Test Report Of ANSI/IES LM-80-21

Approved Method: Measuring Maintenance of Light Output Characteristics of Solid-State Light Sources

Report Number.....	:	N01A26110077L00301
Client.....	:	EVERSTAR OPTOELECTRONICS PVT.LTD
Address.....	:	809/810, 8th FLOOR, TOWER B, LODHA SUPREMUS, KOLSHET ROAD, THANE WEST400607
Test Model.....	:	2835WW020E1V18T1-B4R80
Brand Name.....	:	N/A
Testing Laboratory...	:	Guangdong GTG Testing Technology Co., Ltd.
Address.....	:	1-2/F., Building A, and 1/F., Building B, No.11, & Room 102, Unit 1, and Room 101 Unit 2, Building 1, No.9, Zongbu 2nd Road, Songshan Lake High-Tech Industrial Development Zone, Dongguan, Guangdong, China
Testing Location.....	:	As above
Date of receipt.....	:	2023-01-27
Date of test	:	2023-01-30 to 2026-03-10
Date of report.....	:	2026-11-09

Tested by:	Checked by:	Approved by:
Allen chen	Will Yang	Meiko Wang
Allen Chen/ Test Engineer	Will Yang/ Project Engineer	Meiko Wang/ Approver

Note 1: 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 use in part without prior written consent from Guangdong GTG Testing Technology Co., Ltd. This report must not be used by the customer to claim product certification, approval, or endorsement by NVLAP,NIST, or any agency of the Federal Government.
Note 2: This report does not imply product certification, approval, or endorsement by NVLAP, NIST,or any agency of the Federal Government.

Table of Contents

1.General Information 3
1.1 Description of LED Light Sources 3
1.2 Standards Used 4
1.3 Test equipment list 4
1.4 Drive Level 5
1.5 Ambient Conditions for Maintenance Test 5
1.6 Photometric Measurement Method 5
1.7 Sample Set 6
2. Summary of Test Result 7
3. Test Data 9
3.1 Data Set 1, 55° C,120mA (Lumen Maintenance) 9
3.2 Data Set 1, 55° C,120mA (Forward Voltage) 10
3.3 Data Set 1, 55° C,120mA (Chromaticity Shift) 11
3.4 Data Set 2, 85° C,120mA (Lumen Maintenance) 12
3.5 Data Set 2, 85° C,120mA (Forward Voltage) 13
3.6 Data Set 2, 85° C,120mA (Chromaticity Shift) 14
3.7 Data Set 3, 105° C,120mA (Lumen Maintenance) 15
3.8 Data Set 3, 105° C,120mA (Forward Voltage) 16
3.9 Data Set 3, 105° C,120mA (Chromaticity Shift) 17
4. EUT Photo 18

1.General Information

1.1 Description of LED Light Sources

Sample Size:

75Pcs samples were received on 2023-01-27.The samples were numbered from S1 to S75.
(Sample No. A26030704 151 to A26030704 225 will be replaced with S1 to S75.)

Manufacture: EVERSTAR OPTOELECTRONICS PVT.LTD
Part Number: 2835WW020E1V18T1-B4R80
Part Type: LED package
Drive Level: DC120mA
Tested CCT: 2200
Nominal CCT: ≥2200
Power: 2.0W
CRI: 80

Note: Full test data were based on original report number N01A26030704L00301. This report only updates client, manufacture and brand information.

Note: This report is based on the original report N01A26030704L00301 for changes. Due to customer requirements, only the Nominal CCT, Overlay mode description and Reported TM-21 Lifetime has been modified. Other unchanged, this modification does not involve testing. This report replaces the original report and the original report is invalid.

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)

This report covers the following models:

Model type	Model name	CCT (K)	Number of dies	Current density per die (mA/mm^2)	Current (mA)	Power density per die (W/mm^2)	Power (W)	Die Spacing (mm)	Current of die (mA)
2835	(Test Model) 2835WW020E1 V18T1-B4R80	2200	4	563.81	120	0.204	2	0.1	30
	2835WW020E1 V18T1-B4R80	≥2200	4	563.81	120	0.204	2	0.1	30
	2835**001**V18 **-00***/-*	≥2200	1	93.97	5	0.010	0.1	/	5
	2835**002**V18 **-00***/-*	≥2200	1	187.94	10	0.020	0.2	/	10
	2835**006**V18 **-00***/-*	≥2200	1	563.81	30	0.061	0.6	/	30
	2835**010**V18 **-B2***/-*	≥2200	2	563.81	60	0.102	1	0.12	30

Model type	Model name	CCT (K)	Number of dies	Current density per die (mA/mm^2)	Current (mA)	Power density per die (W/mm^2)	Power (W)	Die Spacing (mm)	Current of die (mA)
	2835**010**V36**-C2***/-*	≥2200	2	563.81	30	0.102	1	0.12	30
	2835**005**V36**-C2***/-*	≥2200	2	281.91	15	0.051	0.5	0.12	15
	2835**010**V54**-C3***/-*	≥2200	3	375.87	20	0.102	1	0.11	20
	2835**010**V72**-C4***/-*	≥2200	4	281.91	15	0.102	1	0.1	15
	2835**005**V72**-C4***/-*	>2200	4	150.35	8	0.051	0.5	0.1	8

Overlay mode description: 2835 XX XXX XX XXX XX - XX X XX /- X
① ② ③ ④ ⑤ ⑥ ⑦ ⑧ ⑨ ⑩

X is for description
① Product Specification
② Luminous Color / CCT: CCT≥2200K, e.g. WW—Warm White, NW—Natural White, PW—Pure White
③ Power: 001-0.1W, 002-0.2W, 003-0.3W, 005-0.5W, 006-0.6W, 010-1W
④ Product Grade: e.g. B1-B8
⑤ Voltage Range: No limit
⑥ Bracket Type: e.g. TA, T7 Round Cup, T1, T9, T8 Square Cup, etc.
⑦ Series-parallel Mode: No limit
⑧ Process Code: L—Centrifugal, R—Non-centrifugal
⑨ CRI: No limit
⑩ Special Requirements: Generally not indicated

Disclaimer:
The truthfulness and accuracy of all the technical information above for the covered LED products is ensured by manufacturer of LED light source.Guangdong GTG Testing Technology Co., Ltd. isn't responsible or gives any guarantees for the truthfulness of the technical information.

1.2 Standards Used

- ANSI/IES LM-80-21: Approved Method: Measuring Maintenance of Light Output Characteristics of Solid-State Light Sources
- ANSI/IES TM-21-21: Projecting Long-Term Luminous, Photon, and Radiant Flux Maintenance of LED Light Sources(This standard was not accredited by NVLAP)
- ENERGY STAR® Requirements for the use of LM-80 Data(This standard was not accredited by NVLAP)

1.3 Test equipment list

Test Equipment	Serial No	Model No	Calibration due date
Integrating Sphere System	01-L-187	0.5m	2027/03/04
Standard Light Source	01-L-188	D062	2027/03/04
High Accuracy Array Spectroradio Meter	01-L-169	HAAS-3000	2027/03/04
Digital Power Meter	01-L-166	PF310	2027/03/04
Precision digital stabilized DC power	01-L-167	WY305	2027/03/04

supply			
Temperature Tester	01-L-192	UIS-D8036	2027/03/05

Statement of Traceability: Guangdong GTG Testing Technology Co., Ltd.attested that all calibration has been performed using suitable standards traceable to national primary standards and International System of Unit(SI).

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 ±3% of the specified value of the manufacturer during maintenance test, and was within ±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 minimalambient airflow.The case temperature and Air Temperature was monitoredby 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 Air Temperature during test was set to 25°C ± 2°C, RH＜65%.

1.6 Photometric Measurement Method

Integrating sphere and spectroradiometer is used to measure luminous flux and chromaticity coordinate u'v'.2π measurement was used and sample was drived 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 Air 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(luminous flux) measurements is U=2.1%(K=2),at the 95% confidence level.The uncertainty of the correlated color temperature measurements is U=18K(K=2),at the 95% confidence level.The uncertainty of the temperature is U=0.5°C(K=2),at the 95% confidence level.

1.7 Sample Set

Data Set 1:55°C,120mA	
Part number：	2835WW020E1V18T1-B4R80
Number of Units:	25
Case Temperature(T_S):	＞53°C
Ambient Temperature(T_A):	＞50°C
Life Test Drive Current:	120mA
Measurement Current:	120mA

Data Set 2:85°C,120mA	
Part number：	2835WW020E1V18T1-B4R80
Number of Units:	25
Case Temperature(T_S):	＞83°C
Ambient Temperature(T_A):	＞80°C
Life Test Drive Current:	120mA
Measurement Current:	120mA

Data Set 3:105°C,120mA	
Part number：	2835WW020E1V18T1-B4R80
Number of Units:	25
Case Temperature(T_S):	＞103°C
Ambient Temperature(T_A):	＞100°C
Life Test Drive Current:	120mA
Measurement Current:	120mA

2. Summary of Test Result

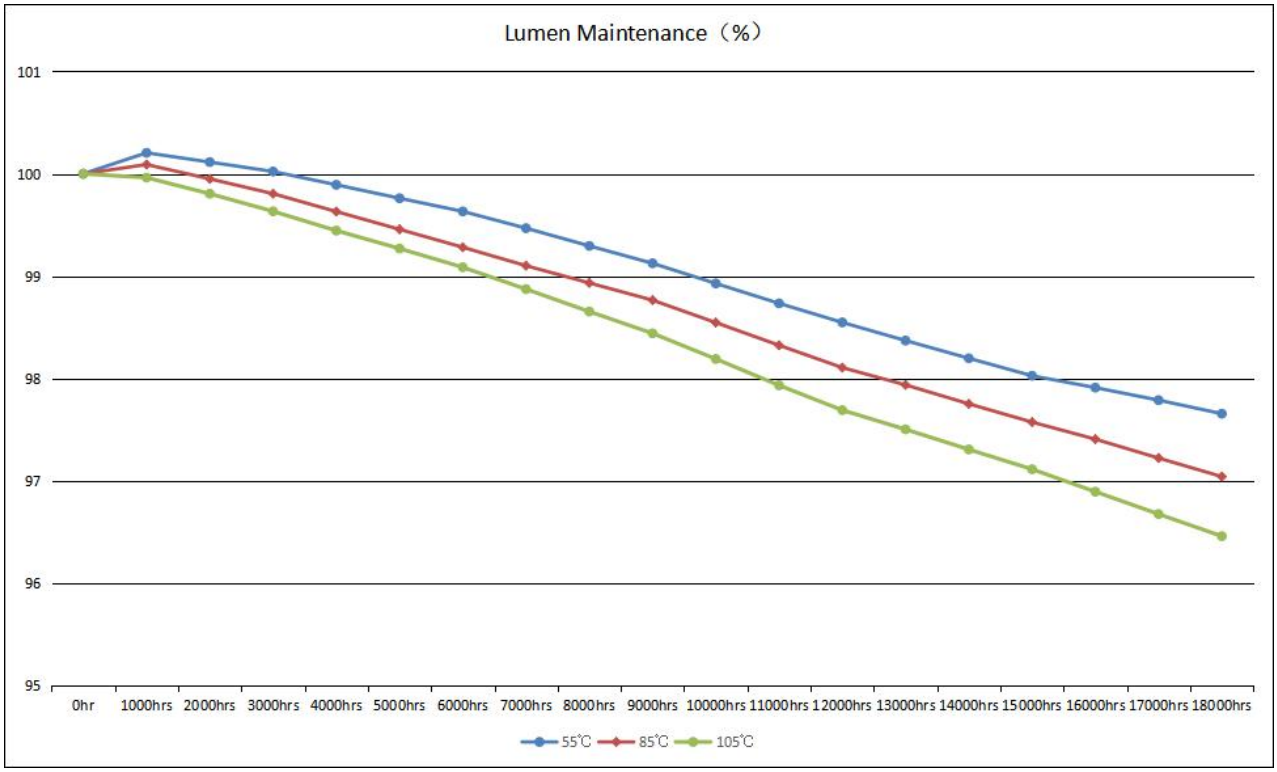
Data Set:	Nominal Case & Ambient Temp.	Drive Current	Sample Size	Failures Observed:	Test Interval	Test Duration	Reported TM-21 L_{70} Lifetime	Reported TM-21 L_{80} Lifetime	Reported TM-21 L_{90} Lifetime
1	55°C	120mA	25	0	1000hrs	18000hrs	>108000hrs	>108000hrs	58800hrs
2	85°C	120mA	25	0	1000hrs	18000hrs	>108000hrs	>108000hrs	55700hrs
3	105°C	120mA	25	0	1000hrs	18000hrs	>108000hrs	102,400hrs	49300hrs

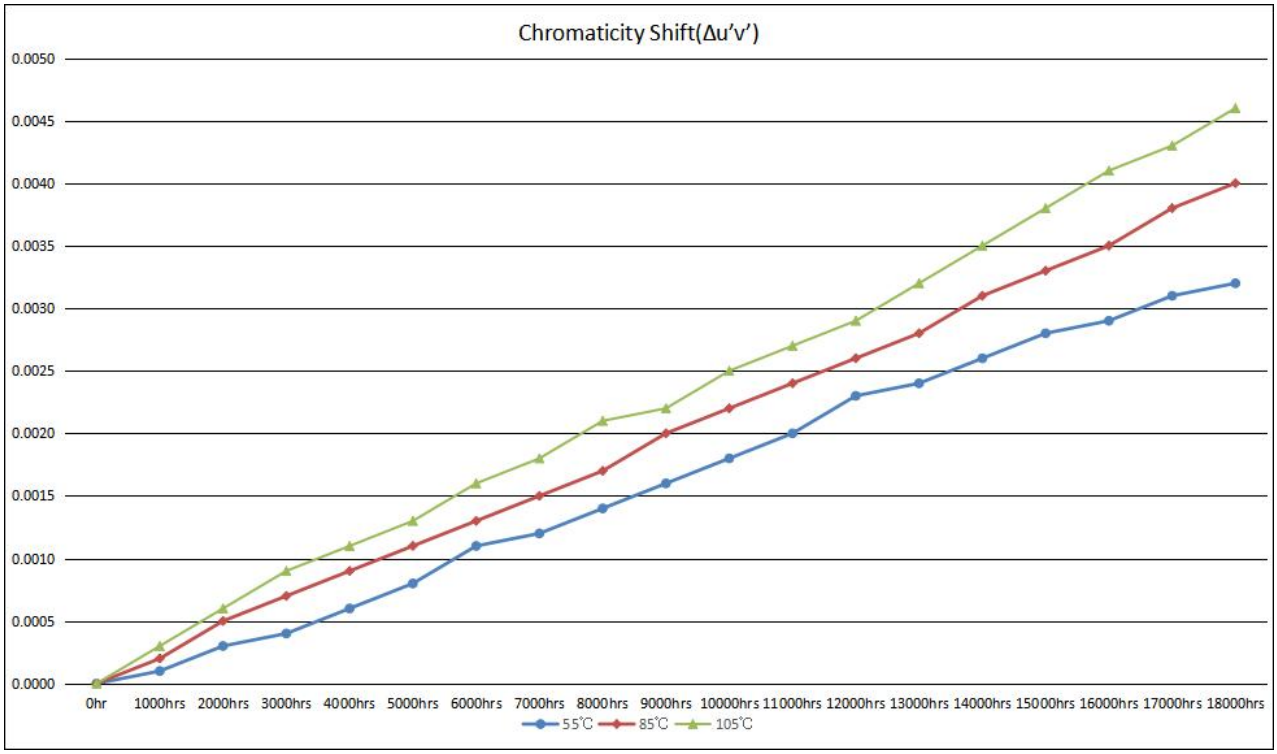
Average Lumen Maintenance (Percentage of Initial Luminous Flux)

Data Set:	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs	10000hrs	11000hrs	12000hrs	13000hrs	14000hrs	15000hrs	16000hrs	17000hrs	18000hrs
1	100.20%	100.11%	100.02%	99.89%	99.76%	99.63%	99.47%	99.29%	99.12%	98.93%	98.73%	98.55%	98.37%	98.20%	98.03%	97.91%	97.79%	97.65%
2	100.09%	99.95%	99.81%	99.63%	99.46%	99.28%	99.10%	98.93%	98.76%	98.55%	98.32%	98.10%	97.94%	97.75%	97.57%	97.41%	97.22%	97.04%
3	99.96%	99.80%	99.63%	99.44%	99.27%	99.09%	98.87%	98.65%	98.44%	98.19%	97.93%	97.69%	97.50%	97.30%	97.11%	96.89%	96.67%	96.46%

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

Data Set:	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs	10000hrs	11000hrs	12000hrs	13000hrs	14000hrs	15000hrs	16000hrs	17000hrs	18000hrs
1	0.0001	0.0003	0.0004	0.0006	0.0008	0.0011	0.0012	0.0014	0.0016	0.0018	0.0020	0.0023	0.0024	0.0026	0.0028	0.0029	0.0031	0.0032
2	0.0002	0.0005	0.0007	0.0009	0.0011	0.0013	0.0015	0.0017	0.0020	0.0022	0.0024	0.0026	0.0028	0.0031	0.0033	0.0035	0.0038	0.0040
3	0.0003	0.0006	0.0009	0.0011	0.0013	0.0016	0.0018	0.0021	0.0022	0.0025	0.0027	0.0029	0.0032	0.0035	0.0038	0.0041	0.0043	0.0046


Lumen Maintenance（%）
101
100
99
98
97
96
95
0hr
1000hrs
2000hrs
3000hrs
4000hrs
5000hrs
6000hrs
7000hrs
8000hrs
9000hrs
10000hrs
11000hrs
12000hrs
13000hrs
14000hrs
15000hrs
16000hrs
17000hrs
18000hrs
55℃
85℃
105℃


Chromaticity Shift(Δu'v')
0.0050
0.0045
0.0040
0.0035
0.0030
0.0025
0.0020
0.0015
0.0010
0.0005
0.0000
0hr
1000hrs
2000hrs
3000hrs
4000hrs
5000hrs
6000hrs
7000hrs
8000hrs
9000hrs
10000hrs
11000hrs
12000hrs
13000hrs
14000hrs
15000hrs
16000hrs
17000hrs
18000hrs
55℃
85℃
105℃

3. Test Data

3.1 Data Set 1, 55° C,120mA (Lumen Maintenance)

Sample Number	Φ(lm)	Lumen Maintenance (%)																	
	0hr (Initial)	1000 hrs	2000 hrs	3000 hrs	4000 hrs	5000 hrs	6000 hrs	7000 hrs	8000 hrs	9000 hrs	10000 hrs	11000 hrs	12000 hrs	13000 hrs	14000 hrs	15000 hrs	16000 hrs	17000 hrs	18000 hrs
S1	113.1	100.15	100.07	99.98	99.84	99.70	99.57	99.34	99.11	98.94	98.80	98.59	98.45	98.30	98.09	97.89	97.74	97.58	97.43
S2	113.0	100.18	100.08	99.98	99.85	99.73	99.60	99.43	99.26	99.12	98.90	98.67	98.47	98.26	98.11	97.96	97.86	97.71	97.60
S3	112.4	100.19	100.09	100.01	99.90	99.76	99.65	99.52	99.39	99.16	98.93	98.73	98.53	98.38	98.17	98.02	97.92	97.76	97.66
S4	112.5	100.23	100.15	100.05	99.91	99.78	99.64	99.51	99.37	99.14	99.00	98.85	98.65	98.45	98.24	98.04	97.94	97.83	97.68
S5	113.6	100.15	100.05	99.97	99.83	99.69	99.57	99.40	99.23	99.10	98.96	98.73	98.50	98.30	98.15	97.94	97.84	97.74	97.58
S6	112.5	100.21	100.12	100.04	99.93	99.79	99.65	99.48	99.25	99.12	98.92	98.69	98.47	98.26	98.06	97.90	97.75	97.65	97.49
S7	113.4	100.15	100.06	99.97	99.83	99.72	99.58	99.45	99.31	99.18	98.98	98.75	98.52	98.32	98.17	98.01	97.86	97.76	97.66
S8	113.8	100.17	100.07	99.99	99.85	99.71	99.57	99.35	99.17	99.04	98.84	98.61	98.47	98.32	98.11	97.91	97.80	97.70	97.55
S9	113.0	100.19	100.09	99.99	99.86	99.75	99.61	99.43	99.30	99.13	98.90	98.76	98.53	98.33	98.18	98.02	97.92	97.82	97.67
S10	113.0	100.25	100.17	100.07	99.93	99.79	99.66	99.43	99.20	99.07	98.92	98.70	98.50	98.34	98.14	97.99	97.88	97.73	97.58
S11	112.7	100.17	100.07	99.98	99.84	99.70	99.57	99.43	99.26	99.03	98.83	98.60	98.46	98.31	98.15	98.00	97.85	97.70	97.54
S12	112.7	100.22	100.14	100.04	99.93	99.79	99.65	99.52	99.35	99.12	98.90	98.69	98.55	98.34	98.14	97.99	97.89	97.79	97.63
S13	112.5	100.22	100.14	100.05	99.92	99.78	99.65	99.47	99.34	99.21	98.98	98.84	98.69	98.49	98.34	98.18	98.08	97.98	97.83
S14	112.0	100.24	100.15	100.07	99.93	99.79	99.66	99.43	99.26	99.03	98.83	98.60	98.40	98.24	98.09	97.94	97.84	97.69	97.58
S15	113.2	100.20	100.12	100.03	99.92	99.79	99.65	99.51	99.34	99.17	98.94	98.72	98.49	98.29	98.13	97.93	97.83	97.67	97.52
S16	112.9	100.23	100.15	100.05	99.94	99.83	99.71	99.58	99.35	99.18	99.04	98.89	98.69	98.54	98.39	98.18	98.08	97.98	97.88
S17	113.4	100.20	100.11	100.02	99.90	99.79	99.65	99.52	99.29	99.16	98.93	98.73	98.53	98.37	98.22	98.07	97.92	97.82	97.71
S18	112.5	100.15	100.05	99.96	99.85	99.72	99.61	99.38	99.25	99.07	98.85	98.64	98.50	98.35	98.19	98.04	97.94	97.84	97.69
S19	112.3	100.17	100.07	99.98	99.84	99.72	99.61	99.48	99.31	99.18	99.03	98.89	98.68	98.48	98.33	98.12	98.02	97.92	97.82
S20	112.6	100.19	100.11	100.01	99.87	99.73	99.60	99.46	99.33	99.20	98.97	98.74	98.60	98.45	98.30	98.09	97.94	97.78	97.63
S21	111.9	100.24	100.14	100.04	99.93	99.80	99.68	99.55	99.32	99.15	98.95	98.81	98.66	98.51	98.30	98.10	98.00	97.84	97.69
S22	112.1	100.25	100.17	100.07	99.93	99.79	99.68	99.50	99.28	99.14	98.92	98.71	98.57	98.37	98.16	98.01	97.91	97.81	97.70
S23	113.1	100.26	100.18	100.08	99.94	99.80	99.69	99.52	99.35	99.12	98.92	98.77	98.55	98.34	98.19	98.04	97.88	97.73	97.58
S24	114.3	100.26	100.16	100.06	99.92	99.78	99.65	99.48	99.35	99.17	99.03	98.89	98.66	98.51	98.35	98.20	98.10	98.00	97.90
S25	114.1	100.24	100.14	100.06	99.92	99.79	99.65	99.52	99.38	99.16	98.93	98.70	98.56	98.41	98.20	98.05	97.95	97.85	97.75
Ave.	112.9	100.20	100.11	100.02	99.89	99.76	99.63	99.47	99.29	99.12	98.93	98.73	98.55	98.37	98.20	98.03	97.91	97.79	97.65
Med.	112.9	100.20	100.12	100.03	99.91	99.78	99.65	99.48	99.31	99.14	98.93	98.73	98.53	98.34	98.17	98.02	97.91	97.78	97.66
St dev	0.6131	0.0371	0.0410	0.0386	0.0410	0.0389	0.0413	0.0609	0.0676	0.0628	0.0647	0.0892	0.0841	0.0854	0.0902	0.0872	0.0943	0.1054	0.1164
Min.	111.9	100.15	100.05	99.96	99.83	99.69	99.57	99.34	99.11	98.94	98.80	98.59	98.40	98.24	98.06	97.89	97.74	97.58	97.43
Max.	114.3	100.26	100.18	100.08	99.94	99.83	99.71	99.58	99.39	99.21	99.04	98.89	98.69	98.54	98.39	98.20	98.10	98.00	97.90

3.2 Data Set 1, 55° C,120mA (Forward Voltage)

Sample Number	Forward Voltage(V)																		
	0hr (Initial)	1000 hrs	2000 hrs	3000 hrs	4000 hrs	5000 hrs	6000 hrs	7000 hrs	8000 hrs	9000 hrs	10000 hrs	11000 hrs	12000 hrs	13000 hrs	14000 hrs	15000 hrs	16000 hrs	17000 hrs	18000 hrs
S1	19.98	19.98	19.97	19.97	19.97	19.97	19.97	19.98	19.97	19.98	19.97	19.97	19.97	19.97	19.97	19.97	19.97	19.98	19.98
S2	19.98	19.98	19.98	19.98	19.97	19.98	19.98	19.97	19.97	19.98	19.98	19.98	19.98	19.97	19.97	19.98	19.98	19.97	19.97
S3	19.98	19.97	19.98	19.97	19.97	19.98	19.97	19.98	19.97	19.97	19.97	19.97	19.97	19.98	19.97	19.97	19.97	19.97	19.98
S4	19.98	19.97	19.97	19.97	19.97	19.97	19.97	19.97	19.97	19.98	19.98	19.98	19.98	19.97	19.98	19.97	19.98	19.97	19.97
S5	19.98	19.97	19.97	19.98	19.97	19.98	19.97	19.98	19.97	19.98	19.97	19.97	19.98	19.97	19.97	19.97	19.97	19.97	19.97
S6	19.98	19.98	19.97	19.97	19.97	19.98	19.97	19.97	19.97	19.97	19.97	19.97	19.97	19.97	19.97	19.97	19.98	19.98	19.98
S7	19.99	19.98	19.98	19.98	19.97	19.98	19.98	19.97	19.97	19.98	19.97	19.97	19.98	19.97	19.97	19.97	19.98	19.97	19.97
S8	19.98	19.97	19.98	19.97	19.98	19.98	19.98	19.97	19.97	19.98	19.97	19.97	19.97	19.97	19.97	19.97	19.98	19.97	19.97
S9	19.98	19.98	19.97	19.97	19.97	19.97	19.97	19.97	19.97	19.97	19.97	19.97	19.97	19.97	19.98	19.98	19.97	19.97	19.98
S10	19.97	19.98	19.97	19.98	19.97	19.97	19.97	19.97	19.97	19.98	19.97	19.98	19.97	19.98	19.98	19.97	19.97	19.97	19.98
S11	19.98	19.98	19.97	19.97	19.98	19.98	19.98	19.97	19.97	19.97	19.97	19.97	19.98	19.97	19.97	19.98	19.98	19.97	19.97
S12	19.98	19.97	19.97	19.98	19.98	19.98	19.97	19.98	19.97	19.98	19.97	19.97	19.97	19.97	19.97	19.98	19.97	19.98	19.97
S13	19.98	19.97	19.97	19.97	19.97	19.97	19.98	19.97	19.98	19.98	19.98	19.97	19.97	19.97	19.98	19.98	19.97	19.97	19.97
S14	19.98	19.97	19.97	19.97	19.97	19.98	19.97	19.97	19.97	19.97	19.97	19.98	19.97	19.98	19.98	19.97	19.97	19.97	19.97
S15	19.98	19.98	19.97	19.98	19.98	19.98	19.97	19.97	19.97	19.98	19.98	19.97	19.98	19.97	19.97	19.97	19.97	19.97	19.98
S16	19.98	19.98	19.98	19.97	19.97	19.97	19.97	19.98	19.97	19.97	19.97	19.98	19.98	19.98	19.98	19.97	19.97	19.97	19.97
S17	19.98	19.97	19.97	19.97	19.97	19.98	19.97	19.97	19.98	19.97	19.98	19.97	19.97	19.97	19.98	19.97	19.97	19.98	19.98
S18	19.98	19.98	19.97	19.97	19.97	19.98	19.97	19.97	19.97	19.97	19.98	19.97	19.97	19.97	19.97	19.98	19.98	19.98	19.97
S19	19.98	19.97	19.97	19.97	19.98	19.97	19.97	19.97	19.98	19.97	19.97	19.98	19.98	19.97	19.97	19.98	19.98	19.98	19.97
S20	19.97	19.98	19.98	19.97	19.98	19.97	19.97	19.98	19.97	19.97	19.97	19.97	19.97	19.97	19.97	19.98	19.97	19.98	19.97
S21	19.98	19.98	19.97	19.97	19.98	19.97	19.97	19.97	19.97	19.97	19.97	19.97	19.98	19.98	19.97	19.98	19.97	19.97	19.97
S22	19.98	19.98	19.98	19.98	19.98	19.97	19.97	19.97	19.97	19.98	19.98	19.97	19.98	19.97	19.98	19.97	19.98	19.97	19.97
S23	19.98	19.98	19.97	19.97	19.97	19.98	19.97	19.97	19.97	19.98	19.97	19.98	19.97	19.98	19.97	19.97	19.98	19.98	19.97
S24	19.97	19.98	19.98	19.97	19.97	19.97	19.98	19.97	19.98	19.98	19.98	19.98	19.97	19.97	19.98	19.97	19.97	19.97	19.97
S25	19.97	19.97	19.97	19.97	19.97	19.98	19.97	19.97	19.97	19.97	19.97	19.97	19.97	19.97	19.98	19.97	19.97	19.98	19.97
Ave.	19.98	19.98	19.97	19.97	19.97	19.97	19.97	19.97	19.97	19.97	19.97	19.97	19.97	19.97	19.97	19.97	19.97	19.97	19.97
Med.	19.98	19.98	19.97	19.97	19.97	19.98	19.97	19.97	19.97	19.98	19.97	19.97	19.97	19.97	19.97	19.97	19.97	19.97	19.97
St dev	0.0044	0.0042	0.0041	0.0040	0.0035	0.0046	0.0037	0.0033	0.0036	0.0042	0.0041	0.0035	0.0045	0.0037	0.0042	0.0049	0.0032	0.0037	0.0042
Min.	19.97	19.97	19.97	19.97	19.97	19.97	19.97	19.97	19.97	19.97	19.97	19.97	19.97	19.97	19.97	19.97	19.97	19.97	19.97
Max.	19.99	19.98	19.98	19.98	19.98	19.98	19.98	19.98	19.98	19.98	19.98	19.98	19.98	19.98	19.98	19.98	19.98	19.98	19.98

3.3 Data Set 1, 55° C,120mA (Chromaticity Shift)

Sample Number	u'	v'	CCT(K)	Chromaticity Shift (Δu'v')																
	0hr (Initial)			1000 hrs	2000 hrs	3000 hrs	4000 hrs	5000 hrs	6000 hrs	7000 hrs	8000 hrs	9000 hrs	10000 hrs	12000 hrs	18000 hrs	13000 hrs	14000 hrs	15000 hrs	16000 hrs	17000 hrs	18000 hrs
S1	0.2879	0.5384	2229	0.0001	0.0003	0.0004	0.0006	0.0008	0.0010	0.0012	0.0013	0.0015	0.0018	0.0019	0.0022	0.0023	0.0025	0.0027	0.0029	0.0030	0.0032
S2	0.2879	0.5383	2229	0.0001	0.0003	0.0004	0.0007	0.0009	0.0011	0.0012	0.0014	0.0016	0.0018	0.0020	0.0023	0.0025	0.0027	0.0029	0.0030	0.0032	0.0033
S3	0.2877	0.5381	2232	0.0001	0.0003	0.0004	0.0007	0.0008	0.0011	0.0012	0.0014	0.0016	0.0019	0.0021	0.0024	0.0025	0.0027	0.0029	0.0031	0.0032	0.0034
S4	0.2879	0.5382	2230	0.0001	0.0003	0.0004	0.0007	0.0008	0.0011	0.0013	0.0014	0.0016	0.0019	0.0020	0.0023	0.0024	0.0026	0.0027	0.0029	0.0030	0.0031
S5	0.2875	0.5384	2234	0.0001	0.0003	0.0004	0.0007	0.0009	0.0012	0.0013	0.0015	0.0016	0.0018	0.0021	0.0022	0.0024	0.0027	0.0029	0.0030	0.0032	0.0033
S6	0.2880	0.5385	2228	0.0001	0.0003	0.0004	0.0006	0.0007	0.0010	0.0011	0.0013	0.0015	0.0017	0.0020	0.0022	0.0024	0.0026	0.0027	0.0028	0.0030	0.0031
S7	0.2881	0.5386	2226	0.0001	0.0003	0.0004	0.0006	0.0008	0.0011	0.0013	0.0014	0.0016	0.0019	0.0021	0.0023	0.0024	0.0026	0.0027	0.0029	0.0030	0.0032
S8	0.2878	0.5383	2230	0.0001	0.0003	0.0004	0.0006	0.0009	0.0011	0.0013	0.0014	0.0016	0.0019	0.0021	0.0024	0.0026	0.0027	0.0029	0.0031	0.0032	0.0034
S9	0.2883	0.5387	2222	0.0001	0.0003	0.0004	0.0007	0.0008	0.0011	0.0012	0.0013	0.0015	0.0018	0.0019	0.0022	0.0023	0.0025	0.0028	0.0029	0.0030	0.0032
S10	0.2873	0.5384	2237	0.0001	0.0003	0.0004	0.0007	0.0009	0.0012	0.0013	0.0015	0.0017	0.0019	0.0022	0.0024	0.0025	0.0027	0.0029	0.0030	0.0032	0.0033
S11	0.2877	0.5378	2233	0.0001	0.0003	0.0004	0.0006	0.0008	0.0011	0.0012	0.0014	0.0015	0.0017	0.0020	0.0021	0.0023	0.0026	0.0027	0.0028	0.0030	0.0031
S12	0.2877	0.5384	2232	0.0001	0.0003	0.0004	0.0007	0.0009	0.0011	0.0012	0.0014	0.0016	0.0019	0.0022	0.0023	0.0025	0.0026	0.0028	0.0029	0.0031	0.0032
S13	0.2877	0.5383	2232	0.0001	0.0003	0.0004	0.0006	0.0008	0.0011	0.0012	0.0014	0.0015	0.0018	0.0020	0.0022	0.0024	0.0026	0.0028	0.0030	0.0031	0.0033
S14	0.2875	0.5381	2235	0.0001	0.0003	0.0004	0.0006	0.0008	0.0011	0.0012	0.0014	0.0016	0.0018	0.0021	0.0024	0.0026	0.0028	0.0029	0.0031	0.0032	0.0033
S15	0.2873	0.5383	2237	0.0001	0.0003	0.0004	0.0006	0.0008	0.0011	0.0013	0.0014	0.0015	0.0018	0.0019	0.0022	0.0023	0.0025	0.0026	0.0028	0.0029	0.0030
S16	0.2880	0.5386	2228	0.0001	0.0003	0.0004	0.0006	0.0008	0.0010	0.0011	0.0013	0.0014	0.0016	0.0019	0.0021	0.0023	0.0024	0.0026	0.0028	0.0029	0.0031
S17	0.2877	0.5382	2232	0.0001	0.0003	0.0004	0.0007	0.0008	0.0011	0.0012	0.0014	0.0016	0.0018	0.0021	0.0023	0.0025	0.0027	0.0028	0.0029	0.0030	0.0032
S18	0.2882	0.5386	2224	0.0001	0.0003	0.0004	0.0007	0.0009	0.0011	0.0013	0.0015	0.0017	0.0019	0.0021	0.0023	0.0025	0.0026	0.0028	0.0030	0.0031	0.0032
S19	0.2875	0.5378	2236	0.0001	0.0003	0.0004	0.0006	0.0008	0.0011	0.0012	0.0014	0.0016	0.0018	0.0019	0.0022	0.0024	0.0027	0.0029	0.0030	0.0031	0.0033
S20	0.2902	0.5365	2198	0.0001	0.0003	0.0004	0.0007	0.0009	0.0011	0.0012	0.0014	0.0015	0.0017	0.0020	0.0021	0.0023	0.0025	0.0026	0.0027	0.0029	0.0030
S21	0.2901	0.5362	2200	0.0001	0.0003	0.0004	0.0007	0.0008	0.0011	0.0013	0.0014	0.0016	0.0017	0.0020	0.0022	0.0024	0.0025	0.0027	0.0028	0.0030	0.0031
S22	0.2902	0.5363	2199	0.0001	0.0003	0.0004	0.0006	0.0008	0.0010	0.0012	0.0013	0.0015	0.0018	0.0021	0.0022	0.0024	0.0027	0.0028	0.0029	0.0031	0.0032
S23	0.2904	0.5366	2196	0.0001	0.0003	0.0004	0.0006	0.0008	0.0010	0.0012	0.0013	0.0015	0.0018	0.0021	0.0023	0.0025	0.0026	0.0029	0.0030	0.0031	0.0033
S24	0.2898	0.5365	2204	0.0001	0.0003	0.0004	0.0007	0.0009	0.0011	0.0013	0.0015	0.0016	0.0018	0.0020	0.0023	0.0025	0.0026	0.0028	0.0030	0.0031	0.0033
S25	0.2905	0.5368	2194	0.0001	0.0003	0.0004	0.0006	0.0008	0.0010	0.0012	0.0014	0.0016	0.0019	0.0021	0.0024	0.0026	0.0027	0.0028	0.0030	0.0031	0.0032
Ave.	0.2884	0.5379	2223	0.0001	0.0003	0.0004	0.0006	0.0008	0.0011	0.0012	0.0014	0.0016	0.0018	0.0020	0.0023	0.0024	0.0026	0.0028	0.0029	0.0031	0.0032
Med.	0.2879	0.5383	2229	0.0001	0.0003	0.0004	0.0006	0.0008	0.0011	0.0012	0.0014	0.0016	0.0018	0.0020	0.0023	0.0024	0.0026	0.0028	0.0029	0.0031	0.0032
St dev	0.0011	0.0008	14.6371	0.0000	0.0000	0.0000	0.0000	0.0000	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
Min.	0.2873	0.5362	2194	0.0001	0.0003	0.0004	0.0006	0.0007	0.0010	0.0011	0.0013	0.0014	0.0016	0.0019	0.0021	0.0023	0.0024	0.0026	0.0027	0.0029	0.0030
Max.	0.2905	0.5387	2237	0.0001	0.0003	0.0004	0.0007	0.0009	0.0012	0.0013	0.0015	0.0017	0.0019	0.0022	0.0024	0.0026	0.0028	0.0029	0.0031	0.0032	0.0034

3.4 Data Set 2, 85° C,120mA (Lumen Maintenance)

Sample Number	Φ(lm)	Lumen Maintenance (%)																	
	0hr (Initial)	1000 hrs	2000 hrs	3000 hrs	4000 hrs	5000 hrs	6000 hrs	7000 hrs	8000 hrs	9000 hrs	10000 hrs	11000 hrs	12000 hrs	13000 hrs	14000 hrs	15000 hrs	16000 hrs	17000 hrs	18000 hrs
S26	114.6	100.15	100.01	99.86	99.69	99.52	99.33	99.18	99.03	98.88	98.65	98.40	98.21	98.00	97.86	97.72	97.57	97.43	97.28
S27	113.8	100.03	99.88	99.72	99.55	99.38	99.21	99.06	98.91	98.76	98.51	98.28	98.09	97.94	97.77	97.62	97.48	97.34	97.19
S28	113.5	100.06	99.93	99.79	99.62	99.45	99.27	99.05	98.84	98.69	98.50	98.25	98.06	97.88	97.70	97.53	97.38	97.24	97.04
S29	113.0	100.04	99.91	99.77	99.59	99.42	99.25	99.03	98.82	98.67	98.43	98.19	98.00	97.82	97.61	97.40	97.21	96.99	96.84
S30	112.9	100.08	99.94	99.81	99.64	99.46	99.27	99.06	98.91	98.70	98.47	98.27	98.04	97.83	97.69	97.51	97.29	97.14	96.95
S31	112.3	100.12	99.98	99.83	99.64	99.47	99.30	99.15	99.00	98.79	98.60	98.35	98.12	97.94	97.76	97.58	97.39	97.19	97.05
S32	112.4	100.07	99.94	99.78	99.61	99.44	99.26	99.11	98.96	98.74	98.50	98.26	98.06	97.92	97.74	97.57	97.42	97.20	97.01
S33	113.6	100.08	99.94	99.79	99.60	99.42	99.25	99.10	98.95	98.80	98.60	98.41	98.17	97.99	97.81	97.60	97.46	97.26	97.04
S34	112.4	100.04	99.89	99.75	99.58	99.41	99.24	99.03	98.82	98.67	98.42	98.18	97.99	97.78	97.56	97.39	97.17	97.02	96.81
S35	113.3	100.08	99.95	99.80	99.62	99.45	99.28	99.13	98.98	98.83	98.63	98.40	98.16	97.95	97.74	97.56	97.42	97.20	96.98
S36	113.8	100.11	99.97	99.84	99.67	99.50	99.32	99.11	98.96	98.81	98.57	98.37	98.13	97.99	97.81	97.63	97.49	97.29	97.15
S37	113.0	100.12	99.97	99.82	99.65	99.46	99.29	99.14	98.99	98.84	98.65	98.41	98.18	98.04	97.83	97.62	97.47	97.28	97.13
S38	112.9	100.11	99.97	99.84	99.66	99.47	99.30	99.15	98.94	98.79	98.59	98.36	98.17	97.99	97.85	97.64	97.44	97.25	97.06
S39	112.7	100.14	100.01	99.85	99.67	99.50	99.33	99.18	98.96	98.81	98.62	98.38	98.14	98.00	97.79	97.61	97.47	97.25	97.03
S40	114.5	100.10	99.96	99.82	99.65	99.48	99.30	99.09	98.94	98.72	98.49	98.30	98.05	97.87	97.70	97.55	97.41	97.22	97.00
S41	114.1	100.14	100.00	99.87	99.68	99.51	99.34	99.19	99.04	98.89	98.64	98.45	98.22	98.07	97.86	97.65	97.51	97.37	97.22
S42	113.6	100.04	99.90	99.76	99.59	99.42	99.24	99.03	98.82	98.60	98.41	98.22	98.03	97.85	97.64	97.46	97.24	97.10	96.90
S43	113.6	100.12	99.96	99.83	99.66	99.48	99.31	99.16	99.01	98.86	98.67	98.47	98.24	98.06	97.92	97.74	97.59	97.38	97.18
S44	114.8	100.07	99.92	99.76	99.58	99.41	99.24	99.09	98.94	98.72	98.53	98.30	98.05	97.87	97.70	97.55	97.36	97.14	96.95
S45	113.7	100.05	99.91	99.76	99.59	99.42	99.23	99.02	98.81	98.66	98.42	98.18	97.99	97.81	97.60	97.39	97.19	96.98	96.78
S46	114.6	100.14	100.01	99.87	99.70	99.52	99.34	99.12	98.97	98.82	98.63	98.43	98.24	98.10	97.89	97.75	97.60	97.39	97.19
S47	115.0	100.08	99.93	99.79	99.61	99.44	99.27	99.06	98.91	98.75	98.51	98.28	98.03	97.89	97.68	97.54	97.34	97.20	97.06
S48	114.2	100.08	99.94	99.79	99.62	99.44	99.27	99.05	98.90	98.75	98.52	98.28	98.05	97.87	97.69	97.55	97.35	97.14	96.99
S49	114.0	100.12	99.98	99.83	99.66	99.49	99.31	99.16	99.00	98.85	98.62	98.38	98.19	98.05	97.91	97.70	97.55	97.36	97.14
S50	113.5	100.08	99.94	99.79	99.62	99.45	99.28	99.07	98.92	98.70	98.46	98.27	98.02	97.88	97.67	97.46	97.32	97.17	96.98
Ave.	113.6	100.09	99.95	99.81	99.63	99.46	99.28	99.10	98.93	98.76	98.55	98.32	98.10	97.94	97.75	97.57	97.41	97.22	97.04
Med.	113.6	100.08	99.94	99.80	99.62	99.45	99.28	99.10	98.94	98.76	98.53	98.30	98.09	97.94	97.74	97.57	97.42	97.22	97.04
St dev	0.7664	0.0356	0.0378	0.0384	0.0381	0.0374	0.0369	0.0533	0.0682	0.0756	0.0829	0.0868	0.0817	0.0904	0.0995	0.1017	0.1222	0.1209	0.1286
Min.	112.3	100.03	99.88	99.72	99.55	99.38	99.21	99.02	98.81	98.60	98.41	98.18	97.99	97.78	97.56	97.39	97.17	96.98	96.78
Max.	115.0	100.15	100.01	99.87	99.70	99.52	99.34	99.19	99.04	98.89	98.67	98.47	98.24	98.10	97.92	97.75	97.60	97.43	97.28

3.5 Data Set 2, 85° C,120mA (Forward Voltage)

Sample Number	Forward Voltage(V)																		
	0hr (Initial)	1000 hrs	2000 hrs	3000 hrs	4000 hrs	5000 hrs	6000 hrs	7000 hrs	8000 hrs	9000 hrs	10000 hrs	11000 hrs	12000 hrs	13000 hrs	14000 hrs	15000 hrs	16000 hrs	17000 hrs	18000 hrs
S26	19.98	19.97	19.98	19.98	19.98	19.97	19.98	19.98	19.98	19.97	19.97	19.98	19.97	19.98	19.98	19.98	19.97	19.97	19.98
S27	19.98	19.98	19.98	19.97	19.98	19.97	19.97	19.97	19.97	19.98	19.98	19.97	19.98	19.98	19.97	19.98	19.97	19.98	19.97
S28	19.98	19.97	19.97	19.98	19.98	19.97	19.97	19.97	19.97	19.98	19.98	19.98	19.97	19.97	19.97	19.97	19.98	19.98	19.97
S29	19.97	19.97	19.98	19.97	19.97	19.97	19.98	19.98	19.97	19.98	19.97	19.97	19.97	19.98	19.98	19.98	19.97	19.98	19.98
S30	19.98	19.97	19.98	19.98	19.97	19.97	19.98	19.98	19.98	19.97	19.97	19.98	19.97	19.97	19.97	19.98	19.97	19.98	19.97
S31	19.98	19.98	19.98	19.98	19.98	19.97	19.98	19.97	19.98	19.97	19.97	19.98	19.97	19.98	19.97	19.98	19.98	19.98	19.98
S32	19.98	19.98	19.97	19.98	19.98	19.97	19.97	19.98	19.97	19.98	19.97	19.97	19.97	19.97	19.98	19.97	19.98	19.97	19.97
S33	19.98	19.98	19.98	19.97	19.98	19.98	19.97	19.97	19.97	19.97	19.97	19.98	19.97	19.97	19.98	19.97	19.98	19.98	19.98
S34	19.98	19.98	19.98	19.97	19.97	19.97	19.97	19.97	19.97	19.97	19.97	19.97	19.97	19.98	19.98	19.97	19.98	19.97	19.98
S35	19.98	19.97	19.98	19.97	19.98	19.97	19.98	19.98	19.97	19.98	19.98	19.97	19.97	19.97	19.98	19.97	19.97	19.97	19.98
S36	19.98	19.97	19.98	19.97	19.97	19.98	19.98	19.98	19.97	19.97	19.97	19.97	19.98	19.97	19.98	19.97	19.97	19.98	19.98
S37	19.98	19.98	19.97	19.97	19.97	19.98	19.97	19.98	19.97	19.97	19.98	19.97	19.97	19.97	19.97	19.98	19.97	19.97	19.97
S38	19.99	19.98	19.98	19.98	19.97	19.98	19.97	19.97	19.98	19.98	19.97	19.98	19.98	19.97	19.98	19.97	19.98	19.98	19.97
S39	19.98	19.98	19.97	19.98	19.98	19.97	19.97	19.97	19.98	19.98	19.98	19.97	19.98	19.97	19.97	19.97	19.97	19.98	19.98
S40	19.97	19.98	19.97	19.98	19.97	19.97	19.98	19.98	19.97	19.97	19.97	19.97	19.98	19.98	19.97	19.97	19.98	19.98	19.97
S41	19.98	19.97	19.98	19.98	19.97	19.98	19.97	19.97	19.98	19.98	19.97	19.98	19.97	19.97	19.98	19.98	19.98	19.98	19.97
S42	19.97	19.97	19.97	19.97	19.97	19.98	19.98	19.97	19.98	19.97	19.97	19.97	19.97	19.97	19.97	19.97	19.98	19.97	19.97
S43	19.98	19.98	19.97	19.97	19.98	19.98	19.98	19.98	19.98	19.98	19.98	19.97	19.98	19.97	19.97	19.98	19.97	19.97	19.98
S44	19.99	19.98	19.98	19.98	19.97	19.98	19.97	19.97	19.97	19.97	19.97	19.98	19.97	19.97	19.97	19.98	19.98	19.97	19.97
S45	19.99	19.98	19.97	19.97	19.97	19.97	19.97	19.97	19.98	19.98	19.97	19.98	19.98	19.98	19.97	19.97	19.97	19.97	19.97
S46	19.98	19.98	19.98	19.98	19.98	19.98	19.97	19.98	19.97	19.97	19.97	19.97	19.97	19.97	19.98	19.97	19.98	19.98	19.98
S47	19.97	19.98	19.97	19.97	19.97	19.98	19.97	19.98	19.97	19.97	19.98	19.97	19.97	19.98	19.98	19.97	19.97	19.98	19.97
S48	19.98	19.98	19.98	19.97	19.98	19.97	19.98	19.97	19.97	19.97	19.98	19.98	19.97	19.98	19.97	19.97	19.98	19.98	19.97
S49	19.98	19.97	19.98	19.97	19.98	19.98	19.97	19.98	19.98	19.97	19.98	19.98	19.97	19.98	19.97	19.98	19.97	19.98	19.97
S50	19.98	19.97	19.97	19.98	19.97	19.98	19.98	19.97	19.97	19.97	19.98	19.98	19.98	19.98	19.97	19.97	19.98	19.98	19.97
Ave.	19.98	19.98	19.98	19.98	19.98	19.98	19.98	19.98	19.98	19.98	19.97	19.98	19.97	19.98	19.97	19.97	19.98	19.98	19.97
Med.	19.98	19.98	19.98	19.97	19.97	19.97	19.97	19.97	19.97	19.97	19.97	19.97	19.97	19.97	19.97	19.97	19.98	19.98	19.97
St dev	0.0054	0.0053	0.0046	0.0057	0.0057	0.0050	0.0050	0.0051	0.0048	0.0047	0.0049	0.0055	0.0052	0.0037	0.0056	0.0064	0.0044	0.0059	0.0059
Min.	19.97	19.97	19.97	19.97	19.97	19.97	19.97	19.97	19.97	19.97	19.97	19.97	19.97	19.97	19.97	19.97	19.97	19.97	19.97
Max.	19.99	19.98	19.98	19.98	19.98	19.98	19.98	19.98	19.98	19.98	19.98	19.98	19.98	19.98	19.98	19.98	19.98	19.98	19.98

3.6 Data Set 2, 85° C,120mA (Chromaticity Shift)

Sample Number	u'	v'	CCT(K)	Chromaticity Shift (Δu'v')																	
	0hr (Initial)			1000 hrs	2000 hrs	3000 hrs	4000 hrs	5000 hrs	6000 hrs	7000 hrs	8000 hrs	9000 hrs	10000 hrs	12000 hrs	18000 hrs	13000 hrs	14000 hrs	15000 hrs	16000 hrs	17000 hrs	18000 hrs
S26	0.2902	0.5364	2198	0.0003	0.0006	0.0007	0.0009	0.0011	0.0013	0.0015	0.0017	0.0020	0.0022	0.0025	0.0026	0.0030	0.0032	0.0034	0.0037	0.0039	0.0041
S27	0.2907	0.5368	2191	0.0002	0.0005	0.0007	0.0010	0.0011	0.0013	0.0015	0.0017	0.0020	0.0023	0.0024	0.0026	0.0028	0.0030	0.0032	0.0035	0.0036	0.0039
S28	0.2900	0.5360	2202	0.0002	0.0004	0.0007	0.0009	0.0011	0.0013	0.0015	0.0017	0.0020	0.0021	0.0023	0.0024	0.0026	0.0028	0.0030	0.0033	0.0035	0.0038
S29	0.2907	0.5365	2191	0.0002	0.0005	0.0007	0.0009	0.0012	0.0014	0.0016	0.0018	0.0020	0.0023	0.0026	0.0028	0.0030	0.0034	0.0037	0.0040	0.0042	0.0045
S30	0.2907	0.5364	2191	0.0003	0.0005	0.0007	0.0010	0.0013	0.0014	0.0016	0.0018	0.0020	0.0022	0.0023	0.0025	0.0029	0.0030	0.0034	0.0036	0.0038	0.0040
S31	0.2905	0.5362	2194	0.0002	0.0004	0.0007	0.0009	0.0010	0.0013	0.0015	0.0017	0.0019	0.0021	0.0022	0.0025	0.0027	0.0031	0.0034	0.0037	0.0039	0.0040
S32	0.2907	0.5363	2191	0.0002	0.0004	0.0007	0.0009	0.0010	0.0013	0.0015	0.0017	0.0019	0.0021	0.0024	0.0025	0.0029	0.0031	0.0034	0.0037	0.0039	0.0041
S33	0.2903	0.5364	2197	0.0003	0.0005	0.0008	0.0010	0.0012	0.0014	0.0016	0.0018	0.0021	0.0024	0.0025	0.0028	0.0030	0.0032	0.0034	0.0037	0.0039	0.0041
S34	0.2908	0.5366	2189	0.0002	0.0005	0.0006	0.0009	0.0010	0.0012	0.0014	0.0016	0.0018	0.0021	0.0023	0.0025	0.0028	0.0032	0.0034	0.0035	0.0037	0.0038
S35	0.2909	0.5367	2188	0.0003	0.0004	0.0007	0.0009	0.0011	0.0012	0.0015	0.0017	0.0020	0.0021	0.0024	0.0027	0.0029	0.0031	0.0033	0.0036	0.0038	0.0041
S36	0.2907	0.5363	2191	0.0002	0.0003	0.0006	0.0009	0.0011	0.0014	0.0016	0.0017	0.0020	0.0021	0.0023	0.0025	0.0026	0.0030	0.0032	0.0034	0.0037	0.0039
S37	0.2912	0.5368	2183	0.0003	0.0005	0.0007	0.0008	0.0010	0.0013	0.0015	0.0018	0.0020	0.0023	0.0025	0.0028	0.0031	0.0033	0.0035	0.0038	0.0041	0.0043
S38	0.2902	0.5364	2198	0.0003	0.0006	0.0007	0.0009	0.0011	0.0013	0.0015	0.0018	0.0020	0.0023	0.0025	0.0028	0.0030	0.0032	0.0036	0.0038	0.0041	0.0043
S39	0.2905	0.5359	2196	0.0002	0.0003	0.0006	0.0007	0.0010	0.0012	0.0015	0.0017	0.0019	0.0021	0.0024	0.0025	0.0029	0.0031	0.0034	0.0036	0.0039	0.0041
S40	0.2882	0.5373	2227	0.0003	0.0006	0.0008	0.0010	0.0011	0.0014	0.0016	0.0019	0.0021	0.0023	0.0024	0.0026	0.0028	0.0030	0.0032	0.0034	0.0036	0.0038
S41	0.2881	0.5373	2227	0.0002	0.0003	0.0006	0.0008	0.0010	0.0012	0.0015	0.0017	0.0020	0.0021	0.0023	0.0025	0.0026	0.0028	0.0031	0.0032	0.0034	0.0035
S42	0.2879	0.5371	2230	0.0002	0.0003	0.0005	0.0007	0.0009	0.0011	0.0013	0.0015	0.0018	0.0020	0.0021	0.0024	0.0026	0.0028	0.0030	0.0033	0.0035	0.0036
S43	0.2881	0.5372	2228	0.0002	0.0004	0.0007	0.0008	0.0010	0.0011	0.0014	0.0016	0.0018	0.0020	0.0021	0.0023	0.0025	0.0027	0.0029	0.0031	0.0033	0.0036
S44	0.2877	0.5373	2234	0.0002	0.0004	0.0007	0.0010	0.0012	0.0014	0.0016	0.0018	0.0021	0.0023	0.0025	0.0027	0.0029	0.0033	0.0035	0.0037	0.0039	0.0041
S45	0.2882	0.5374	2226	0.0002	0.0005	0.0007	0.0009	0.0012	0.0014	0.0017	0.0019	0.0021	0.0023	0.0026	0.0027	0.0030	0.0033	0.0035	0.0037	0.0039	0.0042
S46	0.2883	0.5376	2224	0.0003	0.0004	0.0007	0.0009	0.0012	0.0014	0.0017	0.0019	0.0022	0.0023	0.0025	0.0026	0.0030	0.0032	0.0034	0.0035	0.0037	0.0039
S47	0.2881	0.5372	2228	0.0002	0.0004	0.0006	0.0008	0.0010	0.0011	0.0014	0.0016	0.0018	0.0021	0.0023	0.0025	0.0027	0.0029	0.0031	0.0033	0.0036	0.0038
S48	0.2886	0.5376	2219	0.0002	0.0005	0.0007	0.0009	0.0011	0.0013	0.0014	0.0017	0.0019	0.0021	0.0024	0.0025	0.0027	0.0029	0.0031	0.0034	0.0037	0.0039
S49	0.2879	0.5367	2232	0.0003	0.0006	0.0007	0.0009	0.0012	0.0014	0.0016	0.0019	0.0021	0.0024	0.0025	0.0027	0.0029	0.0031	0.0033	0.0035	0.0037	0.0040
S50	0.2886	0.5373	2221	0.0003	0.0006	0.0007	0.0009	0.0011	0.0013	0.0016	0.0018	0.0020	0.0022	0.0024	0.0025	0.0029	0.0032	0.0036	0.0039	0.0040	0.0042
Ave.	0.2895	0.5368	2208	0.0002	0.0005	0.0007	0.0009	0.0011	0.0013	0.0015	0.0017	0.0020	0.0022	0.0024	0.0026	0.0028	0.0031	0.0033	0.0035	0.0038	0.0040
Med.	0.2902	0.5367	2198	0.0002	0.0005	0.0007	0.0009	0.0011	0.0013	0.0015	0.0017	0.0020	0.0022	0.0024	0.0025	0.0029	0.0031	0.0034	0.0036	0.0038	0.0040
St dev	0.0013	0.0005	17.8598	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002
Min.	0.2877	0.5359	2183	0.0002	0.0003	0.0005	0.0007	0.0009	0.0011	0.0013	0.0015	0.0018	0.0020	0.0021	0.0023	0.0025	0.0027	0.0029	0.0031	0.0033	0.0035
Max.	0.2912	0.5376	2234	0.0003	0.0006	0.0008	0.0010	0.0013	0.0014	0.0017	0.0019	0.0022	0.0024	0.0026	0.0028	0.0031	0.0034	0.0037	0.0040	0.0042	0.0045

3.7 Data Set 3, 105° C,120mA (Lumen Maintenance)

Sample Number	Φ(lm)	Lumen Maintenance (%)																	
	0hr (Initial)	1000 hrs	2000 hrs	3000 hrs	4000 hrs	5000 hrs	6000 hrs	7000 hrs	8000 hrs	9000 hrs	10000 hrs	11000 hrs	12000 hrs	13000 hrs	14000 hrs	15000 hrs	16000 hrs	17000 hrs	18000 hrs
S51	113.3	100.00	99.81	99.63	99.44	99.26	99.03	98.79	98.55	98.34	98.08	97.81	97.55	97.35	97.12	96.88	96.68	96.47	96.25
S52	112.8	100.02	99.88	99.69	99.51	99.36	99.21	99.02	98.81	98.62	98.42	98.22	97.95	97.79	97.56	97.33	97.11	96.90	96.68
S53	112.9	99.91	99.77	99.63	99.44	99.21	99.07	98.88	98.66	98.45	98.25	97.98	97.72	97.52	97.29	97.05	96.85	96.64	96.42
S54	114.1	99.96	99.78	99.64	99.41	99.26	99.11	98.87	98.63	98.44	98.18	97.91	97.71	97.48	97.28	97.05	96.83	96.60	96.39
S55	112.9	99.94	99.80	99.61	99.43	99.28	99.13	98.94	98.75	98.51	98.24	97.98	97.78	97.62	97.38	97.19	96.97	96.74	96.54
S56	113.8	99.90	99.76	99.57	99.39	99.24	99.06	98.87	98.66	98.46	98.20	97.93	97.73	97.54	97.35	97.11	96.88	96.66	96.45
S57	114.3	99.91	99.72	99.54	99.39	99.24	99.10	98.86	98.62	98.40	98.20	97.94	97.74	97.55	97.39	97.23	97.01	96.78	96.57
S58	113.5	99.97	99.83	99.69	99.50	99.32	99.09	98.85	98.64	98.40	98.14	97.88	97.61	97.45	97.29	97.13	96.90	96.67	96.45
S59	113.5	99.91	99.77	99.63	99.44	99.29	99.11	98.92	98.71	98.52	98.25	97.98	97.71	97.52	97.36	97.20	96.98	96.78	96.56
S60	113.2	100.00	99.86	99.72	99.53	99.38	99.24	99.04	98.85	98.64	98.38	98.11	97.91	97.72	97.49	97.29	97.07	96.85	96.64
S61	114.1	99.98	99.79	99.65	99.43	99.28	99.05	98.86	98.65	98.46	98.19	97.92	97.65	97.46	97.23	97.07	96.84	96.61	96.41
S62	115.1	100.01	99.87	99.68	99.46	99.27	99.09	98.88	98.66	98.45	98.19	97.92	97.72	97.48	97.32	97.16	96.94	96.73	96.52
S63	114.2	99.93	99.78	99.60	99.37	99.22	99.04	98.85	98.61	98.37	98.17	97.90	97.64	97.44	97.21	96.97	96.75	96.53	96.32
S64	114.6	99.96	99.77	99.59	99.40	99.22	98.99	98.75	98.51	98.32	98.06	97.79	97.52	97.36	97.20	97.04	96.81	96.61	96.38
S65	115.8	99.94	99.76	99.57	99.39	99.16	98.93	98.74	98.55	98.31	98.05	97.78	97.52	97.32	97.16	96.93	96.72	96.50	96.28
S66	114.4	99.90	99.76	99.58	99.35	99.16	98.98	98.74	98.53	98.29	98.03	97.76	97.50	97.31	97.07	96.91	96.69	96.46	96.26
S67	115.6	99.96	99.78	99.64	99.49	99.30	99.16	98.94	98.70	98.49	98.23	98.02	97.82	97.59	97.40	97.20	96.99	96.77	96.54
S68	115.7	100.02	99.88	99.69	99.55	99.40	99.21	99.02	98.83	98.64	98.38	98.11	97.84	97.68	97.49	97.25	97.05	96.83	96.61
S69	115.0	100.03	99.89	99.70	99.52	99.29	99.11	98.87	98.63	98.44	98.18	97.91	97.65	97.49	97.29	97.13	96.91	96.69	96.46
S70	115.1	99.95	99.76	99.57	99.35	99.20	99.02	98.80	98.57	98.33	98.06	97.80	97.53	97.34	97.14	96.98	96.76	96.53	96.31
S71	114.0	100.00	99.81	99.63	99.44	99.22	98.99	98.78	98.54	98.33	98.13	97.86	97.66	97.50	97.27	97.07	96.87	96.65	96.43
S72	113.8	99.91	99.77	99.63	99.44	99.29	99.07	98.83	98.62	98.41	98.20	97.94	97.74	97.50	97.34	97.18	96.95	96.73	96.53
S73	113.3	100.02	99.88	99.69	99.54	99.36	99.21	98.97	98.73	98.52	98.26	97.99	97.72	97.53	97.37	97.21	96.99	96.77	96.55
S74	113.2	99.95	99.81	99.62	99.44	99.25	99.07	98.83	98.64	98.43	98.16	97.89	97.63	97.47	97.28	97.04	96.82	96.60	96.38
S75	114.4	99.97	99.82	99.64	99.45	99.23	99.08	98.89	98.65	98.41	98.14	97.94	97.67	97.51	97.35	97.16	96.93	96.72	96.51
Ave.	114.1	99.96	99.80	99.63	99.44	99.27	99.09	98.87	98.65	98.44	98.19	97.93	97.69	97.50	97.30	97.11	96.89	96.67	96.46
Med.	114.1	99.96	99.79	99.63	99.44	99.26	99.08	98.87	98.64	98.44	98.19	97.92	97.71	97.50	97.29	97.13	96.90	96.67	96.45
St dev	0.9005	0.0419	0.0469	0.0480	0.0575	0.0624	0.0776	0.0842	0.0914	0.0986	0.1009	0.1083	0.1184	0.1191	0.1172	0.1182	0.1170	0.1191	0.1190
Min.	112.8	99.90	99.72	99.54	99.35	99.16	98.93	98.74	98.51	98.29	98.03	97.76	97.50	97.31	97.07	96.88	96.68	96.46	96.25
Max.	115.8	100.03	99.89	99.72	99.55	99.40	99.24	99.04	98.85	98.64	98.42	98.22	97.95	97.79	97.56	97.33	97.11	96.90	96.68

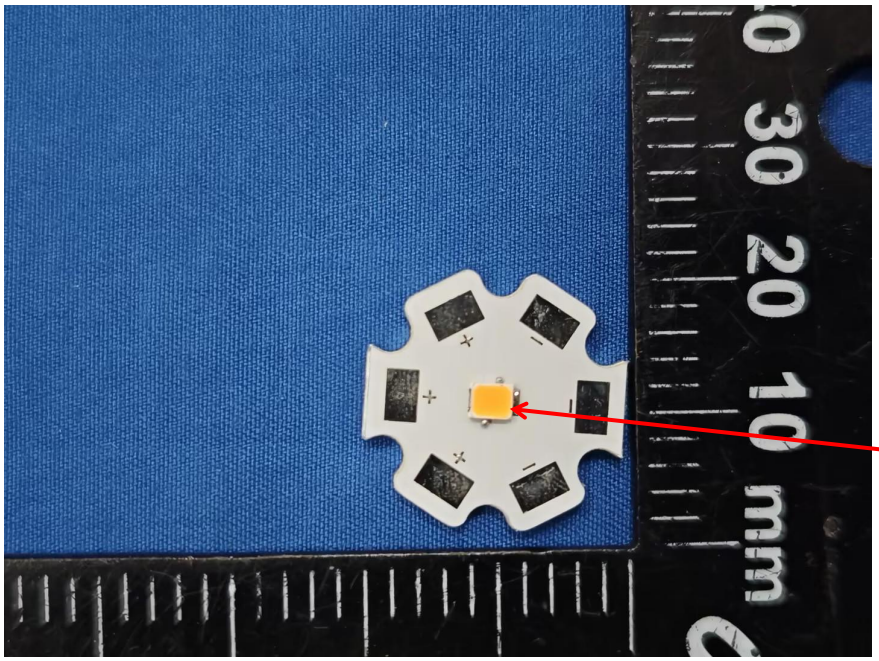
3.8 Data Set 3, 105° C,120mA (Forward Voltage)

Sample Number	Forward Voltage(V)																		
	0hr (Initial)	1000 hrs	2000 hrs	3000 hrs	4000 hrs	5000 hrs	6000 hrs	7000 hrs	8000 hrs	9000 hrs	10000 hrs	11000 hrs	12000 hrs	13000 hrs	14000 hrs	15000 hrs	16000 hrs	17000 hrs	18000 hrs
S51	19.99	19.98	19.99	19.99	19.99	19.98	19.99	19.99	19.99	19.98	19.98	19.99	19.98	19.98	19.99	19.99	19.99	19.99	19.99
S52	19.98	19.98	19.98	19.98	19.98	19.99	19.98	19.99	19.98	19.98	19.98	19.98	19.99	19.99	19.98	19.99	19.98	19.98	19.98
S53	19.98	19.98	19.99	19.98	19.99	19.98	19.99	19.98	19.98	19.98	19.98	19.98	19.98	19.98	19.99	19.98	19.98	19.98	19.98
S54	19.98	19.99	19.98	19.98	19.98	19.98	19.99	19.99	19.99	19.98	19.99	19.98	19.98	19.98	19.99	19.99	19.98	19.98	19.98
S55	19.99	19.99	19.99	19.98	19.98	19.99	19.98	19.99	19.98	19.98	19.98	19.99	19.99	19.98	19.98	19.99	19.98	19.98	19.98
S56	19.98	19.98	19.99	19.98	19.98	19.98	19.98	19.98	19.98	19.99	19.98	19.98	19.98	19.99	19.98	19.98	19.99	19.99	19.98
S57	19.97	19.98	19.98	19.98	19.98	19.98	19.99	19.98	19.98	19.98	19.99	19.98	19.98	19.98	19.99	19.98	19.98	19.99	19.99
S58	19.98	19.98	19.98	19.99	19.99	19.98	19.98	19.98	19.99	19.98	19.99	19.98	19.98	19.99	19.98	19.99	19.98	19.98	19.98
S59	19.98	19.98	19.98	19.99	19.98	19.98	19.98	19.98	19.98	19.99	19.99	19.98	19.99	19.99	19.99	19.98	19.98	19.98	19.99
S60	19.98	19.98	19.98	19.99	19.99	19.98	19.98	19.98	19.99	19.99	19.98	19.99	19.99	19.98	19.99	19.99	19.98	19.99	19.98
S61	19.97	19.99	19.99	19.98	19.99	19.98	19.99	19.98	19.98	19.98	19.99	19.98	19.99	19.98	19.99	19.98	19.98	19.98	19.99
S62	19.99	19.99	19.99	19.99	19.99	19.99	19.99	19.99	19.99	19.99	19.98	19.98	19.98	19.98	19.99	19.98	19.99	19.98	19.99
S63	19.98	19.98	19.98	19.98	19.99	19.99	19.98	19.98	19.99	19.99	19.99	19.98	19.98	19.99	19.99	19.98	19.99	19.99	19.99
S64	19.97	19.98	19.98	19.99	19.98	19.99	19.98	19.98	19.98	19.99	19.98	19.99	19.98	19.99	19.98	19.99	19.98	19.99	19.98
S65	19.97	19.99	19.99	19.99	19.99	19.99	19.98	19.98	19.98	19.98	19.98	19.98	19.99	19.98	19.99	19.98	19.98	19.98	19.99
S66	19.98	19.99	19.99	19.98	19.98	19.98	19.98	19.98	19.98	19.98	19.98	19.98	19.99	19.98	19.99	19.98	19.98	19.98	19.99
S67	19.98	19.98	19.98	19.98	19.99	19.99	19.98	19.98	19.98	19.99	19.98	19.99	19.98	19.99	19.99	19.99	19.98	19.99	19.98
S68	19.98	19.98	19.98	19.99	19.99	19.99	19.98	19.99	19.99	19.99	19.99	19.98	19.98	19.99	19.99	19.98	19.98	19.99	19.98
S69	19.98	19.98	19.98	19.98	19.98	19.99	19.99	19.98	19.99	19.98	19.98	19.99	19.99	19.98	19.98	19.98	19.99	19.98	19.98
S70	19.98	19.98	19.99	19.99	19.98	19.99	19.99	19.98	19.99	19.98	19.98	19.98	19.99	19.98	19.98	19.99	19.98	19.99	19.98
S71	19.99	19.99	19.98	19.99	19.98	19.98	19.99	19.98	19.98	19.98	19.98	19.99	19.98	19.99	19.99	19.99	19.99	19.98	19.99
S72	19.97	19.98	19.99	19.99	19.98	19.99	19.99	19.99	19.98	19.99	19.99	19.98	19.98	19.98	19.98	19.99	19.99	19.98	19.99
S73	19.97	19.99	19.98	19.98	19.99	19.99	19.99	19.99	19.99	19.98	19.98	19.98	19.98	19.98	19.98	19.98	19.98	19.99	19.99
S74	19.97	19.99	19.98	19.99	19.98	19.98	19.99	19.98	19.99	19.98	19.99	19.99	19.98	19.98	19.98	19.98	19.99	19.98	19.98
S75	19.98	19.98	19.99	19.99	19.98	19.98	19.98	19.99	19.98	19.99	19.98	19.98	19.99	19.99	19.98	19.98	19.99	19.98	19.98
Ave.	19.98	19.98	19.98	19.98	19.99	19.99	19.99	19.98	19.98	19.99	19.98	19.98	19.98	19.98	19.99	19.99	19.98	19.98	19.98
Med.	19.98	19.98	19.98	19.99	19.98	19.98	19.98	19.98	19.98	19.98	19.98	19.98	19.98	19.98	19.99	19.98	19.98	19.98	19.98
St dev	0.0067	0.0034	0.0037	0.0043	0.0044	0.0044	0.0042	0.0049	0.0043	0.0044	0.0041	0.0038	0.0045	0.0039	0.0047	0.0044	0.0045	0.0045	0.0044
Min.	19.97	19.98	19.98	19.98	19.98	19.98	19.98	19.98	19.98	19.98	19.98	19.98	19.98	19.98	19.98	19.98	19.98	19.98	19.98
Max.	19.99	19.99	19.99	19.99	19.99	19.99	19.99	19.99	19.99	19.99	19.99	19.99	19.99	19.99	19.99	19.99	19.99	19.99	19.99

3.9 Data Set 3, 105° C,120mA (Chromaticity Shift)

Sample Number	u'	v'	CCT(K)	Chromaticity Shift (Δu'v')																	
	0hr (Initial)			1000 hrs	2000 hrs	3000 hrs	4000 hrs	5000 hrs	6000 hrs	7000 hrs	8000 hrs	9000 hrs	10000 hrs	12000 hrs	18000 hrs	13000 hrs	14000 hrs	15000 hrs	16000 hrs	17000 hrs	18000 hrs
S51	0.2886	0.5373	2221	0.0002	0.0006	0.0009	0.0012	0.0014	0.0018	0.0019	0.0020	0.0021	0.0022	0.0025	0.0027	0.0030	0.0032	0.0035	0.0037	0.0040	0.0042
S52	0.2885	0.5370	2223	0.0003	0.0006	0.0009	0.0011	0.0014	0.0017	0.0018	0.0020	0.0022	0.0023	0.0025	0.0028	0.0031	0.0033	0.0037	0.0040	0.0042	0.0044
S53	0.2886	0.5371	2220	0.0002	0.0006	0.0009	0.0010	0.0012	0.0016	0.0018	0.0020	0.0021	0.0022	0.0023	0.0026	0.0028	0.0032	0.0034	0.0037	0.0040	0.0042
S54	0.2882	0.5372	2226	0.0002	0.0005	0.0008	0.0009	0.0012	0.0014	0.0016	0.0018	0.0020	0.0023	0.0024	0.0027	0.0029	0.0032	0.0034	0.0037	0.0039	0.0042
S55	0.2888	0.5373	2218	0.0003	0.0006	0.0009	0.0010	0.0012	0.0014	0.0018	0.0020	0.0024	0.0025	0.0026	0.0027	0.0030	0.0033	0.0036	0.0039	0.0042	0.0045
S56	0.2889	0.5375	2216	0.0003	0.0006	0.0009	0.0010	0.0014	0.0016	0.0017	0.0021	0.0022	0.0025	0.0026	0.0029	0.0032	0.0035	0.0038	0.0040	0.0043	0.0045
S57	0.2886	0.5371	2220	0.0002	0.0006	0.0009	0.0010	0.0012	0.0016	0.0017	0.0018	0.0019	0.0020	0.0021	0.0024	0.0028	0.0032	0.0036	0.0038	0.0041	0.0043
S58	0.2891	0.5376	2213	0.0003	0.0006	0.0009	0.0012	0.0014	0.0016	0.0018	0.0020	0.0024	0.0025	0.0028	0.0031	0.0033	0.0035	0.0038	0.0040	0.0043	0.0045
S59	0.2881	0.5372	2228	0.0003	0.0006	0.0008	0.0011	0.0014	0.0016	0.0020	0.0023	0.0025	0.0027	0.0030	0.0032	0.0035	0.0039	0.0041	0.0044	0.0047	0.0049
S60	0.2884	0.5367	2224	0.0003	0.0006	0.0009	0.0012	0.0016	0.0018	0.0022	0.0026	0.0027	0.0030	0.0033	0.0034	0.0038	0.0041	0.0044	0.0047	0.0050	0.0053
S61	0.2899	0.5359	2204	0.0003	0.0006	0.0009	0.0011	0.0013	0.0016	0.0019	0.0022	0.0023	0.0026	0.0029	0.0032	0.0036	0.0040	0.0043	0.0046	0.0048	0.0051
S62	0.2897	0.5360	2206	0.0003	0.0006	0.0008	0.0010	0.0014	0.0016	0.0018	0.0022	0.0023	0.0026	0.0028	0.0031	0.0035	0.0039	0.0041	0.0044	0.0047	0.0050
S63	0.2897	0.5358	2207	0.0003	0.0006	0.0009	0.0010	0.0014	0.0018	0.0019	0.0021	0.0022	0.0023	0.0026	0.0027	0.0030	0.0034	0.0036	0.0039	0.0041	0.0043
S64	0.2898	0.5358	2206	0.0002	0.0005	0.0008	0.0011	0.0015	0.0017	0.0021	0.0022	0.0024	0.0026	0.0029	0.0032	0.0034	0.0038	0.0041	0.0044	0.0046	0.0049
S65	0.2894	0.5359	2210	0.0003	0.0006	0.0009	0.0010	0.0012	0.0015	0.0017	0.0019	0.0021	0.0023	0.0026	0.0029	0.0031	0.0035	0.0039	0.0042	0.0044	0.0046
S66	0.2899	0.5361	2204	0.0003	0.0006	0.0009	0.0012	0.0015	0.0019	0.0021	0.0023	0.0024	0.0027	0.0030	0.0032	0.0035	0.0038	0.0041	0.0043	0.0045	0.0048
S67	0.2901	0.5363	2201	0.0003	0.0006	0.0008	0.0010	0.0012	0.0014	0.0016	0.0018	0.0019	0.0022	0.0025	0.0026	0.0029	0.0031	0.0035	0.0038	0.0040	0.0042
S68	0.2898	0.5359	2205	0.0003	0.0006	0.0009	0.0012	0.0016	0.0018	0.0020	0.0021	0.0025	0.0026	0.0027	0.0030	0.0032	0.0034	0.0037	0.0039	0.0042	0.0045
S69	0.2903	0.5363	2198	0.0003	0.0006	0.0009	0.0012	0.0015	0.0019	0.0020	0.0024	0.0028	0.0031	0.0033	0.0035	0.0038	0.0041	0.0043	0.0045	0.0048	0.0051
S70	0.2892	0.5360	2213	0.0003	0.0006	0.0009	0.0011	0.0013	0.0015	0.0019	0.0023	0.0024	0.0026	0.0029	0.0032	0.0036	0.0040	0.0044	0.0046	0.0048	0.0051
S71	0.2893	0.5364	2211	0.0003	0.0006	0.0008	0.0010	0.0012	0.0014	0.0015	0.0019	0.0020	0.0023	0.0024	0.0027	0.0029	0.0033	0.0035	0.0038	0.0041	0.0044
S72	0.2893	0.5363	2211	0.0003	0.0006	0.0009	0.0010	0.0014	0.0016	0.0020	0.0021	0.0022	0.0025	0.0027	0.0028	0.0032	0.0035	0.0039	0.0042	0.0044	0.0047
S73	0.2894	0.5362	2211	0.0002	0.0006	0.0009	0.0010	0.0012	0.0014	0.0016	0.0019	0.0023	0.0024	0.0027	0.0029	0.0033	0.0036	0.0038	0.0041	0.0044	0.0047
S74	0.2895	0.5365	2208	0.0003	0.0006	0.0009	0.0010	0.0012	0.0014	0.0015	0.0017	0.0019	0.0022	0.0025	0.0027	0.0031	0.0034	0.0037	0.0040	0.0043	0.0046
S75	0.2890	0.5364	2216	0.0002	0.0005	0.0008	0.0011	0.0013	0.0016	0.0017	0.0018	0.0019	0.0021	0.0024	0.0027	0.0030	0.0032	0.0035	0.0037	0.0040	0.0042
Ave.	0.2892	0.5366	2213	0.0003	0.0006	0.0009	0.0011	0.0013	0.0016	0.0018	0.0021	0.0022	0.0025	0.0027	0.0029	0.0032	0.0035	0.0038	0.0041	0.0043	0.0046
Med.	0.2893	0.5364	2211	0.0003	0.0006	0.0009	0.0010	0.0014	0.0016	0.0018	0.0020	0.0022	0.0025	0.0026	0.0029	0.0032	0.0035	0.0038	0.0040	0.0043	0.0045
St dev	0.0006	0.0006	8.1496	0.0000	0.0000	0.0000	0.0001	0.0001	0.0002	0.0002	0.0002	0.0002	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003	0.0003
Min.	0.2881	0.5358	2198	0.0002	0.0005	0.0008	0.0009	0.0012	0.0014	0.0015	0.0017	0.0019	0.0020	0.0021	0.0024	0.0028	0.0031	0.0034	0.0037	0.0039	0.0042
Max.	0.2903	0.5376	2228	0.0003	0.0006	0.0009	0.0012	0.0016	0.0019	0.0022	0.0026	0.0028	0.0031	0.0033	0.0035	0.0038	0.0041	0.0044	0.0047	0.0050	0.0053

4. EUT Photo



---End of Report---