



ANSI/IES LM-80-15

Measurement and Test Report
For

Shenzhen Hao Bing Photoelectricity Technology Co.,Ltd
NO.1 Building,3 rd Industrial Zone,Shiyan Town,Bao' an District,Shenzhen,China

Report No: DER200024027716

Model No: FOB-08xxxxPxx-xxx

Date of Receiving Sample : Feb. 18, 2019

Test Duration : Feb. 20, 2019 to April 3, 2020

Date of issue: April 28, 2020

Tested By: Michael Pan *Michael Pan*

Reviewed By: Eagle Hao *Eagle Hao*

Prepared By: Shenzhen De-Testing Detection Co.,Ltd.
3/F., Building 4, 3rd Industrial Zone, Tangtou, Shiyan, Bao'an
District, Shenzhen, Guangdong, China
Tel: 86-755-2955 8752



Note: 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 used in part without prior written consent from Shenzhen De-Testing Detection Co., Ltd. This report is valid only with a valid digital signature.



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1-GENERAL INFORMATION

1.1 Product Description for Equipment under Test (EUT)

Applicant :	Shenzhen Hao Bing Photoelectricity Technology Co.,Ltd
Model Number :	FOB-08xxxxPxx-xxx
Part Type:	FCOB LED STRIP
Serial number:	DC 24V 7W
Size:	500*8mm
Nominal CCT:	2700K
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 9000 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 9000 hours test.



1.2 Standards Used:

ANSI/IES LM-80-15: IES Approved Method for Measuring Lumen Maintenance of LED Light Sources

ENERGY STAR® Program Guidance Regarding LED Package, LED Array and LED Module Lumen Maintenance Performance Data Supporting Qualification of Lighting Products.

1.3 Test Facility Description

The test facility used by Shenzhen De-Testing Detection Co., Ltd is located at

3/F., Building 4, 3rd Industrial Zone, Tangtou, Shiyan, Bao'an District, Shenzhen, Guangdong, China.

1.4 Model list

Series models FOB-08xxxxPxx-xxx ,

The first "x" can be "L, M, H or Q" which denote CRI, $L \geq 70$, $M \geq 80$, $H \geq 9$, $Q \geq 95$;

The second to fourth "xxx" 27M, 30M, 40M, 50M or 65M" which denote colour temperature, 27M=2700K, 30M=3000K, 40M=4000K, 50M=5000K, 65M=6500K;

The fifth to sixth "xx" which denote power;

The seventh to ninth "xxx" can be "240D", which denote the qty. of LED chip per 0.5 meter..

1.5 Tests performed

Unless otherwise specified, all the tests are performed on the main model FOB-08M27MP07-240.



2-Summary of Test Result

Data Set	Case Temperature(Ts) °C	Ambient Temperature(Ta)°C	Drive voltage (DC V)	Average Lumen Maintenance at 9000 hours	Average Chromaticity Shift ($\Delta u'v'$) at 9000 hours
1	54.9	51.5	24	98.66%	0.0023
2	84.7	82.3	24	98.09%	0.0024
3	104.9	103.1	24	97.22%	0.0025

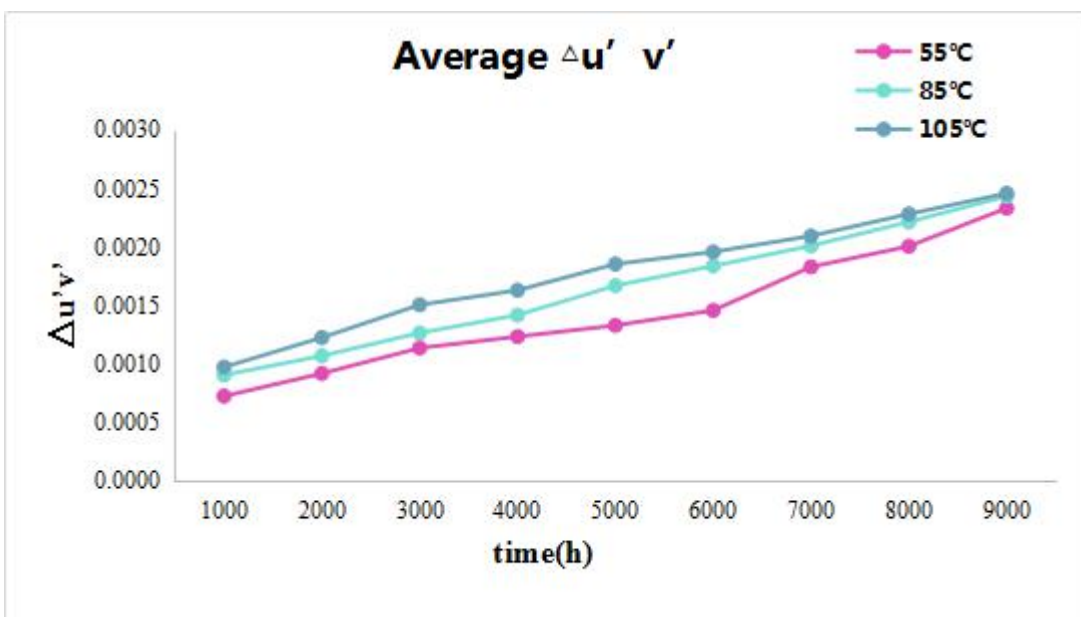
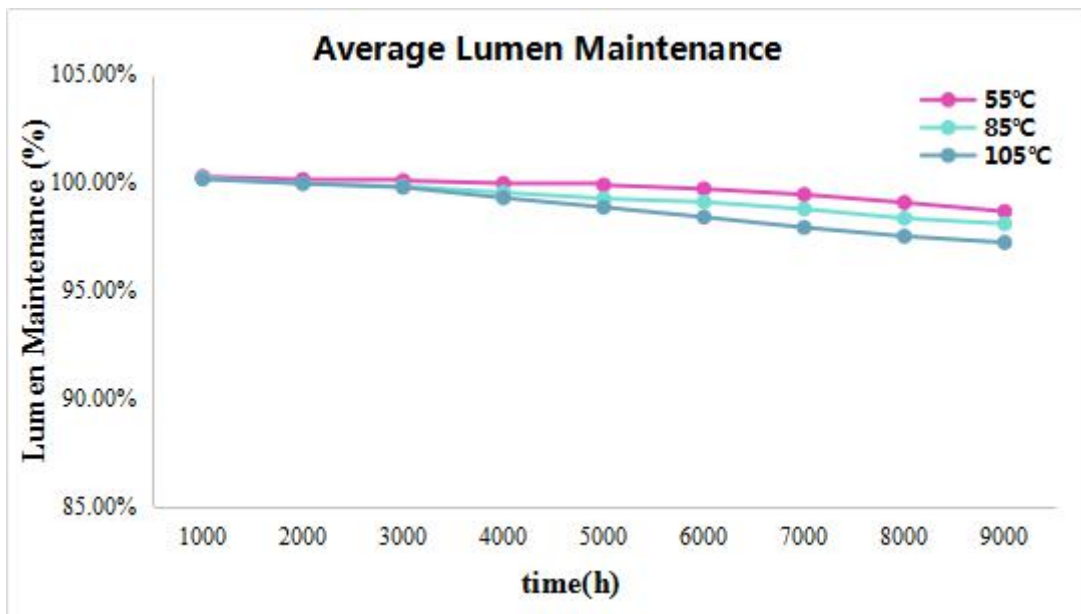




Table 1: Report at each LM-80 Test Condition					
Description of LED Light Source Tested (manufacturer, model, catalog number)		Shenzhen Hao Bing Photoelectricity Technology Co.,Ltd FOB-08M27MP07-240			
Test Condition 1 - 55° C Case Temp		Test Condition 2 - 85° C Case Temp		Test Condition 3 - 105° C 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)	291	DUT drive current used in the test (mA)	291	DUT drive current used in the test (mA)	291
Test duration (hours)	9,000	Test duration (hours)	9,000	Test duration (hours)	9,000
Test duration used for projection (hour to hour)	4,000 - 9,000	Test duration used for projection (hour to hour)	4,000 - 9,000	Test duration used for projection (hour to hour)	4,000 - 9,000
Tested case temperature (° C)	55	Tested case temperature (° C)	85	Tested case temperature (° C)	105
α	2.643E-06	α	2.981E-06	α	4.319E-06
B	1.012	B	1.008	B	1.010
Reported L70(9k) (hours)	>54000	Reported L70(9k) (hours)	>54000	Reported L70(9k) (hours)	>54000



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 an 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 9000 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 9000 hours, checked the lumen flux and Chromaticity Shift every 1000 hours. The samples are inspected at regular intervals (24 hours) throughout the 9000 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;DC24V

Description of Light Sources tested :	FOB-08M27MP07-240
Case Temperature :	54.9°C
Ambient Temperature :	51.5°C
Drive voltage :	DC24V
Measure voltage :	DC24V
Failures Observed :	None

Lumen Maintenance (%)											
Sample No.	I _F (A)	Φ(lm)	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs
L1	0.2909	620.2	100.29%	100.12%	100.08%	99.93%	99.85%	99.75%	99.46%	99.12%	98.75%
L2	0.2912	621.3	100.26%	100.13%	100.06%	99.98%	99.92%	99.76%	99.58%	99.10%	98.99%
L3	0.2908	633.2	100.33%	100.12%	100.05%	99.92%	99.85%	99.80%	99.65%	99.06%	98.85%
L4	0.2907	632.5	100.28%	100.10%	100.09%	99.90%	99.80%	99.73%	99.32%	99.01%	98.90%
L5	0.2911	636.5	100.37%	100.15%	100.02%	99.96%	99.75%	99.56%	99.40%	99.10%	98.55%
L6	0.2916	623.4	100.27%	100.10%	100.03%	99.92%	99.85%	99.82%	99.75%	99.01%	98.96%
L7	0.2915	624.9	100.29%	100.20%	100.02%	99.99%	99.98%	99.68%	99.56%	99.23%	98.54%
L8	0.2907	628.2	100.29%	100.21%	100.11%	100.02%	99.87%	99.67%	99.54%	99.00%	98.50%
L9	0.2901	621.3	100.27%	100.20%	100.12%	100.06%	99.88%	99.82%	99.70%	99.15%	98.48%
L10	0.2904	627.6	100.22%	100.17%	100.09%	99.84%	99.89%	99.58%	99.00%	99.12%	98.40%
L11	0.2903	629.8	100.19%	100.16%	100.13%	99.93%	99.89%	99.54%	99.23%	99.18%	98.44%
L12	0.2904	620.1	100.24%	100.15%	100.11%	99.92%	99.89%	99.63%	99.24%	99.12%	98.26%
L13	0.2913	619.5	100.13%	100.13%	100.09%	99.90%	99.90%	99.68%	99.13%	99.00%	98.56%
L14	0.2914	628.4	100.28%	100.11%	100.08%	99.96%	99.91%	99.72%	99.08%	98.89%	98.59%
L15	0.2915	617.3	100.20%	100.12%	100.08%	99.92%	99.91%	99.58%	99.02%	98.82%	98.59%
L16	0.2914	622.5	100.47%	100.12%	100.09%	99.98%	99.92%	99.72%	99.65%	99.05%	98.32%
L17	0.2913	625.1	100.32%	100.18%	100.13%	99.98%	99.93%	99.75%	99.25%	99.03%	98.85%
L18	0.2916	628.7	100.18%	100.14%	100.12%	99.89%	99.80%	99.68%	99.50%	99.22%	98.88%
L19	0.2904	626.8	100.32%	100.15%	100.10%	100.02%	99.98%	99.64%	99.58%	99.08%	98.99%
L20	0.2907	618.8	100.49%	100.12%	100.10%	100.03%	99.96%	99.78%	99.49%	99.12%	98.86%
L21	0.2906	617.3	100.32%	100.12%	100.09%	99.98%	99.93%	99.69%	99.59%	99.18%	98.56%
L22	0.2909	618.2	100.33%	100.13%	100.10%	99.99%	99.89%	99.85%	99.82%	99.13%	98.53%
L23	0.2908	617.3	100.12%	100.13%	100.13%	100.00%	99.92%	99.75%	99.60%	99.15%	98.59%
L24	0.2913	619.5	100.16%	100.12%	100.08%	100.01%	99.85%	99.82%	99.35%	98.89%	98.82%
L25	0.2906	618.3	100.18%	100.12%	100.07%	100.01%	99.75%	99.60%	99.55%	98.99%	98.70%
Avg.	0.291	623.87	100.27%	100.14%	100.09%	99.96%	99.88%	99.70%	99.44%	99.07%	98.66%
Min.	0.290	617.30	100.12%	100.10%	100.02%	99.84%	99.75%	99.54%	99.00%	98.82%	98.26%
Max.	0.292	636.50	100.49%	100.21%	100.13%	100.06%	99.98%	99.85%	99.82%	99.23%	98.99%
STDEV.	0.0004	5.5656	0.0009	0.0003	0.0003	0.0005	0.0006	0.0009	0.0023	0.0010	0.0021
N	25	25	25	25	25	25	25	25	25	25	25



Description of Light Sources tested :	FOB-08M27MP07-240
Case Temperature :	54.9℃
Ambient Temperature :	51.5℃
Drive voltage :	DC24V
Measure voltage :	DC24V
Failures Observed :	None

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

Sample No.	u'	v'	CCT(K)	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs
L1	0.2572	0.5203	2761	0.0008	0.0010	0.0014	0.0015	0.0014	0.0015	0.0021	0.0019	0.0027
L2	0.2510	0.5207	2721	0.0008	0.0011	0.0009	0.0015	0.0013	0.0017	0.0016	0.0023	0.0028
L3	0.2514	0.5204	2717	0.0007	0.0012	0.0012	0.0015	0.0011	0.0018	0.0019	0.0023	0.0027
L4	0.2513	0.5209	2818	0.0008	0.0010	0.0014	0.0010	0.0012	0.0012	0.0021	0.0022	0.0024
L5	0.2532	0.5212	2798	0.0006	0.0010	0.0013	0.0012	0.0014	0.0015	0.0020	0.0022	0.0023
L6	0.2515	0.5201	2816	0.0008	0.0007	0.0010	0.0014	0.0011	0.0014	0.0019	0.0022	0.0020
L7	0.2598	0.5206	2734	0.0007	0.0011	0.0013	0.0011	0.0012	0.0013	0.0022	0.0023	0.0026
L8	0.2595	0.5201	2836	0.0006	0.0011	0.0010	0.0010	0.0017	0.0014	0.0018	0.0022	0.0022
L9	0.2506	0.5206	2826	0.0005	0.0007	0.0009	0.0013	0.0016	0.0014	0.0017	0.0024	0.0018
L10	0.2599	0.5207	2733	0.0008	0.0008	0.0014	0.0012	0.0012	0.0014	0.0019	0.0023	0.0022
L11	0.2502	0.5208	2830	0.0008	0.0010	0.0014	0.0011	0.0013	0.0012	0.0019	0.0024	0.0028
L12	0.2597	0.5299	2735	0.0009	0.0011	0.0011	0.0012	0.0015	0.0017	0.0017	0.0021	0.0025
L13	0.2589	0.5296	2743	0.0006	0.0007	0.0013	0.0013	0.0011	0.0014	0.0018	0.0021	0.0026
L14	0.2591	0.5200	2741	0.0006	0.0008	0.0012	0.0014	0.0011	0.0018	0.0016	0.0020	0.0027
L15	0.2503	0.5208	2728	0.0008	0.0011	0.0010	0.0013	0.0016	0.0016	0.0021	0.0023	0.0020
L16	0.2599	0.5205	2733	0.0009	0.0010	0.0012	0.0012	0.0014	0.0016	0.0022	0.0019	0.0027
L17	0.2525	0.5212	2806	0.0006	0.0008	0.0011	0.0012	0.0013	0.0019	0.0019	0.0018	0.0025
L18	0.2597	0.5203	2735	0.0007	0.0010	0.0010	0.0010	0.0014	0.0019	0.0020	0.0019	0.0027
L19	0.2505	0.5202	2827	0.0006	0.0008	0.0009	0.0014	0.0014	0.0014	0.0021	0.0018	0.0021
L20	0.2587	0.5207	2745	0.0007	0.0009	0.0010	0.0013	0.0014	0.0017	0.0016	0.0022	0.0024
L21	0.2586	0.5297	2847	0.0006	0.0011	0.0012	0.0013	0.0016	0.0008	0.0013	0.0012	0.0021
L22	0.2504	0.5298	2727	0.0007	0.0009	0.0008	0.0015	0.0018	0.0018	0.0022	0.0009	0.0020
L23	0.2506	0.5202	2725	0.0009	0.0001	0.0013	0.0006	0.0017	0.0006	0.0013	0.0012	0.0019
L24	0.2515	0.5298	2817	0.0008	0.0008	0.0009	0.0008	0.0009	0.0009	0.0013	0.0019	0.0019
L25	0.2596	0.5203	2835	0.0009	0.0012	0.0013	0.0016	0.0006	0.0016	0.0016	0.0022	0.0018
Avg.	0.2550	0.5224	2773	0.0007	0.0009	0.0011	0.0012	0.0013	0.0015	0.0018	0.0020	0.0023
Min.	0.2502	0.5200	2717	0.0005	0.0001	0.0008	0.0006	0.0006	0.0006	0.0013	0.0009	0.0018
Max.	0.2599	0.5299	2847	0.0009	0.0012	0.0014	0.0016	0.0018	0.0019	0.0022	0.0024	0.0028
STDEV.	0.0042	0.0038	46.7840	0.0001	0.0002	0.0002	0.0002	0.0003	0.0003	0.0003	0.0004	0.0003
N	25	25	25	25	25	25	25	25	25	25	25	25



5-Data Set 2: 85°C;DC24V

Description of Light Sources tested :	FOB-08M27MP07-240
Case Temperature :	84.7°C
Ambient Temperature :	82.3°C
Drive voltage :	DC24V
Measure voltage :	DC24V
Failures Observed :	None

Lumen Maintenance (%)											
Sample No.	I _F (A)	Φ(lm)	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs
L26	0.2936	617.3	100.15%	99.99%	99.92%	99.51%	99.23%	99.01%	98.85%	98.50%	98.20%
L27	0.2939	618.2	100.26%	99.94%	99.83%	99.45%	99.16%	99.08%	98.89%	98.20%	97.99%
L28	0.2998	617.3	100.33%	99.95%	99.87%	99.50%	99.24%	99.05%	98.82%	98.72%	98.22%
L29	0.2913	619.5	100.03%	99.98%	99.79%	99.63%	99.22%	99.11%	98.88%	98.25%	98.09%
L30	0.2936	618.3	100.37%	99.99%	99.78%	99.62%	99.16%	99.08%	98.82%	98.23%	98.00%
L31	0.2997	622.5	100.27%	99.97%	99.88%	99.45%	99.18%	99.09%	98.56%	98.35%	98.12%
L32	0.2941	626.5	100.29%	99.99%	99.84%	99.67%	99.13%	99.06%	98.88%	98.32%	97.96%
L33	0.3006	623.4	100.29%	99.94%	99.79%	99.54%	99.25%	99.10%	98.99%	98.30%	97.95%
L34	0.2999	620.2	100.07%	99.95%	99.76%	99.55%	99.34%	99.10%	98.22%	98.26%	98.07%
L35	0.2942	621.3	100.12%	99.94%	99.91%	99.50%	99.21%	99.01%	98.55%	98.24%	98.12%
L36	0.2998	623.2	100.19%	99.99%	99.79%	99.56%	99.20%	99.06%	98.78%	98.22%	98.06%
L37	0.2946	628.7	100.07%	99.99%	99.72%	99.47%	99.38%	99.03%	98.65%	98.20%	97.89%
L38	0.2934	626.8	100.13%	99.99%	99.75%	99.55%	99.25%	99.07%	98.78%	98.22%	98.05%
L39	0.2997	621.8	100.07%	99.99%	99.91%	99.53%	99.32%	99.11%	98.60%	98.46%	98.22%
L40	0.3005	624.9	100.20%	99.94%	99.77%	99.46%	99.18%	99.08%	98.88%	98.47%	98.13%
L41	0.2937	618.2	100.47%	99.94%	99.92%	99.41%	99.00%	99.08%	98.57%	98.37%	98.12%
L42	0.2991	621.3	100.32%	99.96%	99.76%	99.64%	99.22%	99.15%	98.82%	98.62%	98.23%
L43	0.2934	627.6	100.18%	99.96%	99.81%	99.55%	99.55%	99.16%	98.93%	98.56%	98.12%
L44	0.2993	629.8	100.32%	99.94%	99.78%	99.45%	99.23%	99.18%	98.86%	98.23%	98.10%
L45	0.2994	620.1	100.49%	99.98%	99.90%	99.56%	99.22%	99.06%	98.54%	98.10%	97.99%
L46	0.3003	619.5	100.03%	99.89%	99.80%	99.58%	99.28%	99.18%	98.80%	98.54%	98.20%
L47	0.3004	620.4	100.04%	99.97%	99.79%	99.59%	99.22%	99.17%	98.75%	98.23%	98.10%
L48	0.2945	629.3	100.12%	99.86%	99.82%	99.60%	99.18%	99.12%	98.88%	98.15%	98.12%
L49	0.2944	624.5	100.16%	99.96%	99.83%	99.48%	99.15%	99.18%	98.99%	98.23%	98.08%
L50	0.3003	627.1	100.18%	99.88%	99.88%	99.53%	99.87%	99.16%	98.92%	98.55%	98.09%
Avg.	0.297	622.71	100.21%	99.96%	99.82%	99.54%	99.25%	99.10%	98.77%	98.34%	98.09%
Min.	0.291	617.30	100.03%	99.86%	99.72%	99.41%	99.00%	99.01%	98.22%	98.10%	97.89%
Max.	0.301	629.80	100.49%	99.99%	99.92%	99.67%	99.87%	99.18%	98.99%	98.72%	98.23%
STDEV.	0.0032	3.9536	0.0013	0.0004	0.0006	0.0007	0.0016	0.0005	0.0018	0.0017	0.0009
N	25	25	25	25	25	25	25	25	25	25	25



Description of Light Sources tested :	FOB-08M27MP07-240
Case Temperature :	84.7°C
Ambient Temperature :	82.3°C
Drive voltage :	DC24V
Measure voltage :	DC24V
Failures Observed :	None

Chromaticity Shift ($\Delta u'v'$)												
Sample No.	u'	v'	CCT(K)	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs
L26	0.2596	0.5307	2820	0.0008	0.0010	0.0015	0.0015	0.0021	0.0017	0.0018	0.0020	0.0023
L27	0.2514	0.5308	2800	0.0011	0.0007	0.0011	0.0012	0.0017	0.0019	0.0021	0.0024	0.0025
L28	0.2516	0.5212	2798	0.0007	0.0009	0.0016	0.0017	0.0014	0.0018	0.0021	0.0021	0.0026
L29	0.2525	0.5308	2790	0.0011	0.0016	0.0015	0.0014	0.0015	0.0016	0.0022	0.0025	0.0025
L30	0.2606	0.5213	2808	0.0008	0.0007	0.0012	0.0018	0.0016	0.0019	0.0021	0.0022	0.0025
L31	0.2523	0.5219	2791	0.0011	0.0009	0.0011	0.0017	0.0018	0.0020	0.0021	0.0024	0.0024
L32	0.2542	0.5222	2771	0.0007	0.0008	0.0017	0.0015	0.0014	0.0021	0.0021	0.0023	0.0025
L33	0.2525	0.5211	2789	0.0015	0.0016	0.0018	0.0012	0.0018	0.0021	0.0023	0.0024	0.0024
L34	0.2582	0.5213	2834	0.0007	0.0013	0.0013	0.0011	0.0014	0.0020	0.0021	0.0021	0.0026
L35	0.252	0.5217	2794	0.0008	0.0009	0.0013	0.0015	0.0014	0.0018	0.0020	0.0024	0.0025
L36	0.2524	0.5214	2790	0.0008	0.0009	0.0013	0.0014	0.0015	0.0015	0.0018	0.0023	0.0025
L37	0.2607	0.5213	2808	0.0007	0.0011	0.0010	0.0011	0.0017	0.0019	0.0023	0.0021	0.0026
L38	0.2515	0.5212	2800	0.0010	0.0009	0.0015	0.0012	0.0017	0.0019	0.0019	0.0021	0.0023
L39	0.2597	0.5217	2818	0.0010	0.0010	0.0013	0.0017	0.0018	0.0019	0.0019	0.0024	0.0023
L40	0.2608	0.5216	2807	0.0011	0.0016	0.0013	0.0015	0.0021	0.0022	0.0018	0.0022	0.0023
L41	0.2605	0.5211	2809	0.0008	0.0010	0.0011	0.0014	0.0022	0.0021	0.0021	0.0025	0.0026
L42	0.2516	0.5216	2799	0.0008	0.0010	0.0011	0.0012	0.0016	0.0017	0.0019	0.0020	0.0023
L43	0.2609	0.5217	2806	0.0009	0.0006	0.0011	0.0018	0.0016	0.0017	0.0021	0.0022	0.0025
L44	0.2512	0.5218	2803	0.0008	0.0014	0.0013	0.0017	0.0018	0.0018	0.0021	0.0021	0.0023
L45	0.2607	0.5309	2808	0.0009	0.0010	0.0011	0.0011	0.0015	0.0017	0.0018	0.0022	0.0024
L46	0.2599	0.5306	2816	0.0007	0.0013	0.0012	0.0016	0.0017	0.0018	0.0021	0.0022	0.0024
L47	0.2601	0.521	2814	0.0008	0.0016	0.0012	0.0012	0.0015	0.0016	0.0018	0.0020	0.0022
L48	0.2513	0.5218	2801	0.0006	0.0009	0.0010	0.0011	0.0018	0.0019	0.0019	0.0022	0.0026
L49	0.2609	0.5215	2806	0.0012	0.0006	0.0012	0.0013	0.0015	0.0016	0.0018	0.0019	0.0026
L50	0.2535	0.5222	2779	0.0013	0.0015	0.0009	0.0016	0.0017	0.0018	0.0021	0.0022	0.0022
Avg.	0.2560	0.5234	2802	0.0009	0.0011	0.0013	0.0014	0.0017	0.0018	0.0020	0.0022	0.0024
Min.	0.2512	0.5210	2771	0.0006	0.0006	0.0009	0.0011	0.0014	0.0015	0.0018	0.0019	0.0022
Max.	0.2609	0.5309	2834	0.0015	0.0016	0.0018	0.0018	0.0022	0.0022	0.0023	0.0025	0.0026
STDEV.	0.0042	0.0038	13.4191	0.0002	0.0003	0.0002	0.0002	0.0002	0.0002	0.0002	0.0002	0.0001
N	25	25	25	25	25	25	25	25	25	25	25	25



6-Data Set 3:105°C;DC24V

Description of Light Sources tested :	FOB-08M27MP07-240
Case Temperature :	104.9°C
Ambient Temperature :	103.1°C
Drive voltage :	DC24V
Measure voltage :	DC24V
Failures Observed :	None

Lumen Maintenance (%)											
Sample No.	I _F (A)	Φ(lm)	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs
L51	0.2903	629.5	100.19%	99.93%	99.72%	99.36%	98.94%	98.23%	97.99%	97.23%	97.10%
L52	0.2926	628.3	100.20%	99.94%	99.88%	99.20%	98.72%	98.15%	97.98%	97.44%	97.26%
L53	0.2987	622.5	100.24%	99.97%	99.90%	99.37%	98.67%	98.16%	97.85%	97.23%	97.01%
L54	0.2931	626.5	100.18%	99.93%	99.81%	99.44%	98.66%	98.23%	97.92%	97.56%	97.20%
L55	0.2996	621.4	100.12%	99.99%	99.78%	99.22%	98.75%	98.32%	97.76%	97.35%	97.20%
L56	0.2989	618.2	100.25%	99.97%	99.74%	99.44%	98.51%	98.54%	98.05%	97.88%	97.54%
L57	0.2932	619.3	100.12%	100.00%	99.80%	99.35%	99.00%	98.40%	97.99%	97.56%	97.20%
L58	0.2988	623.2	100.03%	99.99%	99.51%	99.28%	98.64%	98.22%	97.86%	97.46%	97.11%
L59	0.2926	627.3	100.13%	99.97%	99.82%	99.35%	98.88%	98.46%	97.54%	97.22%	97.19%
L60	0.2929	628.2	100.12%	99.94%	99.83%	99.38%	98.82%	98.46%	97.48%	97.13%	97.00%
L61	0.2924	625.6	100.05%	99.96%	99.53%	99.33%	99.12%	98.22%	97.89%	97.15%	97.00%
L62	0.2983	627.8	100.16%	99.98%	99.85%	99.44%	99.15%	98.29%	97.88%	97.23%	97.18%
L63	0.2984	620.1	100.24%	99.92%	99.85%	99.24%	98.61%	98.49%	98.01%	97.55%	97.23%
L64	0.2993	629.5	100.28%	99.97%	99.62%	99.20%	98.82%	98.28%	98.03%	97.86%	97.35%
L65	0.2988	627.3	100.22%	99.94%	99.84%	99.23%	99.03%	98.35%	98.20%	97.88%	97.28%
L66	0.2936	626.7	100.25%	99.97%	99.75%	99.32%	98.79%	98.32%	98.05%	97.75%	97.25%
L67	0.2924	624.8	100.18%	99.98%	99.55%	99.25%	98.90%	98.43%	97.98%	97.75%	97.35%
L68	0.2987	636.8	100.04%	99.99%	99.92%	99.37%	98.78%	98.22%	97.85%	97.20%	97.01%
L69	0.2995	622.9	100.05%	99.96%	99.88%	99.32%	98.99%	98.56%	98.22%	97.87%	97.23%
L70	0.2927	616.2	100.06%	99.96%	99.90%	99.49%	98.62%	98.23%	97.88%	97.65%	97.55%
L71	0.2981	629.3	100.16%	99.85%	99.75%	99.23%	98.96%	98.55%	97.86%	97.50%	97.33%
L72	0.2994	626.4	100.18%	99.92%	99.65%	99.16%	99.06%	98.58%	97.87%	97.56%	97.23%
L73	0.2935	615.3	100.06%	99.83%	99.79%	99.10%	99.05%	98.85%	97.86%	97.35%	97.10%
L74	0.2934	620.5	100.22%	99.99%	99.88%	99.08%	98.89%	98.77%	97.88%	97.54%	97.22%
L75	0.2993	623.1	100.18%	99.88%	99.84%	99.08%	98.92%	98.54%	97.99%	97.79%	97.37%
Avg.	0.296	624.67	100.16%	99.95%	99.78%	99.29%	98.85%	98.39%	97.91%	97.51%	97.22%
Min.	0.290	615.30	100.03%	99.83%	99.51%	99.08%	98.51%	98.15%	97.48%	97.13%	97.00%
Max.	0.300	636.80	100.28%	100.00%	99.92%	99.49%	99.15%	98.85%	98.22%	97.88%	97.55%
STDEV.	0.0032	4.8628	0.0008	0.0004	0.0012	0.0012	0.0017	0.0018	0.0016	0.0025	0.0015
N	25	25	25	25	25	25	25	25	25	25	25

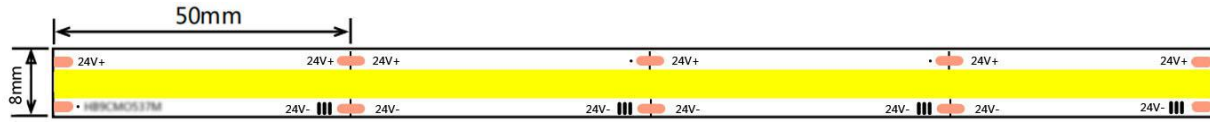


Description of Light Sources tested :	FOB-08M27MP07-240
Case Temperature :	104.9℃
Ambient Temperature :	103.1℃
Drive voltage :	DC24V
Measure voltage :	DC24V
Failures Observed :	None

Chromaticity Shift ($\Delta u'v'$)												
Sample No.	u'	v'	CCT(K)	1000hrs	2000hrs	3000hrs	4000hrs	5000hrs	6000hrs	7000hrs	8000hrs	9000hrs
L52	0.2626	0.5233	2793	0.0010	0.0011	0.0011	0.0012	0.0020	0.0019	0.0021	0.0024	0.0025
L53	0.2543	0.5239	2776	0.0007	0.0009	0.0016	0.0017	0.0014	0.0018	0.0021	0.0021	0.0026
L54	0.2562	0.5242	2756	0.0011	0.0016	0.0015	0.0015	0.0016	0.0018	0.0022	0.0025	0.0025
L55	0.2545	0.5231	2774	0.0008	0.0011	0.0012	0.0018	0.0016	0.0019	0.0021	0.0022	0.0025
L56	0.2602	0.5233	2819	0.0011	0.0012	0.0013	0.0017	0.0018	0.0022	0.0023	0.0024	0.0024
L57	0.254	0.5237	2779	0.0012	0.0013	0.0017	0.0018	0.0019	0.0021	0.0021	0.0023	0.0025
L58	0.2544	0.5234	2775	0.0015	0.0016	0.0018	0.0018	0.0020	0.0021	0.0023	0.0024	0.0024
L59	0.2616	0.5327	2805	0.0007	0.0013	0.0014	0.0015	0.0018	0.0020	0.0021	0.0021	0.0026
L60	0.2534	0.5328	2785	0.0009	0.0015	0.0016	0.0017	0.0018	0.0019	0.0020	0.0024	0.0025
L61	0.2629	0.5237	2791	0.0009	0.0015	0.0016	0.0017	0.0018	0.0019	0.0020	0.0023	0.0025
L62	0.2532	0.5238	2788	0.0007	0.0011	0.0010	0.0011	0.0017	0.0022	0.0023	0.0021	0.0026
L63	0.2627	0.5329	2793	0.0010	0.0010	0.0015	0.0012	0.0017	0.0019	0.0019	0.0021	0.0023
L64	0.2619	0.5326	2801	0.0010	0.0010	0.0013	0.0017	0.0021	0.0015	0.0019	0.0025	0.0023
L65	0.2536	0.5232	2783	0.0014	0.0016	0.0013	0.0015	0.0020	0.0021	0.0022	0.0022	0.0023
L66	0.2627	0.5233	2793	0.0008	0.0010	0.0017	0.0020	0.0022	0.0021	0.0021	0.0025	0.0026
L67	0.2535	0.5232	2785	0.0008	0.0010	0.0015	0.0016	0.0016	0.0024	0.0019	0.0020	0.0023
L68	0.2617	0.5237	2803	0.0009	0.0010	0.0011	0.0018	0.0019	0.0020	0.0023	0.0022	0.0025
L69	0.2628	0.5236	2792	0.0008	0.0014	0.0013	0.0018	0.0019	0.0015	0.0021	0.0021	0.0023
L70	0.2625	0.5231	2794	0.0015	0.0016	0.0016	0.0017	0.0018	0.0020	0.0021	0.0022	0.0024
L71	0.2536	0.5236	2784	0.0010	0.0010	0.0022	0.0018	0.0018	0.0019	0.0022	0.0025	0.0026
L72	0.2621	0.523	2799	0.0012	0.0013	0.0023	0.0016	0.0021	0.0023	0.0023	0.0024	0.0024
L73	0.2533	0.5238	2786	0.0009	0.0012	0.0016	0.0018	0.0021	0.0015	0.0015	0.0025	0.0026
L74	0.2629	0.5235	2791	0.0008	0.0013	0.0016	0.0018	0.0019	0.0021	0.0022	0.0023	0.0025
L75	0.2555	0.5242	2764	0.0009	0.0011	0.0014	0.0015	0.0018	0.0022	0.0023	0.0024	0.0025
Avg.	0.2580	0.5254	2787	0.0010	0.0012	0.0015	0.0016	0.0019	0.0020	0.0021	0.0023	0.0025
Min.	0.2532	0.5230	2756	0.0007	0.0009	0.0010	0.0011	0.0014	0.0015	0.0015	0.0020	0.0023
Max.	0.2629	0.5329	2819	0.0015	0.0016	0.0023	0.0020	0.0022	0.0024	0.0023	0.0025	0.0026
STDEV.	0.0042	0.0038	13.4191	0.0002	0.0002	0.0003	0.0002	0.0002	0.0002	0.0002	0.0002	0.0001
N	25	25	25	25	25	25	25	25	25	25	25	25



7- EUT Dimension (mm)



8-EUT Photos

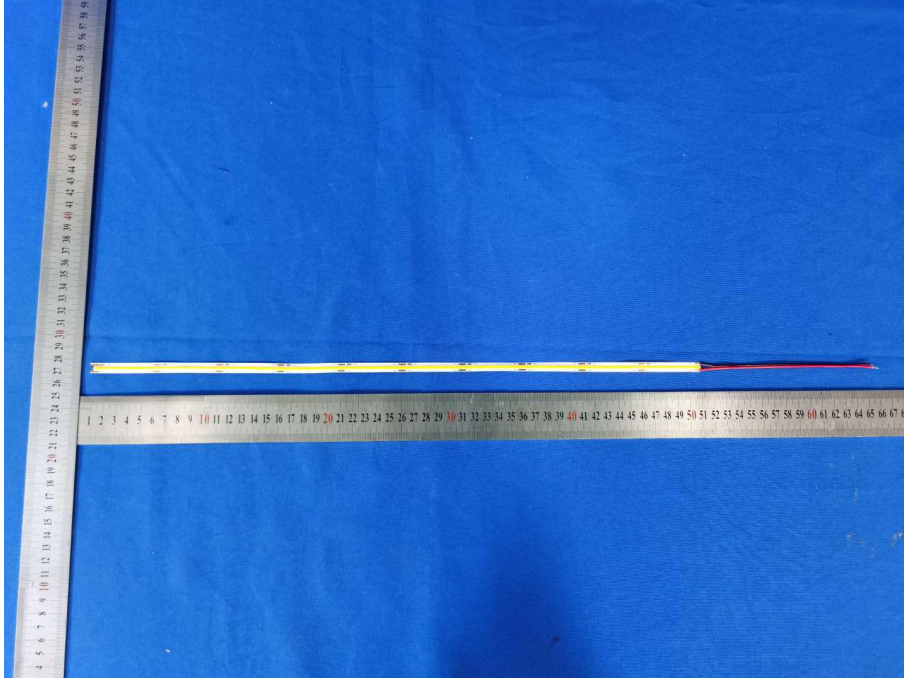


Fig. 1 - Overall view of model FOB-08H27MP07-240

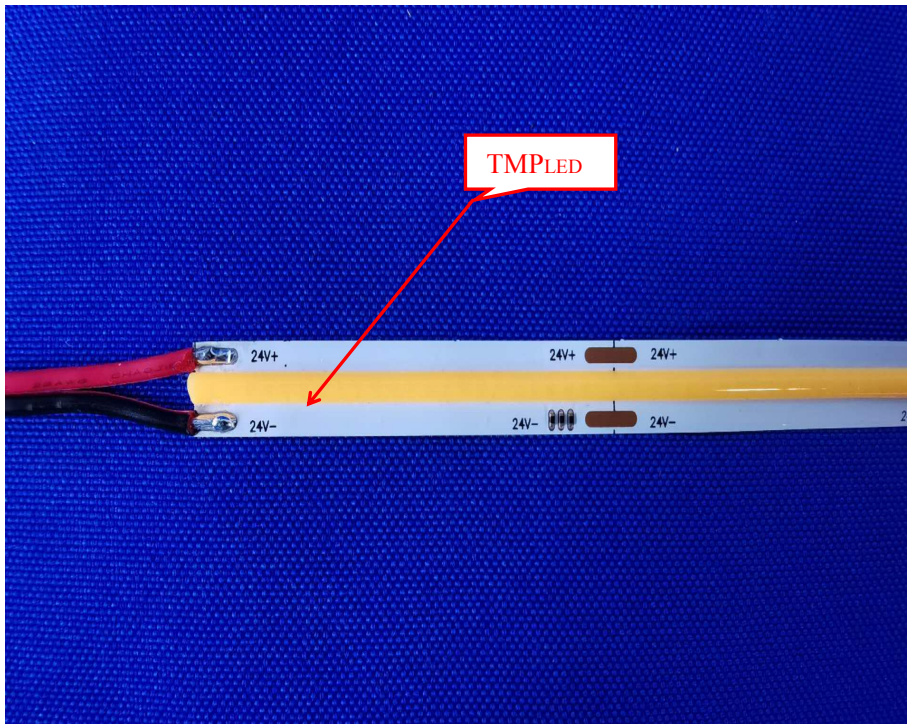


Fig. 2 - TMP view of model FOB-08H27MP07-240

---End of report---