0.0014	0.0016	0.0018	0.0022
S10	6419	0.1921	0.4783	0.0002	0.0003	0.0005	0.0007	0.0009	0.0012	0.0014	0.0016	0.0019	0.0020
S11	6514	0.1928	0.4790	0.0002	0.0004	0.0006	0.0009	0.0011	0.0011	0.0014	0.0015	0.0018	0.0021
S12	6560	0.1923	0.4785	0.0002	0.0003	0.0005	0.0008	0.0011	0.0013	0.0015	0.0017	0.0019	0.0022
S13	6534	0.1923	0.4785	0.0002	0.0004	0.0006	0.0008	0.0010	0.0011	0.0013	0.0015	0.0018	0.0021
S14	6567	0.1933	0.4817	0.0002	0.0004	0.0006	0.0008	0.0010	0.0012	0.0014	0.0016	0.0019	0.0022
S15	6527	0.1919	0.4786	0.0002	0.0004	0.0006	0.0008	0.0010	0.0012	0.0014	0.0016	0.0018	0.0019
S16	6285	0.1925	0.4787	0.0002	0.0004	0.0005	0.0009	0.0011	0.0012	0.0014	0.0016	0.0018	0.0022
S17	6521	0.1926	0.4789	0.0002	0.0004	0.0006	0.0009	0.0011	0.0012	0.0014	0.0016	0.0018	0.0021
S18	6547	0.1933	0.4817	0.0002	0.0004	0.0005	0.0008	0.0010	0.0012	0.0014	0.0016	0.0018	0.0020
S19	6554	0.1926	0.4789	0.0002	0.0003	0.0005	0.0007	0.0010	0.0012	0.0014	0.0016	0.0018	0.0019
S20	6540	0.1930	0.4814	0.0002	0.0003	0.0005	0.0007	0.0010	0.0013	0.0015	0.0017	0.0019	0.0020
S21	6555	0.1928	0.4817	0.0002	0.0003	0.0005	0.0008	0.0010	0.0012	0.0014	0.0016	0.0018	0.0020
S22	6601	0.1938	0.4821	0.0002	0.0004	0.0005	0.0008	0.0010	0.0013	0.0016	0.0018	0.0019	0.0022
S23	6575	0.1923	0.4787	0.0002	0.0003	0.0005	0.0009	0.0011	0.0012	0.0014	0.0016	0.0018	0.0022
S24	6608	0.1920	0.4792	0.0002	0.0003	0.0005	0.0007	0.0009	0.0012	0.0014	0.0016	0.0019	0.0020
S25	6568	0.1932	0.4815	0.0002	0.0003	0.0005	0.0009	0.0011	0.0012	0.0014	0.0016	0.0018	0.0022
Average	6480	0.1926	0.4797	0.0002	0.0003	0.0005	0.0008	0.0010	0.0012	0.0014	0.0016	0.0018	0.0021
Median	6521	0.1925	0.4790	0.0002	0.0003	0.0005	0.0008	0.0010	0.0012	0.0014	0.0016	0.0018	0.0021
Std.dev	102	0.0005	0.0013	0.0000	0.0000	0.0000	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
Max	6608	0.1938	0.4821	0.0002	0.0004	0.0006	0.0009	0.0012	0.0013	0.0016	0.0018	0.0019	0.0022
Min	6168	0.1918	0.4783	0.0002	0.0003	0.0005	0.0007	0.0009	0.0010	0.0012	0.0014	0.0017	0.0019

3.2.7 Data Set 3, 105°C,60mA (Lumen Maintenance)

Sample Number	Φ(lm)	Lumen Maintenance (%)									
	0hr (Initial)	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs	10000hrs
S01	20.82	99.45	99.21	98.94	98.67	98.39	98.11	97.83	97.56	97.32	96.99
S02	20.84	99.30	99.01	98.74	98.48	98.20	97.92	97.65	97.38	97.06	96.73
S03	19.73	99.16	98.97	98.70	98.42	98.15	97.87	97.60	97.32	97.00	96.75
S04	20.92	99.36	99.12	98.86	98.59	98.31	98.04	97.75	97.48	97.16	96.83
S05	22.77	99.36	99.17	98.90	98.64	98.36	98.09	97.81	97.54	97.21	96.96
S06	24.30	99.49	99.20	98.93	98.66	98.39	98.12	97.84	97.56	97.23	96.91
S07	22.64	99.27	98.98	98.71	98.44	98.17	97.90	97.63	97.36	97.11	96.86
S08	24.60	99.35	99.06	98.79	98.52	98.25	97.98	97.70	97.42	97.17	96.84
S09	20.25	99.32	99.03	98.75	98.48	98.20	97.92	97.64	97.37	97.04	96.72
S10	22.52	99.25	99.01	98.74	98.47	98.19	97.93	97.66	97.37	97.13	96.80
S11	21.75	99.22	99.03	98.77	98.50	98.24	97.96	97.68	97.41	97.17	96.84
S12	24.83	99.35	99.17	98.90	98.63	98.36	98.08	97.80	97.52	97.28	96.95
S13	18.77	99.29	99.05	98.78	98.51	98.24	97.97	97.70	97.43	97.18	96.85
S14	26.09	99.37	99.13	98.85	98.58	98.30	98.02	97.75	97.47	97.14	96.81
S15	26.06	99.37	99.08	98.80	98.53	98.26	97.99	97.72	97.45	97.20	96.96
S16	22.74	99.41	99.22	98.96	98.68	98.42	98.15	97.88	97.60	97.27	96.94
S17	25.50	99.29	99.05	98.78	98.52	98.25	97.97	97.69	97.41	97.17	96.84
S18	26.44	99.16	98.87	98.59	98.33	98.06	97.79	97.51	97.24	96.91	96.58
S19	22.02	99.31	99.02	98.76	98.49	98.22	97.95	97.67	97.39	97.14	96.81
S20	23.65	99.28	99.09	98.82	98.56	98.29	98.01	97.74	97.47	97.14	96.81
S21	22.89	99.38	99.09	98.83	98.55	98.29	98.02	97.74	97.46	97.13	96.88
S22	27.53	99.24	99.06	98.79	98.52	98.25	97.97	97.70	97.42	97.17	96.92
S23	23.41	99.40	99.21	98.94	98.67	98.40	98.13	97.85	97.57	97.24	96.91
S24	23.78	99.23	99.00	98.72	98.45	98.18	97.90	97.62	97.35	97.02	96.69
S25	20.12	99.32	99.14	98.86	98.59	98.32	98.04	97.77	97.49	97.16	96.91
Average	23.00	99.32	99.08	98.81	98.54	98.27	97.99	97.72	97.44	97.15	96.84
Median	22.77	99.32	99.06	98.79	98.52	98.25	97.98	97.70	97.43	97.16	96.84
Std.dev	2.26	0.08	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09	0.09
Max	27.53	99.49	99.22	98.96	98.68	98.42	98.15	97.88	97.60	97.32	96.99
Min	18.77	99.16	98.87	98.59	98.33	98.06	97.79	97.51	97.24	96.91	96.58

3.2.8 Data Set 3, 105°C,60mA (Forward Voltage)

Sample Number	Forward Voltage(V)										
	0hr (Initial)	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs	10000hrs
S01	2.92	2.86	2.89	2.92	2.89	2.88	2.92	2.89	2.91	2.92	2.87
S02	2.95	2.93	2.93	2.91	2.93	2.94	2.91	2.93	2.94	2.92	2.96
S03	2.89	2.86	2.90	2.90	2.85	2.85	2.88	2.84	2.85	2.85	2.86
S04	2.92	2.93	2.93	2.90	2.88	2.90	2.90	2.93	2.93	2.91	2.88
S05	2.93	2.89	2.94	2.94	2.89	2.94	2.90	2.89	2.94	2.88	2.89
S06	2.92	2.87	2.91	2.90	2.90	2.89	2.87	2.92	2.89	2.89	2.89
S07	2.94	2.92	2.92	2.91	2.95	2.91	2.89	2.95	2.93	2.95	2.92
S08	2.95	2.92	2.93	2.91	2.93	2.93	2.90	2.93	2.95	2.91	2.92
S09	2.95	2.92	2.91	2.95	2.92	2.90	2.90	2.94	2.90	2.92	2.90
S10	2.93	2.91	2.88	2.94	2.94	2.91	2.92	2.89	2.91	2.90	2.91
S11	2.91	2.90	2.87	2.90	2.88	2.91	2.86	2.87	2.87	2.86	2.86
S12	2.96	2.96	2.95	2.96	2.93	2.95	2.91	2.96	2.93	2.93	2.92
S13	2.93	2.92	2.89	2.88	2.89	2.89	2.91	2.87	2.92	2.90	2.89
S14	2.89	2.88	2.85	2.85	2.86	2.85	2.87	2.86	2.86	2.85	2.88
S15	3.01	3.02	3.02	3.02	2.97	2.99	2.99	3.00	3.01	2.97	2.97
S16	2.94	2.89	2.93	2.91	2.94	2.91	2.91	2.95	2.93	2.90	2.94
S17	2.97	2.94	2.94	2.97	2.94	2.93	2.93	2.92	2.93	2.98	2.97
S18	2.92	2.90	2.89	2.89	2.93	2.93	2.88	2.88	2.89	2.93	2.89
S19	2.89	2.85	2.87	2.90	2.90	2.90	2.86	2.85	2.90	2.87	2.86
S20	2.91	2.88	2.91	2.92	2.90	2.86	2.86	2.86	2.90	2.85	2.86
S21	2.94	2.93	2.93	2.89	2.92	2.89	2.90	2.89	2.95	2.95	2.95
S22	2.93	2.93	2.93	2.88	2.90	2.94	2.92	2.88	2.89	2.90	2.88
S23	2.90	2.91	2.88	2.88	2.91	2.91	2.91	2.91	2.87	2.91	2.89
S24	2.95	2.90	2.92	2.92	2.96	2.92	2.92	2.92	2.91	2.90	2.94
S25	2.92	2.93	2.93	2.90	2.91	2.88	2.90	2.89	2.91	2.91	2.89
Average	2.93	2.91	2.91	2.91	2.91	2.91	2.90	2.90	2.91	2.91	2.90
Median	2.93	2.91	2.92	2.91	2.91	2.91	2.90	2.89	2.91	2.91	2.89
Std.dev	0.03	0.04	0.03	0.03	0.03	0.03	0.03	0.04	0.03	0.03	0.03
Max	3.01	3.02	3.02	3.02	2.97	2.99	2.99	3.00	3.01	2.98	2.97
Min	2.89	2.85	2.85	2.85	2.85	2.85	2.86	2.84	2.85	2.85	2.86

3.2.9 Data Set 3, 105°C,60mA (Chromaticity Shift)

Sample Number	Chromaticity Shift ($\Delta u'v'$)												
	0hr CCT (Initial)	0hr (Initial)		1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs	10000hrs
S01	6592	0.1931	0.4798	0.0003	0.0004	0.0005	0.0007	0.0009	0.0011	0.0013	0.0016	0.0017	0.0022
S02	6638	0.1926	0.4799	0.0003	0.0005	0.0008	0.0010	0.0013	0.0015	0.0017	0.0020	0.0022	0.0020
S03	6612	0.1931	0.4797	0.0001	0.0003	0.0005	0.0007	0.0009	0.0011	0.0013	0.0014	0.0016	0.0021
S04	6645	0.1943	0.4798	0.0003	0.0006	0.0008	0.0011	0.0012	0.0015	0.0018	0.0021	0.0023	0.0022
S05	6605	0.1934	0.4801	0.0003	0.0004	0.0005	0.0007	0.0009	0.0011	0.0013	0.0015	0.0016	0.0021
S06	6360	0.1928	0.4798	0.0001	0.0004	0.0006	0.0008	0.0011	0.0013	0.0016	0.0017	0.0020	0.0022
S07	6599	0.1931	0.4796	0.0003	0.0004	0.0007	0.0009	0.0012	0.0014	0.0016	0.0017	0.0018	0.0021
S08	6625	0.1939	0.4800	0.0003	0.0004	0.0006	0.0008	0.0011	0.0013	0.0016	0.0017	0.0018	0.0019
S09	6632	0.1941	0.4797	0.0003	0.0005	0.0008	0.0010	0.0012	0.0014	0.0015	0.0018	0.0020	0.0020
S10	6618	0.1932	0.4799	0.0003	0.0004	0.0005	0.0008	0.0010	0.0012	0.0015	0.0018	0.0020	0.0020
S11	6570	0.1928	0.4786	0.0003	0.0005	0.0008	0.0010	0.0012	0.0014	0.0017	0.0018	0.0019	0.0020
S12	6616	0.1930	0.4787	0.0001	0.0003	0.0005	0.0007	0.0009	0.0011	0.0012	0.0013	0.0016	0.0022
S13	6590	0.1929	0.4787	0.0003	0.0004	0.0005	0.0007	0.0009	0.0011	0.0013	0.0016	0.0017	0.0022
S14	6623	0.1930	0.4788	0.0003	0.0005	0.0008	0.0010	0.0013	0.0015	0.0017	0.0020	0.0022	0.0020
S15	6583	0.1935	0.4792	0.0001	0.0003	0.0005	0.0007	0.0009	0.0011	0.0013	0.0014	0.0016	0.0021
S16	6339	0.1944	0.4800	0.0003	0.0006	0.0008	0.0011	0.0012	0.0015	0.0018	0.0021	0.0023	0.0022
S17	6577	0.1930	0.4796	0.0003	0.0004	0.0005	0.0007	0.0009	0.0011	0.0013	0.0015	0.0016	0.0021
S18	6603	0.1936	0.4802	0.0001	0.0004	0.0006	0.0008	0.0011	0.0013	0.0016	0.0017	0.0020	0.0022
S19	6610	0.1929	0.4795	0.0001	0.0003	0.0005	0.0007	0.0010	0.0011	0.0014	0.0015	0.0016	0.0020
S20	6596	0.1928	0.4787	0.0003	0.0004	0.0005	0.0007	0.0009	0.0011	0.0013	0.0016	0.0017	0.0022
S21	6564	0.1927	0.4787	0.0003	0.0005	0.0008	0.0010	0.0013	0.0015	0.0017	0.0020	0.0022	0.0020
S22	6597	0.1924	0.4787	0.0001	0.0003	0.0005	0.0007	0.0009	0.0011	0.0013	0.0014	0.0016	0.0021
S23	6557	0.1928	0.4785	0.0003	0.0006	0.0008	0.0011	0.0012	0.0015	0.0018	0.0021	0.0023	0.0022
S24	6314	0.1923	0.4787	0.0003	0.0004	0.0005	0.0007	0.0009	0.0011	0.0013	0.0015	0.0016	0.0021
S25	6551	0.1929	0.4788	0.0001	0.0004	0.0006	0.0008	0.0011	0.0013	0.0016	0.0017	0.0020	0.0022
Average	6050	0.1931	0.4793	0.0002	0.0004	0.0006	0.0008	0.0011	0.0013	0.0015	0.0017	0.0019	0.0021
Median	6042	0.1930	0.4796	0.0003	0.0004	0.0006	0.0008	0.0011	0.0013	0.0015	0.0017	0.0018	0.0021
Std.dev	84	0.0005	0.0006	0.0001	0.0001	0.0001	0.0001	0.0001	0.0002	0.0002	0.0002	0.0003	0.0001
Max	6200	0.1944	0.4802	0.0003	0.0006	0.0008	0.0011	0.0013	0.0015	0.0018	0.0021	0.0023	0.0022
Min	5863	0.1923	0.4785	0.0001	0.0003	0.0005	0.0007	0.0009	0.0011	0.0012	0.0013	0.0016	0.0019

4.Test Equipment

Equipment Name	Manufacturer	Model No.	Equipment No.	Calibration Due Date
2m Integrating Sphere	SENSING	SL-300	AOC-S-126	2026-04-13
Horizontal Distribution Photometer	SENSING	GMS1800D	AOC-S-124	2026-04-13
Standard Lamp	SENSING	220V/150W	AOC-S-156	2026-06-05
Digital power meter	HENGHE	WT310E	AOC-S-012	2026-04-13
Digital power meter	SENSING	UI2008	AOC-S-123	2026-04-13
Digital power meter	SENSING	UI2021	AOC-S-123	2026-04-13
DC source	OYHS	OYHS-Z120V-50A	AOC-S-062	2026-04-13
Variable frequency power supply	WOSEN	BP6005	AOC-S-129	2026-04-13
Variable frequency power supply	AIPUSI	KDF-500	AOC-S-130	2026-04-13
Oscilloscope	TEKTRONIX	MDO3012	AOC-S-028	2026-04-13

Photo Document

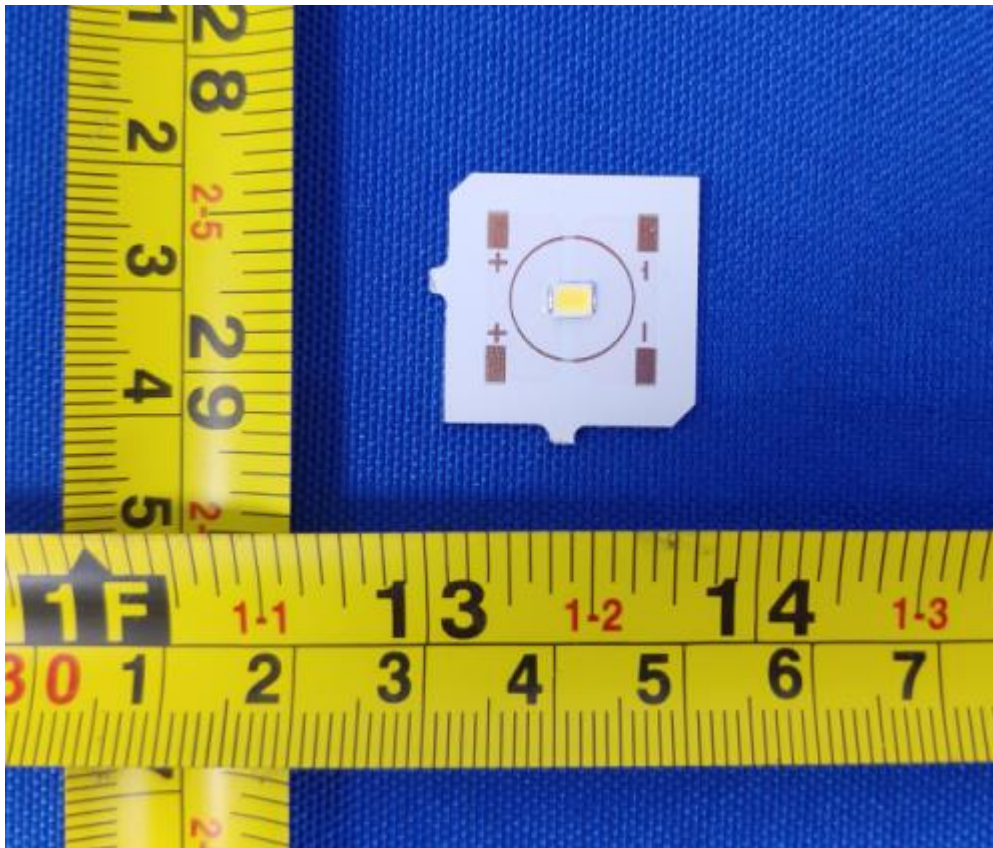


Fig.1

-- End of Report --

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