Shenzhen Lepower Opto Electronics Corp.,Ltd

TEST REPORT

Prepared For:	Shenzhen Lepower Opto Electronics Corp.,Ltd Building B,Chuangfu Science Technology Park, Beihuan Rd,Shiyan,Bao'an, Shenzhen
Product Name:	P0wer Led (1061)
Model:	LY-NP090303B1734-T
Prepared By:	Shenzhen BST Technology Co., Ltd. Building No.23-24, Zhiheng industrial park, Guankouer Road, Nantou, Nanshan District, Shenzhen, Guangdong, China.
Test Date:	Jul. 16, 2015 –Mar. 19, 2016
Date of Report:	Mar. 19, 2016
Report No.:	BSTDG1603679292SR-2

TESTREPORT

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 ……	:	Shenzhen Lepower Opto Electronics Corp.,Ltd
Address ……	:	Building B,Chuangfu Science Technology Park, Beihuan Rd,Shiyan,Bao'an, Shenzhen
TestProcedure……	:	The IESNA LM-80-2008: Measuring Lumen Maintenance of LED Light Sources.
Non-standardtest method ……	:	N.A.
Type of test object ……	:	P0wer Led (1061)
Trademark ……	:	Lepower
Model/type reference ……	:	LY-NP090303B1734-T
Rating ……	:	8.435-9.186V⎓, 300mA,3W
Manufacturer ……	:	Shenzhen Lepower Opto Electronics Corp.,Ltd
Address ……..	:	Building B,Chuangfu Science Technology Park, Beihuan Rd,Shiyan,Bao'an, Shenzhen

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 :

Test ResultsSummary:

Summary	I	II	III
Condition	Ts=54.8℃ T_A=54.7℃ R.H.<65% I=300mA	Ts=84.8℃ T_A=84.6℃ R.H.<65% I=300mA	Ts=104.9℃ T_A=104.7℃ R.H.<65% I=300mA
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	97.48%	95.79%	92.76%
Average Chromaticity Shift △u'v' at 6000 hour	0.0019	0.0033	0.0037
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℃/300mA

No.	Φ(lm)	V_F(V)	Lumen maintenance (%)					
	0h(Initial)		1000h	2000h	3000h	4000h	5000h	6000h
1	412.33	9.15	100.45	99.47	98.64	98.26	97.83	97.67
2	410.33	9.15	100.43	99.63	98.83	98.12	97.63	97.08
3	412.21	9.18	100.41	99.44	98.41	97.88	97.62	97.41
4	413.52	9.16	100.43	99.54	98.47	98.08	97.53	97.41
5	419.58	9.18	100.52	99.86	99.10	98.62	97.88	97.53
6	410.1	9.14	100.53	99.73	99.37	98.27	97.85	97.61
7	412.63	9.15	100.87	99.76	99.51	98.61	98.06	97.60
8	415.2	9.16	100.85	99.74	99.31	98.64	98.05	97.64
9	417.23	9.18	100.82	99.99	99.47	98.48	97.94	97.58
10	418.23	9.15	100.88	99.77	99.52	98.56	97.98	97.68
11	416.21	9.17	100.85	99.75	99.47	98.54	98.12	97.65
12	415.75	9.16	100.82	99.92	99.41	98.34	97.94	97.77
13	416.85	9.2	100.83	99.93	99.33	98.28	97.72	97.44
14	415.63	9.15	100.83	99.87	99.33	98.51	97.73	97.48
15	418.23	9.15	100.83	99.83	99.07	98.47	97.74	97.34
16	416.23	9.16	100.91	99.76	99.33	98.43	97.87	97.34
17	415.24	9.17	100.93	99.93	99.09	98.34	97.78	97.43
18	418.32	9.18	100.87	99.78	99.16	98.54	97.38	97.26
19	413.65	9.16	100.21	99.58	98.68	97.97	97.68	97.26
20	415.85	9.15	100.22	99.80	98.82	98.30	97.81	97.48
Average	415.16	9.18	100.67	99.75	99.12	98.36	97.81	97.48
Median	415.2	9.18	100.83	99.77	99.24	98.39	97.82	97.48
St, Dev.	4.51	0.1	0.24	0.15	0.36	0.22	0.19	0.17
Max	419.58	9.2	100.93	99.99	99.52	98.64	98.12	97.77
Min	410.1	9.15	100.21	99.44	98.41	97.88	97.38	97.08

Operating Condition: 85℃/300mA

No.	Φ(lm)	V_F(V)	Lumen maintenance (%)					
	0h(Initial)		1000h	2000h	3000h	4000h	5000h	6000h
1	419.88	9.17	98.94	98.31	97.78	97.29	97.02	95.89
2	410.12	9.16	98.88	98.34	97.59	97.30	96.39	95.73
3	412.63	9.2	98.81	97.92	97.70	97.42	96.69	95.68
4	415.2	9.15	99.01	98.40	97.77	97.42	96.91	95.54
5	417.23	9.15	98.80	98.42	97.87	97.47	96.17	95.88
6	418.23	9.16	99.50	98.37	97.86	97.40	96.86	95.90
7	416.21	9.17	99.03	98.39	97.83	97.52	96.83	95.73
8	415.75	9.18	98.41	98.27	97.57	97.44	97.02	95.72
9	416.85	9.16	98.68	98.41	98.28	97.40	96.86	95.93
10	415.63	9.15	98.69	98.18	97.80	97.39	96.63	95.51
11	416.23	9.15	98.78	98.43	97.77	97.50	96.69	95.40
12	415.24	9.18	98.80	98.30	97.90	97.30	96.88	95.33
13	418.32	9.16	98.83	98.47	97.91	97.40	96.99	95.74
14	413.65	9.18	99.00	98.53	97.81	97.41	96.25	95.94
15	415.85	9.14	99.01	98.38	97.98	97.40	96.92	96.02
16	416.23	9.15	99.02	98.37	97.80	97.21	96.36	95.92
17	412.33	9.16	98.91	98.39	97.80	97.28	97.03	95.94
18	410.33	9.18	98.90	98.53	98.37	97.58	96.87	96.16
19	412.21	9.15	98.92	98.29	97.80	97.51	96.99	95.88
20	413.52	9.16	98.87	98.40	97.86	97.52	97.01	95.99
Average	415.26	9.18	98.89	98.36	97.85	97.41	96.77	95.79
Median	415.33	9.18	98.89	98.39	97.81	97.41	96.87	95.88
St, Dev.	5.51	0.1	0.21	0.13	0.19	0.10	0.27	0.22
Max	419.88	9.2	99.50	98.53	98.37	97.58	97.03	96.16
Min	410.12	9.15	98.41	97.92	97.57	97.21	96.17	95.33

Operating Condition: 105℃/300mA

No.	Φ(lm)	V_F(V)	Lumen maintenance (%)					
	0h(Initial)		1000h	2000h	3000h	4000h	5000h	6000h
1	415.2	9.15	98.31	97.70	96.34	95.71	94.93	93.37
2	417.23	9.18	98.70	97.79	96.40	95.85	94.98	92.40
3	418.23	9.17	98.26	97.50	96.83	96.42	95.41	92.90
4	416.21	9.16	97.86	97.20	96.67	95.15	94.38	92.59
5	415.75	9.2	98.92	98.29	97.24	96.36	95.55	92.29
6	416.85	9.15	98.70	97.16	96.32	95.45	94.25	92.59
7	415.63	9.15	98.39	97.37	96.25	95.40	94.57	92.89
8	416.23	9.16	99.02	98.38	97.29	96.67	95.66	93.12
9	415.24	9.17	98.38	97.49	96.82	96.16	95.26	92.35
10	418.32	9.18	98.06	96.30	95.92	95.54	94.62	92.40
11	415.85	9.16	98.36	97.25	96.34	95.66	94.88	92.70
12	416.23	9.15	98.49	97.08	96.23	95.80	94.83	92.91
13	412.33	9.18	98.35	97.34	96.52	95.44	94.94	92.82
14	410.33	9.16	98.31	96.94	96.07	95.39	94.61	92.71
15	412.21	9.18	98.27	97.38	96.71	95.38	94.61	92.59
16	413.52	9.14	97.99	96.99	95.92	95.28	94.40	93.00
17	415.85	9.15	98.26	97.35	96.51	94.92	94.19	92.89
18	419.81	9.16	98.50	98.14	96.79	96.18	95.67	93.01
19	410.02	9.18	98.15	97.39	96.28	95.44	94.43	92.91
20	412.63	9.15	97.98	97.21	96.26	95.36	94.91	92.71
Average	415.19	9.18	98.36	97.41	96.49	95.68	94.85	92.76
Median	415.2	9.18	98.33	97.36	96.37	95.50	94.86	92.77
St, Dev.	5.03	0.1	0.30	0.48	0.38	0.46	0.46	0.28
Max	419.81	9.2	99.02	98.38	97.29	96.67	95.67	93.37
Min	410. 02	9.15	97.86	96.30	95.92	94.92	94.19	92.29

Operating Condition: 55℃/300mA

No.	CCT(K)	Ra	Chromaticity Shift△u'v'					
	0h(Initial)		1000h	2000h	3000h	4000h	5000h	6000h
1	4153	70.3	0.0011	0.0012	0.0013	0.0014	0.0015	0.0016
2	4169	70.2	0.0009	0.0011	0.0011	0.0013	0.0016	0.0018
3	4133	70.1	0.0008	0.0013	0.0016	0.0018	0.0019	0.0024
4	4145	70.1	0.0008	0.0011	0.0013	0.0015	0.0018	0.0023
5	4143	70.1	0.001	0.0012	0.0013	0.0016	0.0018	0.0019
6	4138	70.5	0.0008	0.0014	0.0016	0.0017	0.0018	0.0019
7	4148	70.1	0.0009	0.0011	0.0013	0.0014	0.0016	0.0019
8	4138	70.1	0.0011	0.0013	0.0014	0.0016	0.0017	0.0019
9	4126	70.1	0.0007	0.001	0.0013	0.0014	0.0016	0.0018
10	4139	70.5	0.0008	0.0009	0.0011	0.0013	0.0015	0.0017
11	4128	70.1	0.0007	0.001	0.0011	0.0012	0.0014	0.0016
12	4151	70.5	0.0009	0.0012	0.0013	0.0016	0.0019	0.0022
13	4141	70.4	0.0007	0.0008	0.001	0.0013	0.0016	0.0019
14	4128	70.5	0.0011	0.0012	0.0014	0.0015	0.0016	0.0018
15	4139	70.5	0.0011	0.0013	0.0015	0.0016	0.0017	0.0019
16	4128	70.5	0.0009	0.0009	0.0011	0.0013	0.0015	0.0019
17	4139	70.1	0.0012	0.0013	0.0014	0.0015	0.0017	0.0019
18	4148	70.1	0.0008	0.0009	0.0011	0.0012	0.0014	0.0017
19	4156	70.5	0.0007	0.0013	0.0014	0.0016	0.0019	0.0025
20	4157	70.1	0.0009	0.0015	0.0016	0.0019	0.0021	0.0023
Average	4143	70.5	0.0009	0.0012	0.0013	0.0015	0.0017	0.0019
Median	4139	70.5	0.0009	0.0012	0.0013	0.0015	0.0017	0.0019
St, Dev.	11	0.3	0.0002	0.0002	0.0002	0.0002	0.0002	0.0003
Max	4169	70.5	0.0012	0.0015	0.0016	0.0019	0.0021	0.0025
Min	4128	70.1	0.0007	0.0008	0.0010	0.0012	0.0014	0.0016

Operating Condition: 85℃/300mA

No.	CCT(K)	Ra	Chromaticity Shift△u'v'					
	0h(Initial)		1000h	2000h	3000h	4000h	5000h	6000h
1	4143	70.3	0.0013	0.0015	0.0016	0.0024	0.0026	0.0034
2	4159	70.2	0.0014	0.0015	0.0023	0.0027	0.0027	0.0034
3	4118	70.3	0.0013	0.0017	0.0022	0.0026	0.0028	0.0034
4	4147	70.1	0.0012	0.0014	0.002	0.0022	0.0023	0.0031
5	4142	70.4	0.0013	0.0015	0.0021	0.0025	0.0027	0.0033
6	4148	70.5	0.0011	0.0014	0.002	0.0024	0.0027	0.0035
7	4138	70.1	0.0016	0.0017	0.0019	0.0023	0.0024	0.0034
8	4135	70.5	0.0014	0.0016	0.0024	0.0026	0.0027	0.0032
9	4126	70.3	0.0012	0.0013	0.0024	0.0026	0.0027	0.0033
10	4137	70.2	0.0015	0.0017	0.0023	0.0025	0.0027	0.0033
11	4128	70.1	0.0014	0.0016	0.0021	0.0023	0.0024	0.003
12	4150	70.5	0.0014	0.0016	0.0022	0.0023	0.0025	0.0029
13	4149	70.2	0.0015	0.0017	0.0021	0.0024	0.0026	0.0033
14	4129	70.4	0.0012	0.0014	0.0021	0.0025	0.0025	0.0032
15	4135	70.2	0.0013	0.0016	0.0019	0.0024	0.0025	0.0034
16	4128	70.0	0.0012	0.0015	0.0021	0.0026	0.0027	0.0035
17	4139	70.1	0.0013	0.0016	0.002	0.0023	0.0025	0.0032
18	4147	70.1	0.0014	0.0016	0.0021	0.0023	0.0027	0.0032
19	4156	70.3	0.0013	0.0015	0.0023	0.0024	0.0027	0.0031
20	4157	70.1	0.0014	0.0017	0.0023	0.0025	0.0028	0.0033
Average	4145	70.3	0.0013	0.0016	0.0021	0.0024	0.0026	0.0033
Median	4147	70.3	0.0013	0.0016	0.0021	0.0024	0.0027	0.0033
St, Dev.	11	0.4	0.0001	0.0001	0.0002	0.0001	0.0001	0.0002
Max	4159	70.5	0.0016	0.0017	0.0024	0.0027	0.0028	0.0035
Min	4128	70.1	0.0011	0.0013	0.0016	0.0022	0.0023	0.0029

Operating Condition: 105℃/300mA

No.	CCT(K)	Ra	Chromaticity Shift△u'v'					
	0h(Initial)		1000h	2000h	3000h	4000h	5000h	6000h
1	4145	70.2	0.0014	0.0018	0.002	0.0024	0.003	0.0035
2	4152	70.2	0.0016	0.0018	0.0023	0.0026	0.0033	0.0038
3	4118	70.3	0.0014	0.0019	0.0022	0.0028	0.0035	0.0041
4	4141	70.1	0.0014	0.0016	0.002	0.0026	0.0031	0.004
5	4140	70.2	0.0013	0.0017	0.0021	0.0025	0.003	0.0037
6	4143	70.3	0.0015	0.0019	0.0021	0.0026	0.0032	0.0038
7	4132	70.1	0.0015	0.0016	0.0019	0.0025	0.0031	0.0035
8	4130	70.1	0.0014	0.0017	0.0019	0.0026	0.0033	0.0036
9	4122	70.3	0.0016	0.0019	0.0022	0.0026	0.0031	0.0038
10	4133	70.2	0.0016	0.0016	0.0024	0.0026	0.003	0.0037
11	4124	70.1	0.0014	0.0018	0.002	0.0025	0.003	0.0036
12	4150	70.2	0.0016	0.0018	0.002	0.0027	0.0031	0.0035
13	4142	70.2	0.0015	0.0018	0.0024	0.0028	0.0034	0.0036
14	4123	70.0	0.0016	0.0021	0.0025	0.0027	0.003	0.0037
15	4135	70.2	0.0016	0.0017	0.002	0.0026	0.003	0.0035
16	4120	70.0	0.0015	0.0019	0.0024	0.0029	0.0034	0.0041
17	4139	70.1	0.0016	0.0018	0.0025	0.0027	0.0035	0.0042
18	4141	70.1	0.0015	0.0017	0.0019	0.0025	0.0032	0.0035
19	4149	70.2	0.0014	0.0017	0.002	0.0025	0.0034	0.0037
20	4135	70.1	0.0017	0.0019	0.0021	0.0024	0.0031	0.0039
Average	4135	70.1	0.0015	0.0018	0.0021	0.0026	0.0032	0.0037
Median	4139	70.1	0.0015	0.0018	0.0021	0.0026	0.0031	0.0037
St, Dev.	8	0.1	0.0001	0.0001	0.0002	0.0001	0.0002	0.0002
Max	4141	70.2	0.0017	0.0021	0.0025	0.0029	0.0035	0.0042
Min	4122	70.0	0.0013	0.0016	0.0019	0.0024	0.0030	0.0035

Photo 1

Photo 2