



Shenzhen Anbotek Compliance Laboratory Limited

IESNA LM-80-2008

Measurement and Test Report
For

SHENZHEN LEPOWER OPTO ELECTRONICS CORP.,LTD

3-5 Floors,Bldg B, Chuangfu Science Technology Park, Shihuan Rd No.202, Shangwu Community,
Shiyan St,Bao'an District, Shenzhen

Report No.: R011607022L

Model No.: LY-FE3535(LY-XMDD002)

Product Name: FE35

Test Duration: 07/01/2016 to 03/08/2017

Report Date: 03/10/2017

Tested By: Alcander Lou

Alcander Lou

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1-GENERAL INFORMATION

1.1 Product Description for Equipment under Test (EUT)

Applicant : SHENZHEN LEPOWER OPTO ELECTRONICS CORP.,LTD

Trade Mark : N/A

Model Number : LY-FE3535(LY-XMDD002)

Part Type: LED package

Nominal CCT: 3000K

Number of LED Light Source tested : See tables.

Case temperature (test point temperature) : See tables.

Drive current of the LED light source during lifetime test : See tables.

Initial luminous flux and forward voltage at photometric measurement current : See tables.

Lumen maintenance data for each individual LED light source along with median value, standard deviation, minimum and maximum lumen maintenance value for all of the LED Light sources : See tables.

Observation of LED light source failure including the failure conditions and time of failure. : See tables.

LED light source monitoring interval : The LED light source are inspected at regular interval (24 hours) throughout the 6000 hours test.

Photometric measurement uncertainty : 1.5% on flux measurements for LM-80 testing.

Chromaticity shift reported over the Measurement time : See tables.

LED Light Source Test interval : At regular intervals(1000 hours) throughout the 6000 hours test.

Date of Receiving Sample : 2016-07-01

Test Duration : 2016-07-01 to 2017-03-08

1.2 Standards Used:

IESNA LM-80-08: IES Approved Method for Measuring Lumen Maintenance of LED Light Sources

1.3 Test Facility Description

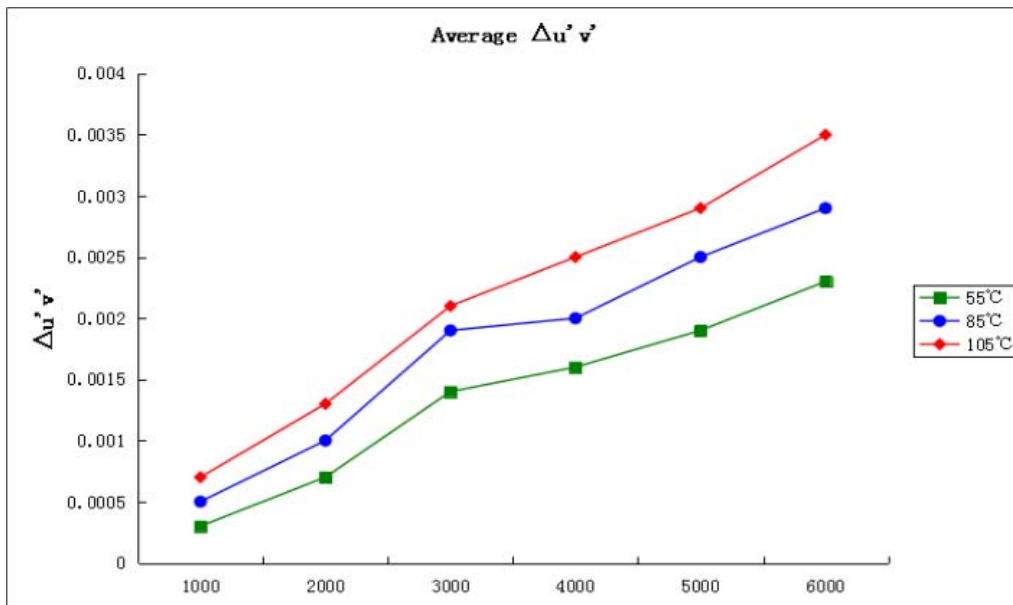
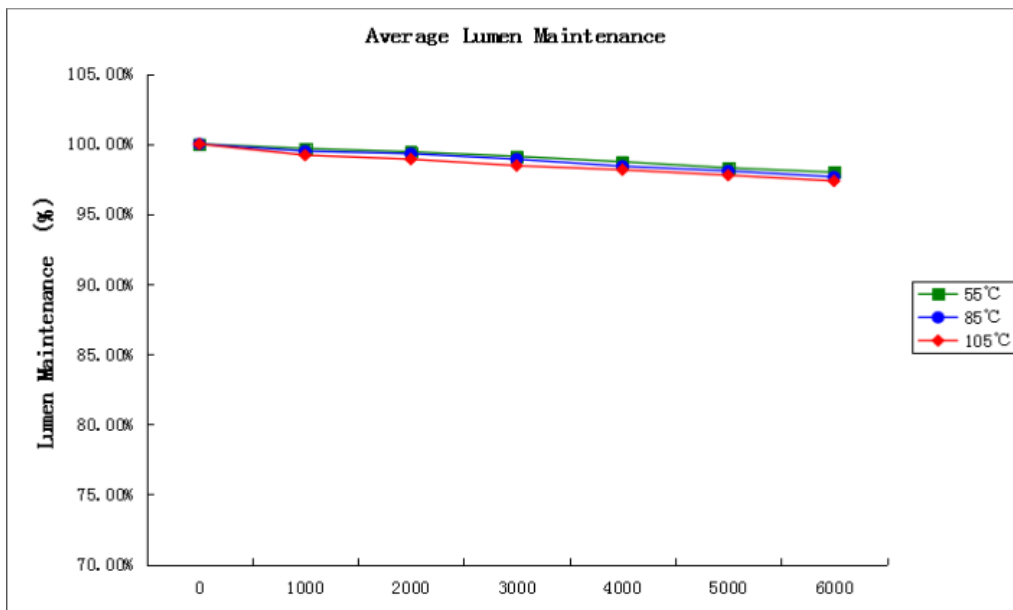
The test facility used by Shenzhen Anbotek Compliance Laboratory Limited is located at 1/F., Building 1, SEC Industrial Park, No.0409 Qianhai Road,Nanshan District,Shenzhen, Guangdong, China.

1.4 Test Equipment List

Device	Manufacture	Model No	Serial No	Test Range	Calibration date	Calibration due date
Digital Power Meter	YOKOGAWA	WT210	SE-074	0-600V/0-10A/0-100 Hz	2016-04-06	2017-04-05
Integrating sphere (0.3m)	LINKCOLOR	LCB-03	SE-150	0.3 m	2016-06-23	2017-06-22
Spectrum analyzer	LINKCOLOR	SPEC1000A	SE-154	/	2016-06-23	2017-06-22
DC power supply	LINKCOLOR	DC30V,5A	SE-433	DC 30V, 5A	2016-03-28	2017-03-27
AC power source	ALLPOWER ELECTRONIC	APW-110	SE-435	0-300V, 1000VA	2016-04-06	2017-04-05
Standard lamp	SENSING	12V/10W	SE-529	12V/10W	2016-03-30	2017-03-29
LM-80aging measurement system	KEYI	KY-3X-LH60	SE-564	55, 85, 105℃	2016-04-06	2017-04-05
LED aging pour source	KEYI	ZV-1000S	SE-573	5V1A 60CH	2016-03-28	2017-03-28
DC power supply	ITECH	IT6832	SE-598	30V 3A	2016-06-23	2017-06-22
DC power supply	EVERFINE	WY605	SE-605	DC 60V, 5A	2016-06-23	2017-06-22
Standard lamp	EVERFINE	D062	SE-606	1.5445A	2016-07-02	2017-07-01
Spectrum analyzer	EVERFINE	HAAS-2000	SE-607	380-780nm 1000-100000K	2016-06-23	2017-06-22
Integrating sphere (0.5m)	EVERFINE	AIS-2	SE-608	0.5m	2016-06-23	2017-06-22

2-Summary of Test Result

Data Set	Case Temperature(Ts) °C	Ambient Temperature(Ta)°C	Drive Current (mA)	Average Lumen Maintenance at 6000 hours	Average Chromaticity Shift ($\Delta u'v'$) at 6000 hours
1	54.4	53.6	350	97.98%	0.0023
2	83.9	83.1	350	97.65%	0.0029
3	104.3	103.5	350	97.36%	0.0035



3-Test Method

3.1 Photometric and Electrical Measurement

Total light output (luminous flux) for the $25^{\circ}\text{C}\pm 1^{\circ}\text{C}$ ambient temperature conditions is measured using a integrating sphere. Each LED package is operated at rated drive current(CC Mode).

The total uncertainty of the light output measurements is estimated, at the 95% confidence level, not to exceed $\pm 1.6\%$ over the wavelength range 380-800nm.

3.2 Season the LED Package from 0 hours to 6000 hours

Three LM-80 aging measurement system Temperature Chambers are using for Seasoning, and the temperature is set to 55°C , 85°C , 105°C (manufacture defined) ,the airflow is minimum to keep the uniformity to temperature. LED package are operated steady state (no cycling) for a period of 6000 hours, checked the lumen flux and Chromaticity Shift every 1000 hours. The samples are inspected at regular intervals (24 hours) throughout the 6000 hours. The time and date of failure of each lamp is recorded. The actual elapsed time for each light package is in hour.

4-Data Set 1: 55°C ; 350mA

Description of Light Sources tested :	LY-FE3535(LY-XMDD002)
Case Temperature :	54.4°C
Ambient Temperature :	53.6°C
Drive Current :	350mA
Measure Current :	350mA
Failures Observed :	None

Lumen Maintenance (%)

Sample No.	V _F (V)	Φ(lm)	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs
L1	2.99	135.00	99.70%	99.53%	99.25%	98.50%	98.08%	97.70%
L2	3.00	132.30	99.55%	99.49%	99.39%	98.84%	98.37%	97.72%
L3	2.99	131.50	99.85%	99.63%	99.25%	98.49%	98.13%	98.07%
L4	2.99	134.20	100.07%	99.51%	99.39%	98.89%	98.34%	98.01%
L5	3.00	134.40	99.55%	99.42%	98.83%	98.62%	98.34%	98.07%
L6	3.00	131.20	99.54%	99.35%	99.28%	98.99%	98.11%	98.13%
L7	2.98	133.90	99.85%	99.62%	99.12%	99.00%	98.07%	98.02%
L8	3.00	130.20	99.62%	99.58%	99.11%	98.98%	98.43%	98.09%
L9	2.99	132.80	99.70%	99.21%	99.10%	98.48%	98.53%	97.82%
L10	2.98	135.00	99.70%	99.31%	98.86%	98.81%	98.58%	98.00%
L11	2.98	136.30	99.71%	99.61%	99.18%	98.83%	98.18%	97.73%
L12	2.98	134.80	99.63%	99.28%	99.05%	98.84%	98.55%	98.16%
L13	2.98	134.50	99.93%	99.21%	98.92%	98.50%	98.16%	98.19%
L14	3.00	131.30	99.47%	99.61%	99.12%	98.58%	98.11%	97.89%
L15	3.00	132.20	99.39%	99.57%	99.22%	98.83%	98.43%	97.87%
L16	2.98	135.20	99.70%	99.53%	98.99%	98.71%	98.62%	98.20%
L17	3.00	131.70	99.54%	99.36%	99.19%	98.76%	98.65%	98.06%
L18	2.97	132.50	99.77%	99.59%	99.07%	98.59%	98.37%	97.93%
L19	2.98	135.20	99.56%	99.47%	98.87%	98.89%	98.04%	97.81%
L20	2.98	135.30	99.63%	99.27%	98.87%	98.68%	98.30%	98.02%
L21	2.98	132.30	99.70%	99.56%	99.12%	98.86%	98.13%	98.09%
L22	3.00	133.10	99.70%	99.28%	99.06%	98.47%	98.07%	98.00%
L23	2.99	132.10	99.70%	99.30%	99.40%	98.70%	98.40%	97.79%
L24	2.99	132.20	99.70%	99.41%	99.12%	98.77%	98.23%	98.20%
L25	2.97	134.30	99.70%	99.31%	99.22%	98.95%	98.37%	97.99%
Avg.	2.99	133.34	99.68%	99.44%	99.12%	98.74%	98.30%	97.98%
MIN	2.97	130.20	99.39%	99.21%	98.83%	98.47%	98.04%	97.70%
MAX	3.00	136.30	100.07%	99.63%	99.40%	99.00%	98.65%	98.20%
STDEV	0.0108	1.6284	0.0015	0.0014	0.0017	0.0017	0.0019	0.0015
N	25	25	25	25	25	25	25	25

Description of Light Sources tested :	LY-FE3535(LY-XMDD002)
Case Temperature :	54.4°C
Ambient Temperature :	53.6°C
Drive Current :	350mA
Measure Current :	350mA
Failures Observed :	None

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

Sample No.	u'	v'	CCT(K)	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs
L1	0.2452	0.5288	3083	0.0001	0.0010	0.0015	0.0017	0.0020	0.0020
L2	0.2457	0.5249	3098	0.0002	0.0007	0.0012	0.0017	0.0020	0.0021
L3	0.2453	0.5239	3116	0.0004	0.0010	0.0015	0.0015	0.0021	0.0023
L4	0.2449	0.5263	3108	0.0003	0.0010	0.0015	0.0016	0.0021	0.0027
L5	0.2461	0.5295	3059	0.0002	0.0004	0.0013	0.0015	0.0017	0.0023
L6	0.2454	0.5255	3102	0.0002	0.0005	0.0014	0.0018	0.0020	0.0024
L7	0.2518	0.5378	2880	0.0002	0.0005	0.0014	0.0016	0.0019	0.0021
L8	0.2489	0.5280	3000	0.0003	0.0007	0.0013	0.0018	0.0021	0.0021
L9	0.2455	0.5263	3094	0.0004	0.0004	0.0014	0.0015	0.0019	0.0021
L10	0.2509	0.5364	2907	0.0002	0.0007	0.0014	0.0018	0.0018	0.0024
L11	0.2446	0.5293	3095	0.0003	0.0008	0.0014	0.0016	0.0021	0.0022
L12	0.2452	0.5287	3086	0.0002	0.0005	0.0015	0.0013	0.0019	0.0023
L13	0.2449	0.5275	3100	0.0004	0.0006	0.0011	0.0013	0.0019	0.0025
L14	0.2499	0.5315	2955	0.0001	0.0004	0.0015	0.0016	0.0020	0.0026
L15	0.2444	0.5233	3144	0.0002	0.0005	0.0015	0.0015	0.0017	0.0021
L16	0.2438	0.5238	3154	0.0002	0.0005	0.0012	0.0017	0.0017	0.0025
L17	0.2455	0.5240	3110	0.0004	0.0009	0.0013	0.0016	0.0017	0.0022
L18	0.2467	0.5300	3039	0.0003	0.0009	0.0016	0.0015	0.0017	0.0026
L19	0.2441	0.5254	3136	0.0003	0.0005	0.0011	0.0013	0.0017	0.0025
L20	0.2454	0.5267	3094	0.0003	0.0006	0.0014	0.0016	0.0021	0.0022
L21	0.2450	0.5229	3131	0.0002	0.0009	0.0011	0.0018	0.0021	0.0026
L22	0.2437	0.5277	3130	0.0001	0.0009	0.0016	0.0018	0.0017	0.0024
L23	0.2458	0.5260	3088	0.0002	0.0006	0.0014	0.0013	0.0018	0.0024
L24	0.2459	0.5286	3069	0.0004	0.0005	0.0012	0.0018	0.0020	0.0019
L25	0.2461	0.5306	3052	0.0003	0.0007	0.0014	0.0014	0.0018	0.0019
AV	0.2460	0.5277	3073	0.0003	0.0007	0.0014	0.0016	0.0019	0.0023
MIN	0.2437	0.5229	2880	0.0001	0.0004	0.0011	0.0013	0.0017	0.0019
MAX	0.2518	0.5378	3154	0.0004	0.0010	0.0016	0.0018	0.0021	0.0027
STDEV	0.0021	0.0037	69.6862	0.0001	0.0002	0.0001	0.0002	0.0002	0.0002
N	25	25	25	25	25	25	25	25	25

5-Data Set 2: 85°C; 350mA

Description of Light Sources tested :	LY-FE3535(LY-XMDD002)
Case Temperature :	83.9°C
Ambient Temperature :	83.1°C
Drive Current :	350mA
Measure Current :	350mA
Failures Observed :	None

Lumen Maintenance (%)

Sample No.	V _F (V)	Φ(lm)	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs
L26	2.96	133.90	99.55%	99.15%	98.87%	98.43%	98.03%	97.52%
L27	2.99	132.30	99.32%	99.19%	99.01%	98.53%	97.84%	97.57%
L28	3.00	133.00	99.55%	99.23%	98.80%	98.42%	97.82%	97.63%
L29	2.99	132.20	99.55%	99.38%	98.89%	98.39%	98.10%	97.72%
L30	3.00	132.00	99.77%	99.48%	98.88%	98.29%	98.12%	97.80%
L31	2.99	132.50	99.55%	99.54%	99.09%	98.62%	98.28%	97.86%
L32	2.99	131.20	99.54%	99.46%	98.63%	98.53%	98.04%	97.79%
L33	3.00	132.50	99.40%	99.51%	99.14%	98.63%	98.05%	97.59%
L34	2.99	133.60	99.40%	99.50%	99.03%	98.55%	98.06%	97.79%
L35	3.00	131.40	99.32%	99.25%	99.07%	98.28%	98.26%	97.55%
L36	3.00	131.40	99.24%	99.15%	98.65%	98.24%	97.83%	97.58%
L37	2.97	135.10	99.70%	99.17%	98.76%	98.20%	98.22%	97.71%
L38	3.00	133.50	99.55%	99.32%	98.70%	98.45%	98.06%	97.55%
L39	2.99	133.40	99.55%	99.27%	98.76%	98.47%	98.07%	97.84%
L40	3.00	129.80	99.77%	99.32%	99.05%	98.22%	98.20%	97.54%
L41	2.97	135.10	99.26%	99.28%	98.92%	98.50%	98.24%	97.48%
L42	2.97	133.70	99.78%	99.30%	99.00%	98.42%	98.22%	97.52%
L43	2.99	134.30	99.33%	99.35%	99.08%	98.31%	98.21%	97.79%
L44	2.98	134.80	99.55%	99.35%	98.72%	98.52%	98.24%	97.46%
L45	2.98	136.10	99.34%	99.12%	99.08%	98.55%	98.14%	97.46%
L46	2.97	133.30	99.32%	99.23%	99.07%	98.37%	97.81%	97.81%
L47	3.00	133.80	99.55%	99.35%	99.08%	98.38%	98.01%	97.44%
L48	3.00	131.60	99.39%	99.51%	98.75%	98.42%	97.86%	97.82%
L49	2.99	132.80	99.62%	99.27%	98.91%	98.63%	98.14%	97.70%
L50	2.98	135.50	99.26%	99.20%	98.95%	98.22%	98.15%	97.79%
Avg.	2.99	133.15	99.49%	99.31%	98.92%	98.42%	98.08%	97.65%
MIN	2.96	129.80	99.24%	99.12%	98.63%	98.20%	97.81%	97.44%
MAX	3.00	136.10	99.78%	99.54%	99.14%	98.63%	98.28%	97.86%
STDEV	0.0123	1.5147	0.0017	0.0013	0.0016	0.0013	0.0015	0.0014
N	25	25	25	25	25	25	25	25

Description of Light Sources tested :	LY-FE3535(LY-XMDD002)
Case Temperature :	83.9℃
Ambient Temperature :	83.1℃
Drive Current :	350mA
Measure Current :	350mA
Failures Observed :	None

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

Sample No.	u'	v'	CCT(K)	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs
L26	0.2468	0.5304	3034	0.0005	0.0008	0.0016	0.0022	0.0025	0.0028
L27	0.2451	0.5257	3108	0.0004	0.0007	0.0021	0.0017	0.0024	0.0031
L28	0.2450	0.5268	3103	0.0004	0.0011	0.0016	0.0021	0.0025	0.0028
L29	0.2452	0.5244	3116	0.0004	0.0011	0.0020	0.0020	0.0025	0.0029
L30	0.2445	0.5247	3131	0.0005	0.0011	0.0020	0.0021	0.0027	0.0028
L31	0.2461	0.5272	3072	0.0005	0.0009	0.0017	0.0018	0.0023	0.0032
L32	0.2517	0.5377	2883	0.0004	0.0008	0.0018	0.0018	0.0028	0.0029
L33	0.2452	0.5244	3115	0.0006	0.0011	0.0021	0.0023	0.0023	0.0029
L34	0.2515	0.5346	2903	0.0005	0.0010	0.0017	0.0022	0.0027	0.0030
L35	0.2466	0.5258	3069	0.0005	0.0011	0.0016	0.0022	0.0026	0.0029
L36	0.2431	0.5197	3204	0.0007	0.0008	0.0018	0.0018	0.0028	0.0028
L37	0.2452	0.5287	3084	0.0005	0.0009	0.0020	0.0022	0.0026	0.0027
L38	0.2438	0.5216	3171	0.0005	0.0013	0.0019	0.0023	0.0027	0.0028
L39	0.2448	0.5258	3115	0.0007	0.0011	0.0018	0.0022	0.0023	0.0029
L40	0.2526	0.5347	2879	0.0006	0.0007	0.0018	0.0020	0.0024	0.0030
L41	0.2452	0.5294	3081	0.0006	0.0010	0.0017	0.0018	0.0023	0.0030
L42	0.2448	0.5324	3070	0.0007	0.0008	0.0019	0.0020	0.0029	0.0032
L43	0.2444	0.5231	3145	0.0005	0.0011	0.0016	0.0017	0.0023	0.0030
L44	0.2453	0.5257	3102	0.0004	0.0011	0.0019	0.0020	0.0026	0.0031
L45	0.2444	0.5301	3096	0.0003	0.0010	0.0020	0.0020	0.0023	0.0028
L46	0.2453	0.5278	3088	0.0004	0.0012	0.0018	0.0018	0.0028	0.0030
L47	0.2450	0.5233	3128	0.0004	0.0008	0.0021	0.0023	0.0028	0.0031
L48	0.2494	0.5320	2965	0.0005	0.0013	0.0022	0.0021	0.0023	0.0031
L49	0.2463	0.5273	3067	0.0005	0.0013	0.0020	0.0021	0.0027	0.0029
L50	0.2453	0.5282	3086	0.0005	0.0006	0.0021	0.0018	0.0024	0.0029
AV	0.2461	0.5277	3073	0.0005	0.0010	0.0019	0.0020	0.0025	0.0029
MIN	0.2431	0.5197	2879	0.0003	0.0006	0.0016	0.0017	0.0023	0.0027
MAX	0.2526	0.5377	3204	0.0007	0.0013	0.0022	0.0023	0.0029	0.0032
STDEV	0.0025	0.0043	82.5803	0.0001	0.0002	0.0002	0.0002	0.0002	0.0001
N	25	25	25	25	25	25	25	25	25

6-Data Set 3: 105°C; 350mA

Description of Light Sources tested :	LY-FE3535(LY-XMDD002)
Case Temperature :	104.3°C
Ambient Temperature :	103.5°C
Drive Current :	350mA
Measure Current :	350mA
Failures Observed :	None

Lumen Maintenance (%)

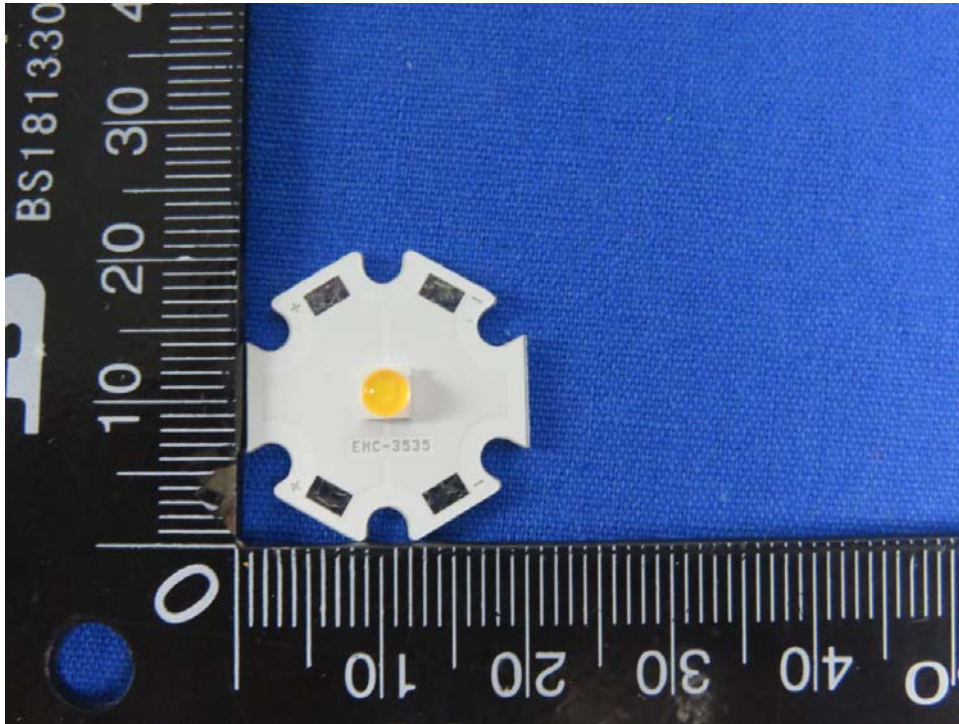
Sample No.	V _F (V)	Φ(lm)	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs
L51	2.97	132.90	99.10%	98.81%	98.20%	98.08%	97.94%	97.28%
L52	2.98	129.70	99.00%	98.96%	98.57%	98.23%	97.99%	97.51%
L53	2.99	132.20	99.24%	98.75%	98.41%	98.33%	97.94%	97.35%
L54	2.97	133.10	99.32%	98.94%	98.54%	98.26%	97.99%	97.36%
L55	2.97	134.50	99.41%	99.03%	98.69%	98.29%	97.83%	97.23%
L56	2.97	132.70	99.40%	98.83%	98.61%	98.28%	97.70%	97.31%
L57	2.99	131.10	99.54%	99.05%	98.56%	98.18%	97.66%	97.58%
L58	2.97	134.60	99.11%	98.80%	98.46%	98.06%	97.60%	97.18%
L59	2.97	134.70	99.03%	99.14%	98.33%	98.16%	98.00%	97.38%
L60	2.99	133.50	99.03%	98.97%	98.75%	98.23%	97.68%	97.43%
L61	2.99	131.70	99.09%	98.79%	98.65%	98.32%	97.53%	97.51%
L62	2.98	135.20	99.26%	98.90%	98.23%	98.13%	97.68%	97.16%
L63	2.99	134.20	99.25%	98.82%	98.38%	98.28%	97.61%	97.35%
L64	3.00	131.70	99.24%	99.09%	98.46%	98.02%	97.82%	97.29%
L65	3.00	131.40	99.24%	98.88%	98.16%	97.98%	97.59%	97.22%
L66	2.97	133.10	99.25%	98.86%	98.24%	98.21%	97.99%	97.59%
L67	2.97	133.80	99.33%	98.89%	98.63%	97.93%	97.79%	97.36%
L68	2.98	136.50	99.05%	98.73%	98.52%	98.13%	97.62%	97.28%
L69	2.97	135.20	99.19%	99.00%	98.67%	98.12%	97.58%	97.43%
L70	2.97	130.80	99.01%	98.96%	98.33%	98.39%	97.59%	97.58%
L71	2.98	132.10	99.39%	99.13%	98.49%	98.12%	97.81%	97.19%
L72	2.97	135.30	99.33%	98.74%	98.64%	97.91%	97.52%	97.45%
L73	2.99	129.80	99.15%	98.81%	98.17%	98.27%	97.95%	97.25%
L74	2.99	131.70	99.01%	99.07%	98.40%	98.14%	97.98%	97.51%
L75	2.98	134.00	98.96%	99.04%	98.27%	98.06%	97.89%	97.13%
Avg.	2.98	133.02	99.20%	98.92%	98.46%	98.16%	97.77%	97.36%
MIN	2.97	129.70	98.96%	98.73%	98.16%	97.91%	97.52%	97.13%
MAX	3.00	136.50	99.54%	99.14%	98.75%	98.39%	98.00%	97.59%
STDEV	0.0101	1.7914	0.0016	0.0012	0.0018	0.0013	0.0017	0.0014
N	25	25	25	25	25	25	25	25

Description of Light Sources tested :	LY-FE3535(LY-XMDD002)
Case Temperature :	104.3°C
Ambient Temperature :	103.5°C
Drive Current :	350mA
Measure Current :	350mA
Failures Observed :	None

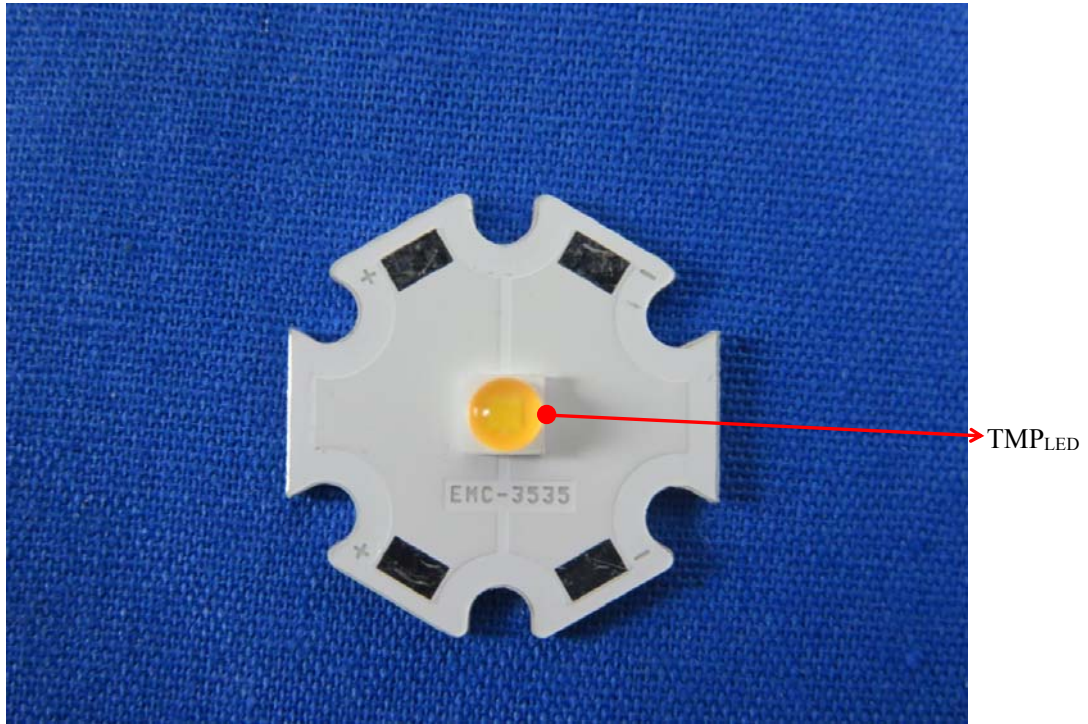
Chromaticity Shift ($\Delta u'v'$)

Sample No.	u'	v'	CCT(K)	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs
L51	0.2452	0.5238	3119	0.0008	0.0012	0.0019	0.0027	0.0032	0.0036
L52	0.2486	0.5332	2976	0.0007	0.0012	0.0021	0.0025	0.0031	0.0037
L53	0.2444	0.5266	3119	0.0007	0.0012	0.0018	0.0021	0.0032	0.0033
L54	0.2435	0.5224	3172	0.0008	0.0014	0.0019	0.0023	0.0028	0.0032
L55	0.2508	0.5373	2905	0.0006	0.0010	0.0025	0.0025	0.0029	0.0035
L56	0.2448	0.5265	3111	0.0007	0.0011	0.0022	0.0028	0.0030	0.0033
L57	0.2445	0.5248	3130	0.0006	0.0013	0.0019	0.0025	0.0028	0.0038
L58	0.2458	0.5263	3087	0.0008	0.0012	0.0017	0.0024	0.0028	0.0035
L59	0.2445	0.5272	3113	0.0008	0.0010	0.0022	0.0023	0.0027	0.0032
L60	0.2444	0.5238	3139	0.0005	0.0012	0.0021	0.0028	0.0029	0.0030
L61	0.2458	0.5261	3089	0.0008	0.0017	0.0021	0.0022	0.0028	0.0030
L62	0.2449	0.5302	3082	0.0007	0.0016	0.0021	0.0026	0.0029	0.0035
L63	0.2472	0.5274	3043	0.0006	0.0016	0.0024	0.0025	0.0032	0.0038
L64	0.2452	0.5283	3089	0.0007	0.0012	0.0023	0.0025	0.0028	0.0036
L65	0.2453	0.5246	3112	0.0008	0.0013	0.0021	0.0021	0.0030	0.0034
L66	0.2451	0.5259	3106	0.0008	0.0010	0.0019	0.0026	0.0032	0.0037
L67	0.2438	0.5231	3161	0.0009	0.0013	0.0023	0.0024	0.0031	0.0032
L68	0.2460	0.5318	3045	0.0009	0.0013	0.0020	0.0027	0.0027	0.0037
L69	0.2457	0.5308	3059	0.0005	0.0017	0.0022	0.0022	0.0033	0.0032
L70	0.2469	0.5234	3078	0.0007	0.0013	0.0024	0.0023	0.0027	0.0035
L71	0.2446	0.5248	3127	0.0007	0.0016	0.0019	0.0028	0.0031	0.0031
L72	0.2442	0.5284	3111	0.0008	0.0012	0.0021	0.0026	0.0026	0.0036
L73	0.2495	0.5280	2985	0.0009	0.0016	0.0018	0.0027	0.0026	0.0035
L74	0.2457	0.5277	3080	0.0007	0.0014	0.0018	0.0023	0.0031	0.0037
L75	0.2442	0.5261	3127	0.0008	0.0017	0.0017	0.0021	0.0031	0.0035
AV	0.2456	0.5271	3086.6	0.0007	0.0013	0.0021	0.0025	0.0029	0.0035
MIN	0.2435	0.5224	2905	0.0005	0.0010	0.0017	0.0021	0.0026	0.0030
MAX	0.2508	0.5373	3172	0.0009	0.0017	0.0025	0.0028	0.0033	0.0038
STDEV	0.0018	0.0035	59.7941	0.0001	0.0002	0.0002	0.0002	0.0002	0.0002
N	25	25	25	25	25	25	25	25	25

7-EUT Photos



8-TMP



Attachment A – TM-21 Report

Table 1: Report at each LM-80 Test Condition					
Description of LED Light Source Tested (manufacturer, model, catalog number)		SHENZHEN LEPOWER OPTO ELECTRONICS CORP.,LTD LYFE3535(LY-XMDD002)			
Test Condition 1 - 55°C Case Temp		Test Condition 2 - 85°C Case Temp		Test Condition 3 - 105°C Case Temp	
Sample size	25	Sample size	25	Sample size	25
Number of failures	0	Number of failures	0	Number of failures	0
DUT drive current used in the test (mA)	350	DUT drive current used in the test (mA)	350	DUT drive current used in the test (mA)	350
Test duration (hours)	6,000	Test duration (hours)	6,000	Test duration (hours)	6,000
Test duration used for projection (hour to hour)	1,000 - 6,000	Test duration used for projection (hour to hour)	1,000 - 6,000	Test duration used for projection (hour to hour)	1,000 - 6,000
Tested case temperature (°C)	55	Tested case temperature (°C)	85	Tested case temperature (°C)	105
α	3.555E-06	α	3.880E-06	α	3.764E-06
B	1.001	B	1.000	B	0.996
Reported L70(6k) (hours)	>36000	Reported L70(6k) (hours)	>36000	Reported L70(6k) (hours)	>36000

---End of report---