TEST REPORT

According to ANSI/IES LM-80-15
For

Shenzhen Runlite Technology Co.,Ltd

Building A15, Tantou the 4th Industrial Estate, SongGang Town, BaoAn District, ShenZhen, China

#Model: P40101-W27SF2F3FB4B6-MB00

Report Type: 9000 Hours Test Report	**Product Type:** LED Package
Test Engineer:	Pote Wang
Report Number:	RSZ180910510-10-M1
Test Date:	2018-09-20 to 2019-09-30
Report Date:	2020-05-14
Revised Note:	The previous report RSZ180910510-10 is replaced by this report on 2020-05-14
Reviewed By:	Bill Xiong / EE Engineer
Test Facility:	Test facility was located at No.69,Pulongcun ,Puxinhu Industrial Area, Tangxia , Dongguan, Guangdong, China.
Prepared By:	Bay Area Compliance Laboratories Corp. (Dongguan). No.69,Pulongcun ,Puxinhu Industrial Area, Tangxia , Dongguan, Guangdong, China. Tel: +86-0769-86858888 Fax:+86-0769-86858588
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 2018-09-10. The samples were numbered from 1 to 25 and 26 to 50.

#Manufacturer:	Shenzhen Runlite Technology Co.,Ltd
#Part Number:	P40101-W27SF2F3FB4B6-MB00
#Part Type:	LED Package
#Drive Level:	DC 150mA
#Nominal CCT:	2700K
#Power:	0.5W
#Average Current Density per LED die:	930mA/mm^2
#Average Power Density per LED die:	3.1W/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.

#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)	Series	Parallel	Power intensity PCB (W/mm^2)	Current density per LED die (mA/mm^2)	Current per die (mA)	Distance between of dies(mm)	Current (mA)
Master model	P40101-W27SF2F3FB4B6-MB00	2700	1	1	0.125	930	150	N/A	150
	X4010X-WXXXXXXXXXXX-XXXX	≥2200	1	1	0.125	930	150	N/A	150
	X4014X-WXXXXXXXXXXX-XXXX	≥2200	1	1	0.089	833	150	N/A	150

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
0.3m integrating sphere	EVERFINE	Diameter 0.3m	1011119	2019-03-08	2020-03-07

Device	Manufacture	Model No	Serial No	Calibration date	Calibration due date
Programmable Test Power for LEDs	EVERFINE	LED300E	1008002	2019-03-08	2020-03-07
High accuracy array spectroradiometer	EVERFINE	HAAS-2000	1012016T	2019-03-08	2020-03-07
Standard Light Source	EVERFINE	D062	G100278CJ7351206	2018-12-24	2019-12-24
Precision digital stabilized DC power supply	EVERFINE	WY605-V110	G115987CJ7321114	2019-03-08	2020-03-07
Multilayer aging machine	BACL	B2-270	20015	2019-03-10	2020-03-09
Digital CC&CV DC Power Supply	EVERFINE	WY5015	11090007	2019-04-10	2020-04-09

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 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 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 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 (luminous flux) measurements is U=2.5% (K=2), at the 95% confidence level. The uncertainty of the correlated color temperature measurements is U=20K (K=2), at the 95% confidence level.

The uncertainty of the CRI is U=2.5 (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, 150mA

Part Number:	P40101-W27SF2F3FB4B6-MB00
Number of Units:	25
Case Temperature:	>83°C
Ambient Temperature:	>80°C
Life Test Drive Current:	150mA
Measurement Current:	150mA

Data Set 2: 105°C, 150mA

Part Number:	P40101-W27SF2F3FB4B6-MB00
Number of Units:	25
Case Temperature:	>103°C
Ambient Temperature:	>100°C
Life Test Drive Current:	150mA
Measurement Current:	150mA

2 - Summary of Test Result

Data Set:	Sample Size	Failures Observed:	Test Interval	Test Duration	α	β	Reported TM-21 L_{70} Lifetime	Reported TM-21 L_{90} Lifetime
1	25	0	1000hrs	9000hrs	2.598E-06	1.004	>54000hrs	42,000hrs
2	25	0	1000hrs	9000hrs	3.458E-06	1.005	>54000hrs	32,000hrs

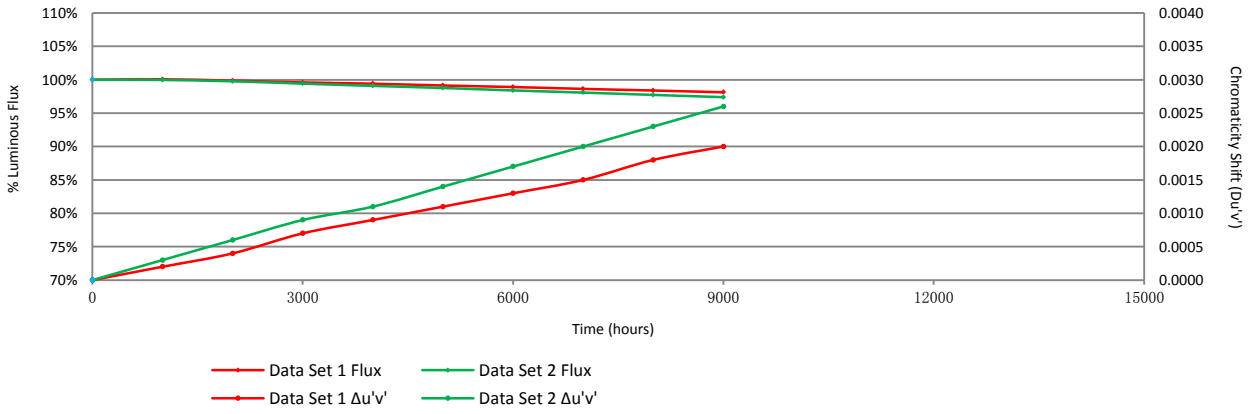
Average Lumen Maintenance (Percentage of Initial Luminous Flux)

Data Set:	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs
1	100.07%	99.86%	99.60%	99.41%	99.14%	98.91%	98.63%	98.39%	98.12%
2	99.97%	99.77%	99.42%	99.08%	98.77%	98.40%	98.08%	97.73%	97.39%

Average Chromaticity Shift

Data Set:	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs
1	0.0002	0.0004	0.0007	0.0009	0.0011	0.0013	0.0015	0.0018	0.0020
2	0.0003	0.0006	0.0009	0.0011	0.0014	0.0017	0.0020	0.0023	0.0026

Average Lumen Maintenance and Chromaticity Shift VS. Time



3 - Test Data

3.1 Data Set 1, 85°C, 150mA (Lumen Maintenance)

No.	Φ(lm)	Lumen Maintenance (%)								
	0hr(Initial)	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs
1	62.41	99.98	99.97	99.76	99.65	99.25	99.01	98.72	98.59	98.33
2	62.64	100.03	99.84	99.49	99.17	98.99	98.75	98.66	98.32	98.10
3	63.66	100.13	99.98	99.70	99.65	99.50	99.28	99.06	98.73	98.41
4	63.18	100.25	99.49	99.11	99.03	98.84	98.73	98.26	98.02	97.70
5	63.16	99.97	99.94	99.83	99.78	99.40	99.00	98.92	98.53	98.46
6	62.90	100.24	99.57	99.46	99.33	99.09	98.78	98.54	98.24	97.93
7	62.69	99.94	99.79	99.51	98.96	98.87	98.52	98.29	98.12	97.83
8	63.20	99.94	99.51	99.15	98.97	98.89	98.81	98.35	98.26	98.02
9	62.40	100.05	100.06	99.86	99.74	99.60	99.49	99.05	98.88	98.53
10	63.16	100.16	99.56	99.38	99.29	99.03	98.80	98.58	98.50	98.42
11	63.51	100.03	99.48	99.09	99.02	98.55	98.44	98.09	97.84	97.64
12	62.21	100.14	100.21	100.02	99.89	99.55	99.44	99.15	98.92	98.62
13	63.15	100.13	99.95	99.90	99.83	99.38	99.37	98.97	98.62	98.18
14	62.63	100.08	99.78	99.54	99.27	99.19	98.85	98.80	98.53	98.21
15	63.21	100.11	99.75	99.34	98.94	98.85	98.62	98.58	98.50	98.32
16	62.77	99.98	99.90	99.70	99.41	99.33	98.93	98.77	98.41	98.30
17	63.36	100.06	99.95	99.84	99.53	98.94	98.82	98.28	97.73	97.55
18	63.21	99.97	100.25	100.05	99.81	99.72	99.53	99.19	98.85	98.40
19	61.96	100.27	99.55	99.52	99.32	99.11	98.82	98.52	98.31	97.76
20	63.32	100.02	100.17	99.91	99.86	99.49	99.37	99.04	98.86	98.44
21	63.69	99.97	99.81	99.59	99.48	99.14	98.96	98.81	98.71	98.60
22	62.74	99.98	99.98	99.82	99.28	98.93	98.72	98.41	98.02	97.67
23	62.97	100.19	100.05	99.70	99.59	99.16	98.75	98.24	98.13	97.89
24	62.87	100.05	99.94	99.13	98.82	98.43	97.96	97.85	97.79	97.57
25	61.44	100.08	99.90	99.69	99.53	99.33	99.07	98.73	98.36	98.01
Avg.	62.90	100.07	99.86	99.60	99.41	99.14	98.91	98.63	98.39	98.12
Med.	62.97	100.05	99.90	99.69	99.41	99.14	98.82	98.66	98.41	98.18
st dev	0.53	0.10	0.23	0.28	0.33	0.32	0.36	0.35	0.35	0.34
Min.	61.44	99.94	99.48	99.09	98.82	98.43	97.96	97.85	97.73	97.55
Max.	63.69	100.27	100.25	100.05	99.89	99.72	99.53	99.19	98.92	98.62

3.2 Data Set 1, 85°C, 150mA (Forward Voltage)

No.	Forward Voltage (V)									
	0hr(Initial)	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs
1	3.114	3.113	3.129	3.114	3.093	3.122	3.125	3.108	3.118	3.095
2	3.111	3.113	3.120	3.147	3.104	3.092	3.115	3.111	3.130	3.097
3	3.105	3.104	3.098	3.110	3.112	3.121	3.102	3.098	3.103	3.118
4	3.091	3.093	3.107	3.097	3.088	3.086	3.090	3.099	3.092	3.103
5	3.100	3.101	3.110	3.104	3.114	3.101	3.092	3.090	3.089	3.079
6	3.103	3.103	3.115	3.125	3.108	3.106	3.118	3.092	3.098	3.098
7	3.115	3.118	3.123	3.133	3.098	3.123	3.132	3.127	3.119	3.115
8	3.114	3.118	3.089	3.126	3.136	3.093	3.119	3.108	3.106	3.113
9	3.104	3.106	3.113	3.108	3.122	3.100	3.096	3.116	3.117	3.093
10	3.117	3.118	3.131	3.096	3.121	3.118	3.126	3.102	3.133	3.094
11	3.124	3.125	3.102	3.126	3.124	3.116	3.093	3.127	3.133	3.104
12	3.095	3.095	3.137	3.109	3.108	3.113	3.113	3.091	3.107	3.103
13	3.119	3.118	3.108	3.101	3.130	3.096	3.126	3.109	3.114	3.101
14	3.110	3.109	3.125	3.113	3.109	3.129	3.097	3.129	3.107	3.113
15	3.109	3.109	3.121	3.119	3.110	3.101	3.117	3.103	3.109	3.082
16	3.106	3.107	3.104	3.115	3.110	3.090	3.107	3.092	3.117	3.098
17	3.117	3.117	3.085	3.143	3.121	3.118	3.094	3.136	3.121	3.107
18	3.114	3.114	3.110	3.131	3.132	3.110	3.113	3.125	3.113	3.122
19	3.094	3.095	3.099	3.096	3.120	3.094	3.092	3.095	3.093	3.106
20	3.107	3.108	3.122	3.105	3.121	3.100	3.089	3.113	3.124	3.108
21	3.102	3.103	3.115	3.109	3.105	3.109	3.095	3.098	3.122	3.105
22	3.120	3.119	3.132	3.108	3.102	3.127	3.124	3.125	3.117	3.126
23	3.113	3.115	3.122	3.118	3.110	3.113	3.111	3.114	3.084	3.118
24	3.113	3.114	3.120	3.131	3.098	3.122	3.134	3.115	3.086	3.115
25	3.097	3.097	3.092	3.113	3.118	3.095	3.093	3.112	3.092	3.096
Avg.	3.109	3.109	3.113	3.116	3.113	3.108	3.109	3.109	3.110	3.104
Med.	3.110	3.109	3.115	3.113	3.110	3.109	3.111	3.109	3.113	3.104
st dev	0.009	0.009	0.014	0.014	0.012	0.013	0.015	0.013	0.015	0.012
Min.	3.091	3.093	3.085	3.096	3.088	3.086	3.089	3.090	3.084	3.079
Max.	3.124	3.125	3.137	3.147	3.136	3.129	3.134	3.136	3.133	3.126

3.3 Data Set 1, 85°C, 150mA (Chromaticity Shift)

No.	u'	v'	CCT(K)	Chromaticity Shift (Δu'v')								
	0hr(Initial)			1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs
1	0.2587	0.5251	2791	0.0001	0.0003	0.0004	0.0006	0.0007	0.0008	0.0010	0.0011	0.0013
2	0.2606	0.5253	2749	0.0003	0.0006	0.0008	0.0011	0.0014	0.0017	0.0020	0.0023	0.0025
3	0.2542	0.5249	2892	0.0003	0.0006	0.0009	0.0013	0.0016	0.0019	0.0022	0.0025	0.0028
4	0.2529	0.5214	2942	0.0002	0.0004	0.0006	0.0008	0.0010	0.0012	0.0014	0.0016	0.0018
5	0.2578	0.5262	2805	0.0002	0.0004	0.0007	0.0009	0.0011	0.0013	0.0016	0.0018	0.0020
6	0.2573	0.5244	2826	0.0001	0.0003	0.0004	0.0006	0.0007	0.0008	0.0010	0.0011	0.0013
7	0.2594	0.5238	2781	0.0002	0.0004	0.0006	0.0008	0.0010	0.0012	0.0014	0.0016	0.0018
8	0.2563	0.5244	2847	0.0001	0.0003	0.0004	0.0006	0.0007	0.0008	0.0010	0.0011	0.0013
9	0.2620	0.5265	2713	0.0001	0.0002	0.0003	0.0004	0.0005	0.0006	0.0007	0.0008	0.0009
10	0.2528	0.5162	2977	0.0003	0.0006	0.0009	0.0013	0.0016	0.0019	0.0022	0.0025	0.0028
11	0.2570	0.5243	2833	0.0003	0.0006	0.0009	0.0013	0.0016	0.0019	0.0022	0.0025	0.0028
12	0.2611	0.5256	2738	0.0003	0.0006	0.0008	0.0011	0.0014	0.0017	0.0020	0.0023	0.0025
13	0.2586	0.5249	2793	0.0001	0.0003	0.0004	0.0006	0.0007	0.0008	0.0010	0.0011	0.0013
14	0.2578	0.5220	2825	0.0003	0.0006	0.0008	0.0011	0.0014	0.0017	0.0020	0.0023	0.0025
15	0.2575	0.5237	2825	0.0002	0.0004	0.0007	0.0009	0.0011	0.0013	0.0016	0.0018	0.0020
16	0.2566	0.5222	2851	0.0003	0.0006	0.0009	0.0012	0.0015	0.0018	0.0021	0.0024	0.0027
17	0.2531	0.5223	2933	0.0003	0.0006	0.0008	0.0011	0.0014	0.0017	0.0020	0.0023	0.0025
18	0.2567	0.5234	2843	0.0002	0.0004	0.0007	0.0009	0.0011	0.0013	0.0016	0.0018	0.0020
19	0.2606	0.5241	2754	0.0002	0.0004	0.0007	0.0009	0.0011	0.0013	0.0016	0.0018	0.0020
20	0.2545	0.5233	2896	0.0002	0.0004	0.0007	0.0009	0.0011	0.0013	0.0016	0.0018	0.0020
21	0.2526	0.5220	2946	0.0002	0.0004	0.0007	0.0009	0.0011	0.0013	0.0016	0.0018	0.0020
22	0.2579	0.5246	2810	0.0001	0.0003	0.0004	0.0006	0.0007	0.0008	0.0010	0.0011	0.0013
23	0.2587	0.5253	2791	0.0001	0.0003	0.0004	0.0006	0.0007	0.0008	0.0010	0.0011	0.0013
24	0.2613	0.5248	2736	0.0002	0.0004	0.0007	0.0009	0.0011	0.0013	0.0016	0.0018	0.0020
25	0.2559	0.5227	2865	0.0002	0.0004	0.0006	0.0008	0.0010	0.0012	0.0014	0.0016	0.0018
Avg.	0.2573	0.5237	2830	0.0002	0.0004	0.0007	0.0009	0.0011	0.0013	0.0015	0.0018	0.0020
Med.	0.2575	0.5243	2825	0.0002	0.0004	0.0007	0.0009	0.0011	0.0013	0.0016	0.0018	0.0020
st dev	0.0028	0.0021	71	0.0001	0.0001	0.0002	0.0003	0.0003	0.0004	0.0005	0.0005	0.0006
Min.	0.2526	0.5162	2713	0.0001	0.0002	0.0003	0.0004	0.0005	0.0006	0.0007	0.0008	0.0009
Max.	0.2620	0.5265	2977	0.0003	0.0006	0.0009	0.0013	0.0016	0.0019	0.0022	0.0025	0.0028

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

No.	Φ(lm)	Lumen Maintenance (%)								
	0hr(Initial)	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs
26	62.44	100.05	99.89	99.42	99.20	98.73	98.33	97.76	97.44	97.09
27	62.37	99.97	99.81	99.47	99.21	98.80	98.16	98.00	97.35	97.27
28	63.10	100.11	99.75	99.46	98.83	98.61	98.32	97.91	97.75	97.61
29	61.96	99.98	99.32	98.90	98.55	98.43	98.13	97.43	97.16	96.85
30	63.35	99.86	99.56	99.35	99.19	98.94	98.71	98.25	97.93	97.58
31	62.49	99.90	99.52	99.12	98.64	98.18	97.74	97.57	97.17	96.83
32	62.80	99.81	99.81	99.16	98.82	98.76	98.07	97.85	97.48	97.12
33	62.75	99.87	99.70	99.44	99.12	98.80	98.17	97.91	97.83	97.35
34	63.65	100.16	99.69	99.03	98.57	98.16	97.69	97.52	97.16	97.05
35	62.57	100.05	99.47	99.17	98.96	98.83	98.64	98.35	98.26	98.16
36	63.06	99.98	99.86	99.51	99.00	98.56	98.16	97.68	97.11	96.57
37	63.23	99.92	99.45	99.21	98.91	98.69	98.28	97.99	97.90	97.30
38	62.92	100.03	99.73	99.57	99.08	98.82	98.52	98.14	97.77	97.54
39	62.64	99.87	99.70	99.31	99.22	99.03	98.63	98.29	97.67	97.37
40	62.04	99.98	100.02	99.81	99.63	99.26	99.07	98.89	98.34	97.94
41	62.22	99.94	99.98	99.77	99.63	99.32	98.84	98.75	98.47	97.94
42	62.47	99.97	99.89	99.54	99.14	98.80	98.53	98.30	98.03	97.63
43	62.31	99.84	99.70	99.26	98.89	98.31	98.20	97.99	97.79	97.51
44	63.06	99.95	99.68	99.21	98.70	98.18	97.95	97.62	97.08	96.73
45	62.16	100.11	100.13	99.81	99.36	99.07	98.94	98.57	98.33	97.88
46	63.60	100.13	99.65	99.28	98.81	98.62	98.11	97.88	97.59	97.37
47	62.09	99.97	100.18	99.90	99.74	99.53	99.24	98.97	98.61	98.34
48	62.45	100.10	99.73	99.34	99.02	98.62	98.37	97.87	97.31	96.75
49	62.21	99.82	100.27	99.97	99.68	99.42	99.08	98.75	98.10	97.56
50	62.82	99.94	99.68	99.47	99.08	98.71	98.17	97.79	97.55	97.34
Avg.	62.67	99.97	99.77	99.42	99.08	98.77	98.40	98.08	97.73	97.39
Med.	62.57	99.97	99.73	99.42	99.08	98.76	98.32	97.99	97.75	97.37
st dev	0.48	0.10	0.23	0.27	0.34	0.37	0.41	0.43	0.45	0.45
Min.	61.96	99.81	99.32	98.90	98.55	98.16	97.69	97.43	97.08	96.57
Max.	63.65	100.16	100.27	99.97	99.74	99.53	99.24	98.97	98.61	98.34

3.5 Data Set 2, 105°C, 150mA (Forward Voltage)

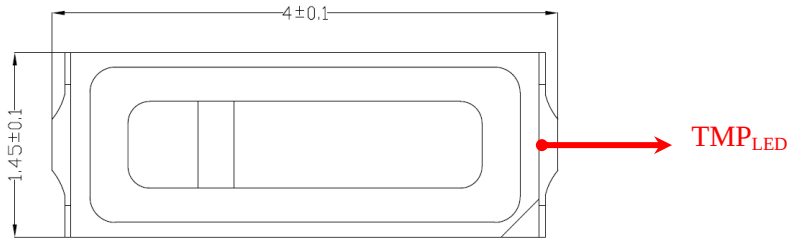
No.	Forward Voltage (V)									
	0hr(Initial)	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs
26	3.123	3.121	3.123	3.130	3.127	3.122	3.139	3.132	3.127	3.117
27	3.093	3.095	3.091	3.104	3.094	3.109	3.100	3.086	3.104	3.086
28	3.118	3.120	3.132	3.123	3.122	3.088	3.121	3.102	3.119	3.119
29	3.096	3.097	3.108	3.097	3.093	3.079	3.102	3.077	3.115	3.091
30	3.110	3.112	3.122	3.107	3.107	3.119	3.107	3.116	3.127	3.093
31	3.117	3.116	3.118	3.119	3.096	3.109	3.113	3.108	3.104	3.115
32	3.109	3.110	3.121	3.102	3.117	3.103	3.127	3.090	3.104	3.123
33	3.099	3.099	3.091	3.130	3.081	3.097	3.122	3.101	3.123	3.073
34	3.104	3.105	3.113	3.119	3.117	3.116	3.136	3.079	3.092	3.092
35	3.120	3.123	3.120	3.121	3.106	3.119	3.132	3.121	3.082	3.126
36	3.101	3.103	3.124	3.128	3.082	3.081	3.104	3.106	3.122	3.082
37	3.110	3.110	3.135	3.094	3.104	3.105	3.117	3.115	3.113	3.088
38	3.098	3.098	3.119	3.086	3.086	3.088	3.125	3.088	3.090	3.115
39	3.111	3.112	3.116	3.090	3.113	3.107	3.092	3.125	3.116	3.103
40	3.090	3.091	3.091	3.127	3.097	3.087	3.134	3.109	3.101	3.094
41	3.118	3.117	3.119	3.108	3.126	3.109	3.120	3.132	3.117	3.083
42	3.114	3.117	3.120	3.114	3.106	3.124	3.101	3.111	3.112	3.114
43	3.107	3.108	3.093	3.124	3.102	3.105	3.088	3.118	3.107	3.101
44	3.111	3.110	3.112	3.117	3.096	3.132	3.139	3.081	3.112	3.078
45	3.104	3.105	3.131	3.086	3.115	3.122	3.106	3.120	3.103	3.122
46	3.115	3.115	3.129	3.110	3.119	3.111	3.141	3.088	3.117	3.129
47	3.111	3.111	3.126	3.123	3.101	3.101	3.115	3.124	3.083	3.111
48	3.101	3.102	3.100	3.116	3.093	3.103	3.093	3.099	3.101	3.085
49	3.112	3.113	3.119	3.121	3.118	3.117	3.134	3.104	3.115	3.128
50	3.117	3.118	3.114	3.113	3.113	3.114	3.120	3.126	3.124	3.088
Avg.	3.108	3.109	3.115	3.112	3.105	3.107	3.117	3.106	3.109	3.102
Med.	3.110	3.110	3.119	3.116	3.106	3.109	3.120	3.108	3.112	3.101
st dev	0.009	0.009	0.013	0.014	0.013	0.014	0.016	0.017	0.013	0.018
Min.	3.090	3.091	3.091	3.086	3.081	3.079	3.088	3.077	3.082	3.073
Max.	3.123	3.123	3.135	3.130	3.127	3.132	3.141	3.132	3.127	3.129

3.6 Data Set 2, 105°C, 150mA (Chromaticity Shift)

No.	u'	v'	CCT(K)	Chromaticity Shift (Δu'v')								
	0hr(Initial)			1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs
26	0.2584	0.5244	2801	0.0002	0.0004	0.0007	0.0009	0.0011	0.0013	0.0016	0.0018	0.0020
27	0.2581	0.5245	2806	0.0003	0.0006	0.0008	0.0011	0.0014	0.0017	0.0020	0.0023	0.0025
28	0.2590	0.5238	2789	0.0003	0.0006	0.0009	0.0012	0.0015	0.0018	0.0021	0.0024	0.0027
29	0.2592	0.5250	2781	0.0003	0.0006	0.0008	0.0011	0.0014	0.0017	0.0020	0.0023	0.0025
30	0.2577	0.5249	2815	0.0003	0.0006	0.0009	0.0013	0.0016	0.0019	0.0022	0.0025	0.0028
31	0.2597	0.5226	2780	0.0003	0.0006	0.0008	0.0011	0.0014	0.0017	0.0020	0.0023	0.0025
32	0.2563	0.5215	2862	0.0004	0.0007	0.0011	0.0014	0.0018	0.0022	0.0025	0.0029	0.0032
33	0.2592	0.5258	2776	0.0003	0.0006	0.0009	0.0013	0.0016	0.0019	0.0022	0.0025	0.0028
34	0.2552	0.5247	2870	0.0003	0.0006	0.0008	0.0011	0.0014	0.0017	0.0020	0.0023	0.0025
35	0.2612	0.5260	2732	0.0004	0.0007	0.0011	0.0014	0.0018	0.0022	0.0025	0.0029	0.0032
36	0.2570	0.5263	2822	0.0004	0.0006	0.0008	0.0011	0.0014	0.0018	0.0021	0.0024	0.0026
37	0.2583	0.5260	2795	0.0002	0.0004	0.0006	0.0009	0.0012	0.0014	0.0016	0.0020	0.0024
38	0.2580	0.5247	2808	0.0003	0.0006	0.0008	0.0011	0.0014	0.0017	0.0020	0.0023	0.0025
39	0.2574	0.5225	2832	0.0002	0.0004	0.0007	0.0009	0.0011	0.0013	0.0016	0.0018	0.0020
40	0.2593	0.5252	2776	0.0002	0.0004	0.0007	0.0009	0.0011	0.0013	0.0016	0.0018	0.0020
41	0.2575	0.5239	2824	0.0002	0.0004	0.0007	0.0009	0.0011	0.0013	0.0016	0.0018	0.0020
42	0.2568	0.5237	2840	0.0004	0.0007	0.0011	0.0014	0.0018	0.0022	0.0025	0.0029	0.0032
43	0.2604	0.5234	2763	0.0005	0.0008	0.0011	0.0015	0.0018	0.0022	0.0026	0.0031	0.0036
44	0.2597	0.5264	2763	0.0004	0.0007	0.0011	0.0014	0.0018	0.0022	0.0025	0.0029	0.0032
45	0.2604	0.5222	2767	0.0003	0.0006	0.0008	0.0010	0.0014	0.0018	0.0022	0.0026	0.0028
46	0.2595	0.5256	2771	0.0004	0.0008	0.0011	0.0014	0.0014	0.0018	0.0021	0.0024	0.0028
47	0.2603	0.5217	2772	0.0001	0.0003	0.0004	0.0006	0.0007	0.0008	0.0010	0.0011	0.0013
48	0.2583	0.5243	2803	0.0001	0.0003	0.0004	0.0006	0.0007	0.0008	0.0010	0.0011	0.0013
49	0.2608	0.5223	2758	0.0003	0.0006	0.0008	0.0011	0.0014	0.0017	0.0020	0.0023	0.0025
50	0.2577	0.5232	2823	0.0004	0.0007	0.0011	0.0014	0.0018	0.0022	0.0025	0.0029	0.0032
Avg.	0.2586	0.5242	2797	0.0003	0.0006	0.0009	0.0011	0.0014	0.0017	0.0020	0.0023	0.0026
Med.	0.2584	0.5244	2795	0.0003	0.0006	0.0008	0.0011	0.0014	0.0017	0.0020	0.0023	0.0025
st dev	0.0015	0.0015	34	0.0001	0.0001	0.0002	0.0003	0.0003	0.0004	0.0005	0.0005	0.0006
Min.	0.2552	0.5215	2732	0.0001	0.0003	0.0004	0.0006	0.0007	0.0008	0.0010	0.0011	0.0013
Max.	0.2612	0.5264	2870	0.0005	0.0008	0.0011	0.0015	0.0018	0.0022	0.0026	0.0031	0.0036

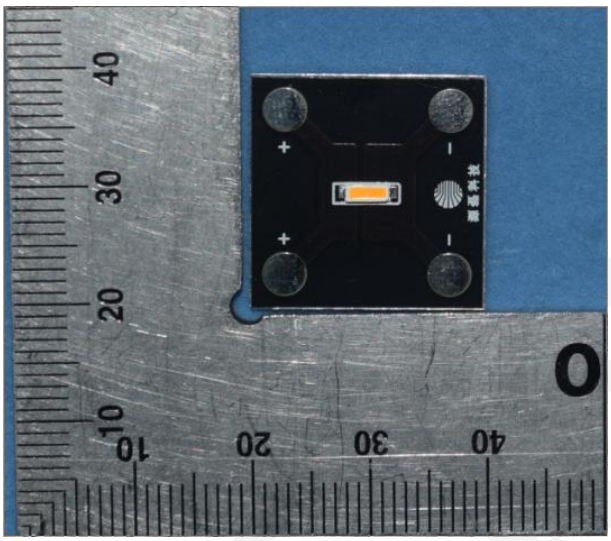
4 - DUT Photo

4.1 #Mechanical Dimensions



All dimensions are in millimeter

4.2 DUT Photo



5 - Report Revision

Report Number	Report Date	Contents
RSZ180910510-10	2019-10-14	Original report.
RSZ180910510-10-M1	2020-05-14	Update the family products covered in this report.

Directions

1. The information marked # 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.
5. This report cannot be reproduced except in full, without prior written approval of the Company.
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**********END OF REPORT**********