ZHEJIANG WEIWEI OPTOELECTRONIC TECHNOLOGY CO., LTD

TEST REPORT

Prepared For:	ZHEJIANG WEIWEI OPTOELECTRONIC TECHNOLOGY CO., LTD NO.2 JinLi Road, Economic Development Zone, Haining City, Zhejiang
Product Name:	SMD 2835-9V100MA-RA80
Model:	MD 2835-9V100MA-RA80
Prepared By:	Shenzhen BST Technology Co., Ltd. Building No.23-24, Zhiheng industrial park, Guankouer Road, Nantou, Nanshan District, Shenzhen, Guangdong, China.
Test Date:	Jun. 25, 2014 – Apr. 28, 2015
Date of Report:	Apr. 30, 2015
Report No.:	SHBST150420130035141426YSR-2

TEST REPORT

LUMEN MAINTENANCE TESTING ACCORDING TO THE IESNA LM-80-08 TEST STANDARD

Testing laboratory ……..	:	Shenzhen BST Technology Co., Ltd.
Address ……..	:	Building No.23-24, Zhiheng industrial park, Guankouer Road, Nantou, Nanshan District, Shenzhen, Guangdong, China.
Testing location ……..	:	Shenzhen BST Technology Co., Ltd.
Applicant …….	:	ZHEJIANG WEIWEI OPTOELECTRONIC TECHNOLOGY CO., LTD
Address …….	:	NO.2 JinLi Road, Economic Development Zone, Haining City, Zhejiang
Test Procedure…….	:	The IESNA LM-80-2008: Measuring Lumen Maintenance of LED Light Sources.
Non-standard test method ……	:	N.A.
Type of test object …….	:	SMD 2835-9V100MA-RA80
Trademark …….	:	COMELON
Model/type reference …….	:	MD 2835-9V100MA-RA80
Rating …….	:	9.0V⎓, 0.1A, 0.9W
Manufacturer …….	:	ZHEJIANG WEIWEI OPTOELECTRONIC TECHNOLOGY CO., LTD
Address ……..	:	NO.2 JinLi Road, Economic Development Zone, Haining City, Zhejiang

Name and address of the testing laboratory: **Shenzhen BST Technology Co., Ltd.**
Building No.23-24, Zhiheng industrial park,
Guankouer Road, Nantou, Nanshan District, Shenzhen, Guangdong, China

Prepared by : Jacky Zhang
Engineer

Reviewer :
Supervisor

Approved & Authorized Signer : Christina

Possible test case verdicts :

Test case does not apply to the test object …….. : N(.A.)

Test object does meet the requirement …… : P(ass)

Test object does not meet the requirement ……. : F(ail)

General remarks:

Throughout this report a point is used as the decimal separator. The test results presented in this report relate only to the object tested.

Test Results Summary:

Summary	I	II	III
Condition	Ts=54.7℃ T_A=53.8℃ R.H.<65% I=100mA	Ts=84.6℃ T_A=83.7℃ R.H.<65% I=100mA	Ts=105.1℃ T_A=104.8℃ R.H.<65% I=100mA
Duration(hour)	6000	6000	6000
Interval(hour)	0,1000,2000,3000,4000, 5000, 6000	0,1000,2000,3000,4000, 5000, 6000	0,1000,2000,3000,4000, 5000, 6000
Sample Size	20	20	20
Average Lumen Maintenance at 6000 hour	96.43%	94.90%	93.94%
Average Chromaticity Shift △u'v' at 6000 hour	0.0021	0.0026	0.0033
Failure	0	0	0

Equipments Used for Testing:

Equipment	Model	Equipment No.
DC Power Supply	IT6122	BSTNX001
Power meter	WT210	BSTNX001
Spectroradiometer	SPEC300	BN067
0.3m Integrating Sphere	0.3m	BSTNX002

Test Data:
Operating Condition: 55℃/100mA

No.	Φ(lm)	V_F(V)	Lumen maintenance (%)					
	0h(Initial)		1000h	2000h	3000h	4000h	5000h	6000h
1	101	9.0	99.74	99.25	98.65	97.66	97.18	96.17
2	98	9.1	99.63	98.69	97.53	97.44	97.07	96.64
3	96	9.0	100.31	99.57	98.37	97.91	97.59	96.47
4	102	9.0	100.27	99.73	99.08	98.54	97.83	96.75
5	99	9.0	100.05	99.50	98.85	97.82	96.66	96.23
6	97	9.1	99.55	99.61	98.73	98.54	96.99	96. 49
7	101	9.0	99.95	99.78	98.37	98.75	98.10	96.02
8	98	9.0	99.96	99.49	99.08	98.23	97.15	96.24
9	102	9.0	100.71	99.19	99.31	97.55	97.21	96.68
10	94	9.0	100.05	99.78	99.31	97.92	97.59	96.67
11	95	9.0	99.55	99.35	98.85	97.44	97.83	96.75
12	101	9.0	99.95	99.11	98.73	97.91	96.66	96.23
13	100	9.0	99.95	99.28	98.37	98.54	96.99	96. 49
14	99	9.1	99.96	99.31	99.08	97.82	96.99	96. 49
15	96	9.0	100.71	99.58	99.31	98.54	98.10	96.02
16	97	9.0	100.05	99.56	98.57	98.23	97.15	96.24
17	99	9.0	99.55	99.24	98.68	97.55	97.21	96.68
18	101	9.0	99.95	99.50	98.62	97.92	97.59	96.67
19	102	9.1	100.39	99.64	98.45	98.24	98.17	96.75
20	100	9.0	99.63	99.65	98.28	97.53	97.13	96.13
Average	99	9.0	100.00	99.44	98.71	98.00	97.36	96.43
Median	99	9.0	99.96	99.50	98.71	97.92	97.20	96.47
St, Dev.	2	0.0	0.35	0.27	0.43	0.42	0.46	0.28
Max	102	9.1	100.71	99.78	99.31	98.75	98.17	96.75
Min	94	9.0	99.55	98.69	97.53	97.44	96.66	96.02

Operating Condition: 85℃/100mA

No.	Φ(lm)	V_F(V)	Lumen maintenance (%)					
	0h(Initial)		1000h	2000h	3000h	4000h	5000h	6000h
1	99	9.0	99.87	99.56	97.33	96.33	96.36	94.21
2	98	9.0	100.44	99.47	97.29	96.21	95.12	94.85
3	97	9.0	100.15	99.56	97.56	96.23	95.18	94.75
4	99	9.0	99.87	98.65	98.36	97.12	95.18	94.66
5	100	9.0	100.16	99.47	99.21	97.12	95.14	94.33
6	97	9.1	99.95	98.56	98.12	96.18	96.36	95.23
7	100	9.0	99.88	98.75	98.36	96.21	96.28	95.45
8	99	9.1	99.57	99.33	97.85	97.12	96.27	95.62
9	99	9.0	99.66	98.65	97.33	96.33	96.36	95.83
10	98	9.1	100.08	99.47	97.29	96.21	95.18	94.87
11	97	9.0	99.67	99.56	97.56	96.22	95.18	94.69
12	97	9.0	100.23	99.47	98.36	96.18	95.14	95.36
13	98	9.0	99.46	99.56	98.45	96.21	96.36	95.79
14	99	9.0	99.33	98.65	97.56	96.22	95.18	94.29
15	96	9.1	99.58	99.45	98.36	96.18	95.14	94.33
16	97	9.0	99.28	99.33	99.21	96.21	96.36	95.62
17	99	9.0	99.86	98.96	98.12	96.21	95.18	94.28
18	100	9.0	99.48	98.75	98.36	97.12	95.18	94.75
19	102	9.1	99.54	98.65	97.33	96.33	95.12	94.38
20	100	9.0	99.36	98.26	97.21	96.23	95.18	94.73
Average	99	9.0	99.77	99.11	97.96	96.41	95.57	94.90
Median	99	9.0	99.77	99.33	97.99	96.22	95.18	94.75
St, Dev.	1	0.0	0.33	0.44	0.62	0.37	0.58	0.55
Max	102	9.1	100.44	99.56	99.21	97.12	96.36	95.83
Min	96	9.0	99.28	98.26	97.21	96.18	95.12	94.21

Operating Condition: 105℃/100mA

No.	Φ(lm)	V_F(V)	Lumen maintenance (%)					
	0h(Initial)		1000h	2000h	3000h	4000h	5000h	6000h
1	100	9.1	99.33	98.25	97.18	95.36	94.78	94.47
2	98	9.0	99.52	97.62	96.37	95.24	95.85	94.26
3	99	9.0	99.25	97.41	96.25	96.23	94.65	93.88
4	99	9.0	99.36	97.29	96.21	95.16	94.25	93.82
5	98	9.0	99.26	98.23	97.35	96.85	94.36	93.81
6	97	9.0	99.22	98.54	96.33	95.47	94.87	94.18
7	99	9.0	99.23	97.33	96.27	95.36	94.39	94.17
8	99	9.1	99.26	97.36	96.34	95.24	94.78	93.56
9	99	9.0	99.33	98.25	97.25	96.23	95.85	94.47
10	98	9.0	99.52	97.62	96.37	95.16	94.65	93.18
11	96	9.0	99.52	97.41	96.25	95.17	94.25	93.88
12	97	9.0	99.25	97.29	96.21	95.26	94.25	93.82
13	100	9.1	99.36	97.29	96.21	96.23	94.36	93.75
14	99	9.0	99.26	98.23	97.35	95.16	94.87	94.16
15	96	9.1	99.25	98.54	96.33	96.85	94.39	93.52
16	97	9.0	99.32	97.33	96.27	95.47	94.78	93.35
17	96	9.1	99.36	97.36	96.58	95.36	94.46	93.91
18	99	9.0	99.26	98.23	96.25	95.24	94.12	93.84
19	102	9.0	99.22	98.54	97.37	96.45	95.41	94.43
20	97	9.0	99.37	98.33	97.29	96.39	95.26	94.42
Average	98	9.0	99.32	97.82	96.60	95.69	94.73	93.94
Median	99	9.0	99.29	97.62	96.34	95.36	94.65	93.88
St, Dev.	2	0.0	0.10	0.51	0.48	0.61	0.51	0.37
Max	102	9.1	99.52	98.54	97.37	96.85	95.85	94.47
Min	96	9.0	99.22	97.29	96.21	95.16	94.12	93.18

Operating Condition: 55℃/100mA

No.	Ra	Chromaticity Shift △u'v'					
	0h(Initial)	1000h	2000h	3000h	4000h	5000h	6000h
1	80.9	0.0007	0.0009	0.0012	0.0016	0.0017	0.0021
2	80.9	0.0006	0.0010	0.0013	0.0015	0.0017	0.0022
3	80.7	0.0007	0.0008	0.0012	0.0015	0.0017	0.0021
4	81.1	0.0008	0.0011	0.0013	0.0016	0.0018	0.0020
5	81.2	0.0007	0.0010	0.0012	0.0017	0.0018	0.0022
6	80.6	0.0006	0.0008	0.0013	0.0015	0.0017	0.0021
7	80.7	0.0006	0.0010	0.0012	0.0016	0.0017	0.0021
8	80.6	0.0007	0.0010	0.0012	0.0014	0.0016	0.0018
9	80.5	0.0008	0.0011	0.0013	0.0015	0.0018	0.0021
10	80.7	0.0007	0.0011	0.0012	0.0016	0.0017	0.0021
11	81.0	0.0006	0.0008	0.0014	0.0016	0.0018	0.0021
12	81.0	0.0007	0.0009	0.0013	0.0017	0.0018	0.0022
13	80.7	0.0006	0.0011	0.0013	0.0015	0.0017	0.0021
14	80.8	0.0007	0.0011	0.0012	0.0013	0.0018	0.0022
15	81.2	0.0006	0.0012	0.0014	0.0016	0.0017	0.0018
16	80.6	0.0007	0.0009	0.0014	0.0015	0.0017	0.0019
17	80.8	0.0008	0.0011	0.0013	0.0016	0.0018	0.0020
18	81.0	0.0007	0.0011	0.0013	0.0016	0.0017	0.0020
19	81.1	0.0006	0.0011	0.0014	0.0016	0.0017	0.0021
20	81.0	0.0007	0.0010	0.0013	0.0016	0.0017	0.0021
Average	80.9	0.0007	0.0010	0.0013	0.0016	0.0017	0.0021
Median	80.9	0.0007	0.0010	0.0013	0.0016	0.0017	0.0021
St, Dev.	0.2	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
Max	81.2	0.0008	0.0012	0.0014	0.0017	0.0018	0.0022
Min	80.5	0.0006	0.0008	0.0012	0.0013	0.0016	0.0018

Operating Condition: 85℃/100mA

No.	Ra	Chromaticity Shift △u'v'					
	0h(Initial)	1000h	2000h	3000h	4000h	5000h	6000h
1	80.8	0.0007	0.0011	0.0014	0.0018	0.0022	0.0028
2	81.0	0.0006	0.0010	0.0012	0.0015	0.0019	0.0025
3	80.9	0.0007	0.0011	0.0012	0.0016	0.0020	0.0026
4	81.0	0.0006	0.0012	0.0013	0.0016	0.0018	0.0026
5	80.6	0.0007	0.0011	0.0012	0.0015	0.0019	0.0027
6	80.5	0.0006	0.0011	0.0012	0.0015	0.0019	0.0027
7	80.5	0.0006	0.0010	0.0012	0.0015	0.0019	0.0027
8	80.8	0.0007	0.0011	0.0012	0.0015	0.0019	0.0025
9	81.0	0.0008	0.0011	0.0013	0.0015	0.0018	0.0026
10	81.3	0.0007	0.0010	0.0012	0.0016	0.0019	0.0023
11	80.6	0.0006	0.0012	0.0013	0.0017	0.0020	0.0024
12	80.6	0.0007	0.0011	0.0012	0.0015	0.0018	0.0024
13	80.8	0.0008	0.0012	0.0016	0.0019	0.0023	0.0028
14	80.7	0.0007	0.0011	0.0012	0.0015	0.0018	0.0025
15	80.9	0.0006	0.0011	0.0013	0.0016	0.0019	0.0023
16	81.1	0.0007	0.0011	0.0012	0.0016	0.0020	0.0025
17	81.0	0.0007	0.0011	0.0014	0.0017	0.0021	0.0027
18	80.8	0.0007	0.0010	0.0012	0.0015	0.0019	0.0027
19	80.5	0.0006	0.0011	0.0013	0.0016	0.0019	0.0026
20	81.2	0.0007	0.0012	0.0013	0.0016	0.0020	0.0025
Average	80.8	0.0007	0.0011	0.0013	0.0016	0.0019	0.0026
Median	80.8	0.0007	0.0011	0.0012	0.0016	0.0019	0.0026
St, Dev.	0.2	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
Max	81.3	0.0008	0.0012	0.0016	0.0019	0.0023	0.0028
Min	80.5	0.0006	0.0010	0.0012	0.0015	0.0018	0.0023

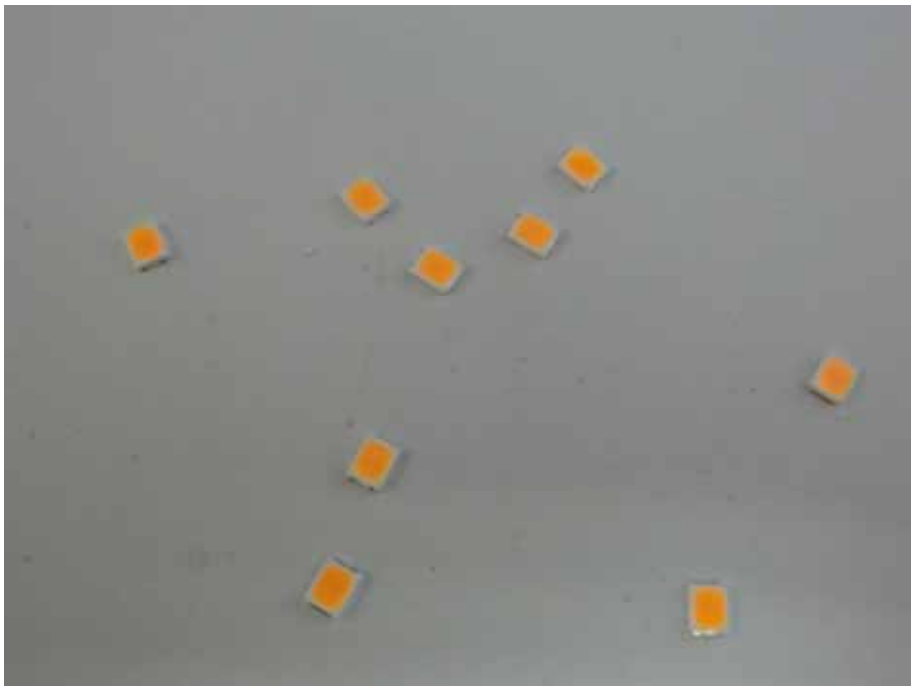
Operating Condition: 105℃/100mA

No.	Ra	Chromaticity Shift △u'v'					
	0h(Initial)	1000h	2000h	3000h	4000h	5000h	6000h
1	80.6	0.0011	0.0014	0.0018	0.0023	0.0025	0.0033
2	81.3	0.0012	0.0014	0.0017	0.0024	0.0028	0.0033
3	80.6	0.0011	0.0013	0.0017	0.0024	0.0027	0.0030
4	80.7	0.0011	0.0013	0.0019	0.0023	0.0026	0.0032
5	80.5	0.0010	0.0015	0.0017	0.0025	0.0026	0.0033
6	80.6	0.0009	0.0013	0.0018	0.0023	0.0026	0.0034
7	80.6	0.0009	0.0015	0.0019	0.0024	0.0028	0.0031
8	80.5	0.0011	0.0014	0.0018	0.0025	0.0027	0.0034
9	80.6	0.0011	0.0014	0.0019	0.0023	0.0026	0.0033
10	80.8	0.0012	0.0015	0.0019	0.0023	0.0028	0.0032
11	81.3	0.0009	0.0013	0.0018	0.0024	0.0026	0.0032
12	80.6	0.0009	0.0015	0.0017	0.0022	0.0026	0.0033
13	80.4	0.0011	0.0014	0.0018	0.0023	0.0028	0.0035
14	80.5	0.0011	0.0014	0.0019	0.0023	0.0026	0.0034
15	80.6	0.0012	0.0013	0.0017	0.0025	0.0027	0.0033
16	80.4	0.0011	0.0015	0.0018	0.0025	0.0027	0.0033
17	80.6	0.0011	0.0013	0.0019	0.0025	0.0026	0.0034
18	82.1	0.0011	0.0015	0.0017	0.0023	0.0027	0.0032
19	80.6	0.0010	0.0014	0.0018	0.0025	0.0027	0.0031
20	80.5	0.0011	0.0014	0.0017	0.0023	0.0026	0.0032
Average	80.7	0.0011	0.0014	0.0018	0.0024	0.0027	0.0033
Median	80.6	0.0011	0.0014	0.0018	0.0024	0.0027	0.0033
St, Dev.	0.4	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001
Max	82.1	0.0012	0.0015	0.0019	0.0025	0.0028	0.0035
Min	80.4	0.0009	0.0013	0.0017	0.0022	0.0025	0.0030

ANNEX A:

Photo-documentation

Photo 1 General Appearance of the EUT



END OF THE REPORT