



TEST REPORT

For

LED One Corporation

12437 Bellegrave Ave Eastvale CA US 91752

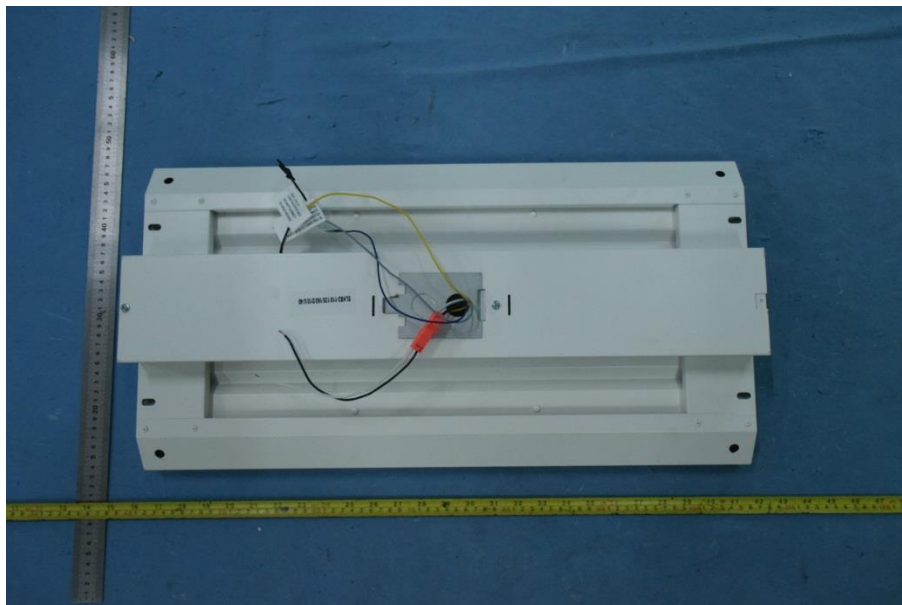
Model Number:	LOC-2FTLHB-MW(110/135/160)40KD	
Report Type:	Electrical, Photometric and ISTMT tests according to the following standards and show the compliance to DLC Program SSL Technical Requirements V5.1	
Standards:	IES LM-79-08: Approved Method: Electrical & Photometric Measurement of Solid-state Lighting Products ANSI C82.77-10-2014: Harmonic Emission Limits – Related Power Quality Requirements for Lighting ANSI/UL 1598-2008: Standard for Safety of Luminaires CIE 190:2010 Calculation and presentation of unified glare rating tables for indoor lighting luminaires IES TM-30-18: IES Method for Evaluating Light Source Color Rendition	
Reviewed By:	Hexy He	<i>Hexy He</i>
Report Number:	KS2240221-08631E-EE	
Sample Size:	One test sample was in good condition and received on 2021-10-15, and used for testing. The Product is field-adjustable light output, all tests are conducted at the maximum light output and the least efficient white light setting.	
Test Date:	2021-10-29 to 2021-11-02	
Report Date:	2024-02-26	
Approved by:	Blake Zhang / EE Engineer	
Prepared By:	Bay Area Compliance Laboratories Corp. (Dongguan). No.12, Pulong East 1 st Road, Tangxia Town, Dongguan, Guangdong, China. Tel: +86-0769-86858888 Fax:+86-0769-86858588	

1. Product Description and Rating

Test Model	Primary Use	#Rated Voltage	#Power(W)	#CCT(K)	LED Model	Driver Model	Test Item
LOC-2FTLHB-MW(110/135/160)40KD	High Bay Luminaires (Commercial and Industrial)	120-277VAC 50/60Hz	110/135/160	4000	L128-xx80RA35000Q1	SDU160CS160X2V48DL7A	Goniophotometer System & Driver ISTMT & PF&THDI

Test Model	CCT(K)	Light Output (lm)	Power(W)	Luminous Efficacy (lm/W)
LOC-2FTLHB-MW(110/135/160)40KD	4000K	15290	110	139
		18360	135	136
		21360	160	133.5
LOC-2FTLHB-MW(110/135/160)50KD	5000K	15400	110	140
		18495	135	137
		21600	160	135

2. Product Photo (Model: LOC-2FTLHB-MW(110/135/160)40KD)



3. Test Result

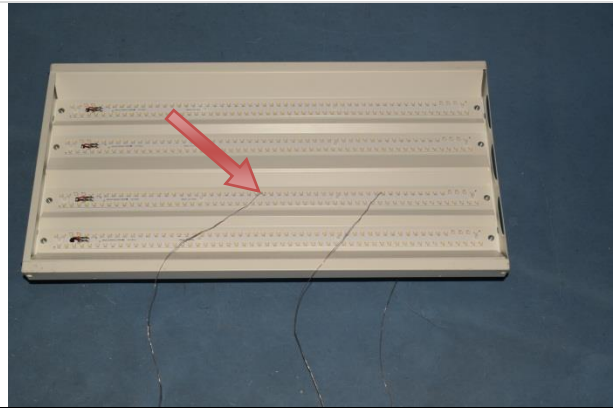
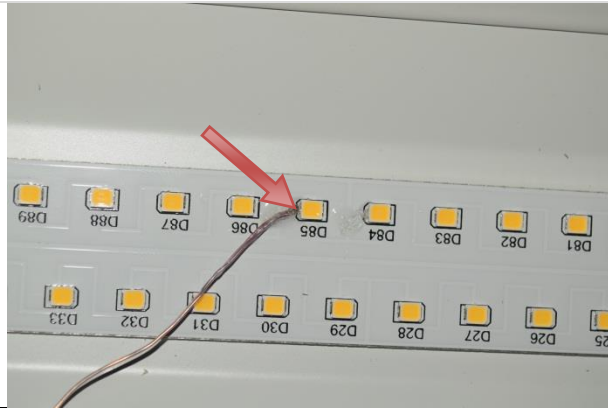
Test Model: <u>LOC-2FTLHB-MW(110/135/160)40KD</u>				
Test Condition: Method: <u>Goniophotometer</u> ; Orientation: <u>Downward</u> ; Test Voltage: <u>119.9V 60Hz</u> ;				
Test Item	Test Result	DLC Requirements	DLC Requirements(With tolerances and/or allowances)	Conclusion
Light Output(lm)	21570	≥10000	≥9000	Pass
Power(W)	161.6	None.	None.	N/A
Total Efficacy(lm/W)	133.5	≥135	≥130.95	Pass ⁱ
Zonal Lumen Distribution(20-50°)	57.94%	20-50°≥30%	20-50°≥20%	Pass
UGR crosswise view	26.5	<28	No tolerances	Pass
UGR endwise view	25.9	<28	No tolerances	Pass
Power Factor	0.9777	≥0.9	≥0.87	Pass
THDi	12.23%	≤20%	≤25%	Pass
Test Condition: Test Voltage: <u>120V 60Hz</u> ;				
Test Item	Test Result	DLC Requirements	DLC Requirements(With tolerances and/or allowances)	Conclusion
TMP _{LED1} (°C)	68.9	≤115	With tolerance of ≤ 1.1°C or 0.4%, whichever is greater due to thermocouple tolerance	Pass
TMP _{LED2} (°C)	71.1	≤115	With tolerance of ≤ 1.1°C or 0.4%, whichever is greater due to thermocouple tolerance	Pass
TMP _{c1} (°C)	54.2	≤90	With tolerance of ≤ 1.1°C or 0.4%, whichever is greater due to thermocouple tolerance	Pass
Drive Current/Individual LED source(mA)	114.5	≤150	With +5% Tolerance	Pass
L ₉₀ Lumen Maintenance Life (Hours)	51000	≥36000	None.	Pass
Color Maintenance	0.002	≤0.007	≤0.0074	Pass

Note:

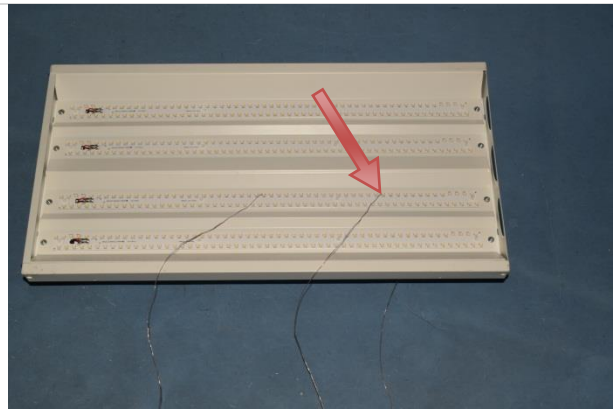
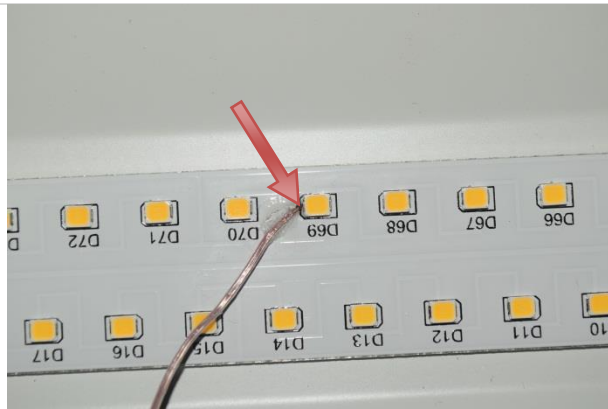
1. The test results were measured directly from the test equipment.
2. The DLC requirements were listed according to DLC Technical Requirements V5.1.
3. The conclusion is only for information. When determining the compliance of the result, tolerances and/or allowances may be applied to the measured value.
4. i. -3% tolerance was used to meet the DLC requirements

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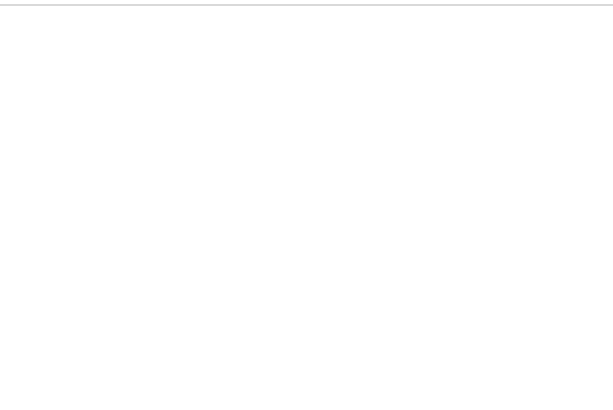
Temperature measurement point on TMP_{LED#1}



Temperature measurement point on TMP_{LED#2}



Driver Case Measurement Point T_c



[Goniophotometer System]

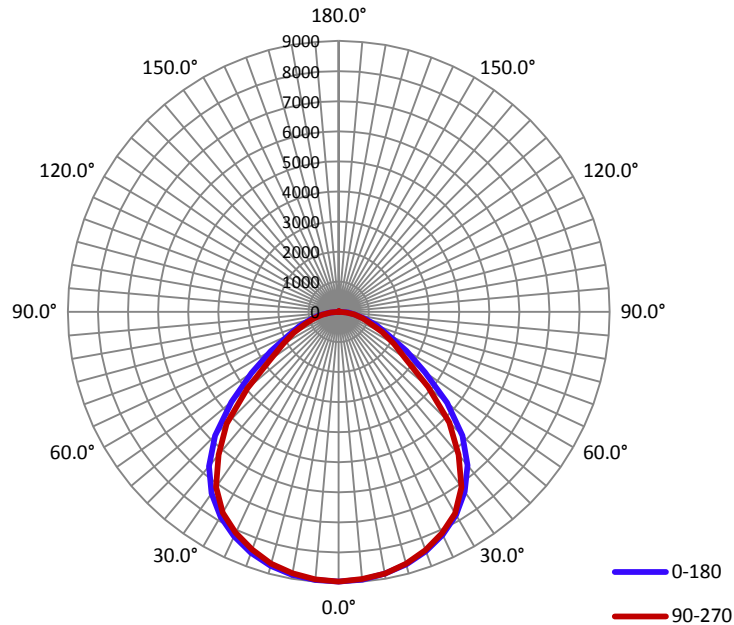
Electrical Measurement

Input Voltage (V)	Frequency (Hz)	Input Current (A)	Power (W)	Power Factor
119.9	60	1.378	161.6	0.9777

Photometric Measurement

Luminous Flux (lm)	Efficacy (lm/W)	I _{max} (cd)	S/MH (C0/180)	S/MH (C90/270)
21570	133.5	8974.0	1.30	1.27

Luminous Intensity Distribution



	C0/180	C45/225	C90/270	C135/315	AVG.
Beam Angle (50% I _{max}):	101.6	98.4	95.5	98.3	98.5
Field Angle (10% I _{max}):	150.7	147.3	146.6	148.2	148.2

Luminous Intensity (cd) Distribution Data

C Y	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°
0.0°	8966	8966	8966	8966	8966	8966	8966	8966
5.0°	8930	8908	8936	8919	8914	8928	8955	8928
10.0°	8837	8828	8823	8843	8837	8862	8861	8879
15.0°	8684	8678	8662	8664	8658	8694	8707	8729
20.0°	8468	8447	8450	8434	8426	8456	8479	8516
25.0°	8176	8158	8145	8121	8124	8156	8196	8231
30.0°	7800	7778	7756	7735	7732	7764	7821	7855
35.0°	7299	7275	7252	7149	7116	7181	7319	7356
40.0°	6664	6630	6543	6362	6202	6395	6570	6703
45.0°	5813	5782	5533	5274	5201	5273	5550	5798
50.0°	4699	4511	4262	3968	3884	3979	4234	4501
55.0°	3506	3167	3081	2918	2690	2986	3089	3189
60.0°	2604	2267	2194	2121	2118	2144	2251	2370
65.0°	1830	1783	1556	1591	1596	1581	1604	1818
70.0°	1354	1260	1118	1092	1094	1135	1131	1207
75.0°	936	846	837	776	821	834	897	876
80.0°	562	597	608	595	523	612	615	602
85.0°	313	238	268	280	237	302	286	262
90.0°	32	2	2	35	26	33	2	2
95.0°	2	2	2	3	3	3	2	2
100.0°	2	2	3	4	3	4	3	2
105.0°	3	3	3	6	3	6	3	3
110.0°	3	3	4	8	3	8	5	3
115.0°	4	4	8	9	4	9	8	5
120.0°	6	7	10	11	5	10	10	8
125.0°	9	10	14	12	5	11	15	10
130.0°	6	12	18	12	7	12	18	9
135.0°	13	13	18	14	8	13	16	15
140.0°	11	16	20	15	11	14	18	19
145.0°	18	20	20	16	13	15	19	21
150.0°	18	19	18	18	16	17	16	21
155.0°	20	15	21	19	17	19	16	15
160.0°	20	21	20	19	18	18	16	16
165.0°	18	19	19	17	17	16	18	17
170.0°	17	18	16	16	15	15	15	17
175.0°	14	14	15	14	14	14	14	14
180.0°	13	13	13	12	12	12	12	13

Luminous Intensity (cd) Distribution Data (cont.)

C y	180°	202.5°	225°	247.5°	270°	292.5°	315°	337.5°
0.0°	8966	8966	8966	8966	8966	8966	8966	8966
5.0°	8948	8939	8936	8923	8925	8917	8923	8919
10.0°	8876	8843	8832	8850	8820	8829	8808	8809
15.0°	8740	8725	8683	8666	8663	8666	8668	8670
20.0°	8517	8489	8469	8446	8408	8433	8430	8454
25.0°	8227	8210	8187	8136	8099	8117	8130	8143
30.0°	7863	7839	7795	7751	7709	7720	7735	7756
35.0°	7361	7329	7307	7172	7099	7138	7239	7260
40.0°	6711	6670	6572	6403	6207	6363	6528	6618
45.0°	5815	5799	5576	5324	5263	5303	5537	5769
50.0°	4660	4511	4277	4102	3958	4062	4286	4518
55.0°	3535	3173	3070	3056	2779	2980	3050	3155
60.0°	2611	2353	2293	2221	2132	2183	2216	2251
65.0°	1839	1821	1635	1603	1653	1600	1576	1786
70.0°	1397	1214	1155	1207	1164	1159	1141	1258
75.0°	926	871	877	863	835	803	819	844
80.0°	664	630	651	647	558	618	626	620
85.0°	326	274	297	332	260	301	274	246
90.0°	49	29	23	1	1	30	46	30
95.0°	2	1	1	2	2	2	1	1
100.0°	2	1	2	2	2	2	1	1
105.0°	2	2	2	3	2	3	2	2
110.0°	2	2	3	3	2	3	3	2
115.0°	3	4	6	4	3	4	5	3
120.0°	6	7	7	4	3	4	7	4
125.0°	10	7	10	5	3	5	9	5
130.0°	8	11	13	6	4	7	12	8
135.0°	12	13	13	8	5	8	10	12
140.0°	15	15	12	9	6	9	10	10
145.0°	17	12	11	9	6	8	11	13
150.0°	17	12	9	10	8	9	9	11
155.0°	12	8	10	11	9	9	9	8
160.0°	10	11	12	11	9	9	11	12
165.0°	13	13	12	11	9	9	8	12
170.0°	13	13	12	9	9	9	9	11
175.0°	12	12	12	11	10	10	11	11
180.0°	13	13	13	13	12	12	12	12

Zonal Lumen Density Measurement

Deg	Flux (lm)	%
0-5	213.9	0.99
5-10	635.8	2.95
10-15	1039.3	4.82
15-20	1412.8	6.55
20-25	1743.1	8.08
25-30	2017.2	9.35
30-35	2215.0	10.27
35-40	2301.5	10.67
40-45	2234.5	10.36
45-50	1986.6	9.21
50-55	1583.9	7.34
55-60	1228.2	5.69
60-65	951.6	4.42
65-70	723.6	3.35
70-75	524.5	2.43
75-80	396.4	1.84
80-85	237.9	1.10
85-90	75.3	0.35
90-95	2.5	0.01
95-100	1.1	0.01
100-105	1.4	0.01
105-110	1.7	0.00
110-115	2.2	0.01
115-120	2.9	0.02
120-125	3.6	0.01
125-130	4.1	0.02
130-135	4.5	0.02
135-140	4.7	0.02
140-145	4.6	0.03
145-150	4.2	0.02
150-155	3.6	0.01
155-160	2.9	0.02
160-165	2.4	0.01
165-170	1.7	0.00
170-175	0.9	0.01
175-180	0.3	0.00

Deg	Flux (lm)	%
0-5	213.9	0.99
0-10	849.7	3.94
0-15	1889.0	8.76
0-20	3301.8	15.31
0-25	5044.9	23.39
0-30	7062.0	32.74
0-35	9277.0	43.01
0-40	11578.5	53.68
0-45	13813.0	64.04
0-50	15799.6	73.25
0-55	17383.5	80.59
0-60	18611.7	86.28
0-65	19563.2	90.70
0-70	20286.9	94.05
0-75	20811.4	96.48
0-80	21207.8	98.32
0-85	21445.7	99.42
0-90	21521.0	99.77
0-95	21523.4	99.78
0-100	21524.5	99.79
0-105	21525.9	99.80
0-110	21527.5	99.80
0-115	21529.7	99.81
0-120	21532.6	99.83
0-125	21536.2	99.84
0-130	21540.3	99.86
0-135	21544.8	99.88
0-140	21549.5	99.90
0-145	21554.1	99.93
0-150	21558.3	99.95
0-155	21561.9	99.96
0-160	21564.8	99.98
0-165	21567.1	99.99
0-170	21568.8	99.99
0-175	21569.7	100.00
0-180	21570.0	100.00

4. Description of Test Equipment

Device	Manufacture	Model No	Serial No	Calibration date	Calibration due date
AC POWER SUPPLY	EVERFINE	VPS1030 PWM	1012017	2021-01-04	2022-01-03
Digital CC&CV DC Power Supply	EVERFINE	WY12010	1009009	2021-01-04	2022-01-03
Digital power meter	YOKOGAWA	WT-210	91j926132	2021-01-04	2022-01-03
full-field speed goniophotometer	EVERFINE	GO-R5000	YG108492N10120001	2021-03-12	2022-03-11
wireless remote thermohygrometer	N/A	433MHz	N/A	2021-04-27	2022-04-26
Standard Light Source	EVERFINE	D908	1012003	2021-10-15	2022-10-14
Multimeter	FLUKE	17B	1573 1328	2021-09-23	2022-09-22
Hybrid Recorder	YOKOGAWA	DR240	10#	2021-02-24	2022-02-23
AC POWER SUPPLY	HengPu	HPA 1103	0003394	2021-01-04	2022-01-03

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).

5. Test Method

Product was tested with no seasoning. All stabilization and measurements were made in compliance with IES LM-79-08. The ambient temperature of the sample was maintained at 25°C±1°C during measurement. And relative humidity is less than 65%. The product was operated in its intended orientation in application during all testing.

Goniophotometer System

Type C goniophotometer was used for measuring luminous intensity distribution. The vertical angle (γ) test intervals were set no more than 1 degree while data for 5 degree intervals is reported. The horizontal angle (C plane) test intervals were set no more than 22.5 degree.

ISTMT Test

The LED which has the highest temperature was measured at the location of LED case which is specified by LED source manufacturer and detailed by LM-80 report. The drive current of LED package/module/ array was calculated as the total output current of the driver measured by multimeter, divided by the number of branches in parallel of LEDs.

Directions

1. The information marked "superscript #" 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.
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