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NVLAP TESTING
NVLAP LAB CODE 500080-0

Ref. No.: LCZP20080145
Version: 1.0
Date of issue: Oct. 27, 2021
Total pages: 9

Test report of

In Situ Temperature Measurement and TM-21

Rendered to:
LED One Corporation
12437 Bellegrave Ave Eastvale,CA 91752 United States

For products:
High Bay Luminaires (Commercial and Industrial)

Models No.:
LOC-ELHB-MW(80/100/150)35KD-LV

Test Date:	Oct. 12, 2021
Test Lab.:	**LCTECH Guangdong Testing Services Co., Ltd.** 2/F., Technology and Enterprise Development Center, Guangyuan Road, Xiaolan, Zhongshan, Guangdong, China Tel:+86-760-22833366 Fax:+86-760-22833399 E-mail:Service@lccert.com http://www.lccert.com
Test Sites:	2/F., Building II & 1/F., Building I, Technology and Enterprise Development Center, Guangyuan Road, Xiaolan, Zhongshan, Guangdong, China
Template No.:	LC-RT-PL-050 Rev.1.3
Test Note:	*N/A*

Complied by:		**Reviewed by:**	
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Oct. 27, 2021		**Oct. 27, 2021**	

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1. General

1.1 Product Information

Brand Name	LEDone®
Category	Indoor
General Application	High-Bay
Primary Use	High Bay Luminaires (Commercial and Industrial)
Model Number	LOC-ELHB-MW(80/100/150)35KD-LV
Rated Inputs	100-277VAC, 50/60Hz
Rated Power	80W/100W/120W/150W
Rated Light output	21000lm
Declared CCT	3500K
Power Supply	LF-FHB150BAIV
LED Package, Array or Module	Model: L130-3570003000X21, manufactured by Lumileds
Dimming	Continuous Dimming
Integral Controls	No
Controls Controllability	No
Receipt Samples	1 unit
Sample Code of lab.	210927104001
Date of Receipt Samples	Sep. 27, 2021
Note	This is a multi-power product, 150W was selected for the test.

1.2 Standards or methods

The following standards are partly or totally used or referenced for test:

No.	Name
ANSI/UL 1598:2008 (Secs. 19.7, 19.10-16)	Luminaires
IES LM-80:2008	Solid State Lighting Luminaires – Lumen Maintenance
IES LM-80:2015	Measuring Luminous Flux and Color Maintenance of LED Packages, Arrays and Modules
IES TM-21-11*	Projecting Long Term Lumen Maintenance of LED Light Sources

Note:

**For reference only and not in the scope of NVLAP.*

1.3 Equipment list

Instrument	ID	Model name	Cal. date	Next cal. Date
AC Power supply	LC-I-923	CHP-500	2020-12-23	2021-12-22
AC Power supply	LC-I-987	APW-120N	2020-12-23	2021-12-22
Power analyzer	LC-I-928	WT210	2020-12-25	2021-12-24
Power analyzer	LC-I-954	WT210	2020-12-25	2021-12-24
Multimeter	LC-I-972	Fluke	2021-07-19	2022-07-18
J thermocouple	LC-I-096	TT-J-30-SLE(200 m/r)	2021-02-02	2022-02-01
Data acquisition/Switch unit	LC-I-098	34970A	2020-12-24	2021-12-23
T&H recorder	LC-I-SF-008	W2305001	2021-02-04	2022-02-03

2. Test conducted and method

The luminaire provided by the client was installed to simulate intended usage to record the maximum temperature that can be encountered under the intended use.

2.1 Ambient Condition

Test was conducted in an ambient temperature of 25 ± 5 °C. Ambient temperature variations above or below 25 °C was respectively subtracted from or added to temperatures recorded at points on the luminaire.

The ambient temperature was measured by a thermocouple which was immersed in 15 ml of mineral oil in a glass container which was placed in the horizontal plane passing through the midpoint of the luminaire's vertical axis at a horizontal distance from the luminaire equal to at least 3 times the luminaire diameter

2.2 Temperature Stabilization

Temperatures were measured after they have stabilized when:

(a) the test has been running for a minimum of 7.5 h; or

(b) the test has been running for a minimum of 3 h; and

(c) three successive readings taken at 15 min intervals are within 1 °C of one another and are not rising.

2.3 Thermocouples

Temperatures recorded at points on LED and driver were measured by means of thermocouples. Type J thermocouple was used. The thermocouples have conductors of 0.05mm ^{2}(30AWG), and complied with the requirements specified in ASTM MNL 12 and limits of error specified in NIST ITS 90 and ISA MC96.1.

2.4 Thermocouples contact

Thermocouples were directly in contact with the TMP_{LED} location described in LM-80 test report. In order to gain the maximum temperature, if appropriate, more than one thermocouple were contact in these locations. For details information, please refer to clause 3.3 for the photo of thermocouple contact.

3. Test Result Summary

3.1 Electrical data

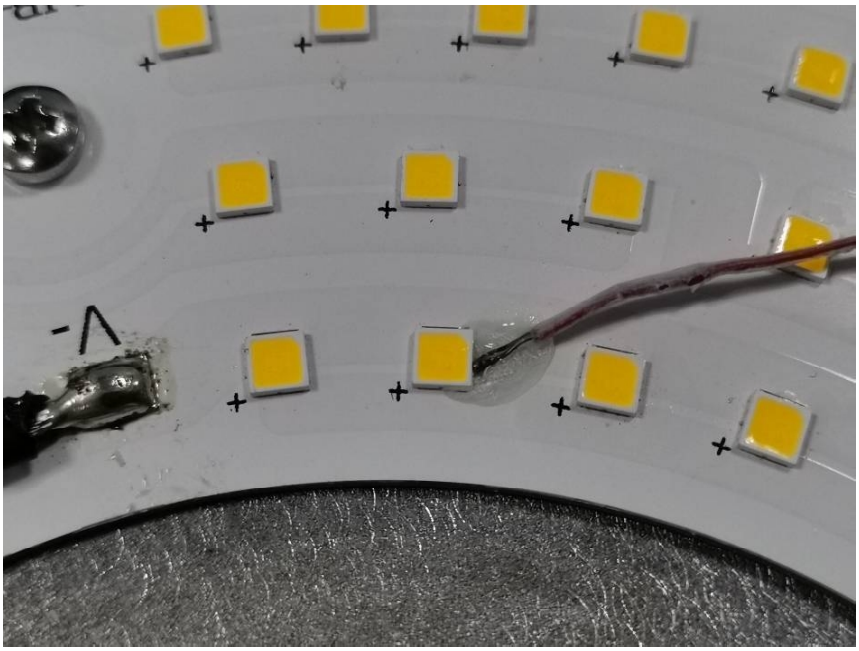
Criteria Item	Result
Input Voltage & Frequency	120.04 V~60Hz
Input Current(A)	1.292
Total Power(W)	154.59
Power Factor	0.997
Current on each LED(mA)	100

3.2 Temperature data

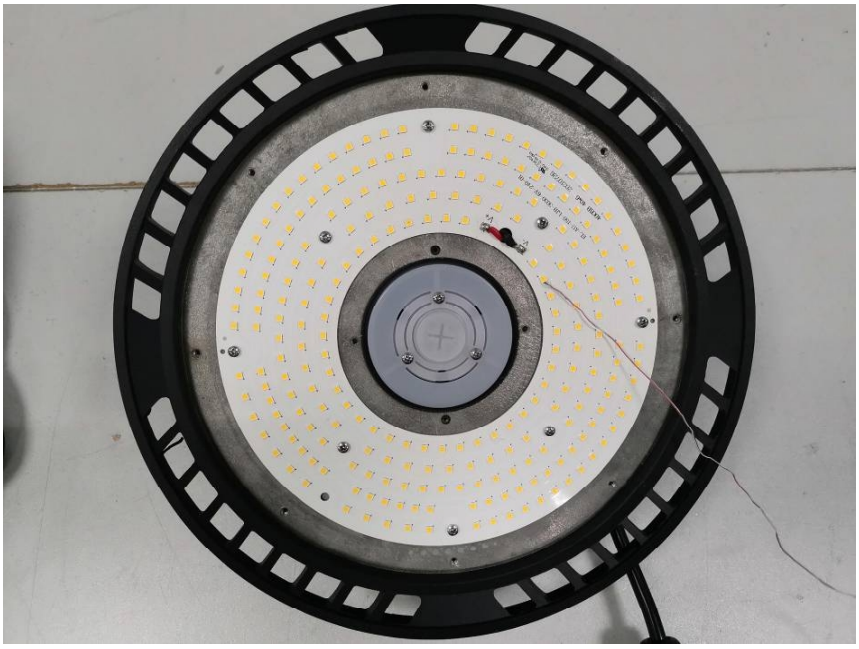
Criteria Item	Result
Total operated period(hours)	3.6
Ambient temperature(℃)	25.6
Measured Temperature @**TMP**$_{LED}$(℃)	71.7
Maximum Temperature @**TMP**$_{LED}$(Normalized to 25°C) (℃)	**71.1**
Measured Temperature @**TMP**$_{C}$ (℃)	60.2
Maximum Temperature @**TMP**$_{C}$(Normalized to 25°C) (℃)	**59.6**

Note: N/A

3.3 Thermocouple Contact Photo



Part View



Over View

3.4 Thermocouple Contact Photo of LED Driver

Appendix 1 Product Photo

Picture 1

Picture 2

****End of test report****