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NVLAP LAB CODE 600102-0

Project No.: BLTMT160715-06

ISTMT Test report

Low-bay Luminaires for Commercial and Industrial Buildings

VFN036(4000K)

Tested under

Luminaires - ANSI/UL 1598:2008 (Secs. 19.7, 19.10-16)

Applicant:

Shenzhen Qilishun Opto-electric Limited

Third Floor, Building B, 2nd Road No.2, Zhuangcun, Shajing, Baoan District, Shenzhen, Guangdong, China

Prepared By:

Shenzhen Belling Efficiency Testing Laboratory Co.,Ltd.
1 Floor, No. 1 Building, Meibaohe Industrial Park, Dalang Street,
Shenzhen, Guangdong Prov. 518101, China

Sam Chen

Jason zhou

Complied by: Sam Chen	**Review by: Jason zhou**
Project Engineer	**Technical Manager**

Note: This report does not imply product certification, approval, or endorsement by NVLAP, NIST, or anyagency of the Federal Government.

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Test description: Only conduct temperature for LED according to UL1598.

Test Lab:	Shenzhen Belling Efficiency Testing Laboratory Co.,Ltd.
Address:	1 Floor, No. 1 Building, Meibaohe Industrial Park, Dalang Street, Shenzhen, Guangdong Prov. 518101, China.

Environment:	
Accommodations and Environmental conditions, including proper power source meet the requirements of the test standard or UL default criteria (ISO/IEC 17025 Clause 5.3.1, 5.3.2. 5.3.3, 5.3.4)	[X]Yes [ ]No []N/A
Personnel:	
Lab Management shall authorize personnel to operate particular types of equipment used in testing. (ISO/IEC 17025 5.2.5)	[X]Yes [ ]No
Equipment:	
Testing is being conducted within the test equipment calibration dates. (See Test Instrument Information Page and ISO/IEC 17025 5.5.1, 5.5.2, 5.5.4, 5.5.5, 5.5.8,)	[X]Yes [ ]No
Calibrations for testing equipment are traceable to SI Units. Refer to 00-OP-C0032 (Calibration Certificate Analysis). (ISO/IEC 17025 5.6.2.2)	[X]Yes [ ]No
Critical Consumables:	
Critical consumables are compliant with test standard requirements. (ISO/IEC 17025 Clause 4.6)	[X]Yes [ ]No [ ]N/A
Sample Identification:	
Identification of items to be tested has been made (e.g. model no., Serial No., etc.) (See Test Sample Identification page and ISO/IEC 17025 Clause 5.8.2)	[X]Yes [ ]No
Summary:	
The test facility was deemed to have the environment and capabilities necessary to perform the tests included in this data package.	

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TEST EQUIPMENT INFORMATION

	BELL #	Equipment Description	Model No.	Manufacturer	Serial No.	Last Cal	Cal Due	Cal Freq
1	BL002	Hybrid Recorder (60 channel)	34970A	AGILENT	MY41009304	2015-09-14	2016-09-13	1 year
2	BL047	Power Meter	GPM-8212	GW	CL110046	2015-09-14	2016-09-13	1 year
3	BL022	Environment Measurer	VC230	Victor	57636	2016-04-01	2017-03-31	1 year
4	BL029	Stop Watch	K610	KISLO	170960	2016-03-31	2017-03-30	1 year
5	BL049	Thermocouple K	TT-K-30-SLE	OMEGA	144251	2015-09-17	2016-09-16	1 year

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TEST SAMPLE IDENTIFICATION:

The table below is provided to provide correlation of sample numbers to specific product related information. Refer to this table when a test identifies a test sample by "Sample No." only.

Model No.	Date Received	Test No.+	Sample No.	Ratings
VFN036(4000K)	2016-07-13	1	S1	100-277V, 50/60Hz, 36W 4000K

Date of Test:	2016-07-15	Technician :	Sam Chen
Applicant:	Shenzhen Qilishun Opto-electric Limited		
Address:	Third Floor, Building B, 2nd Road No.2, Zhuangcun, Shajing, Baoan District, Shenzhen, Guangdong, China		
Product Description:	Low-bay Luminaires for Commercial and Industrial Buildings		

NORMAL TEMPERATURE MEASUREMENT UL 1598; Cl. 19

METHOD

GENERAL REQUIREMENTS PERTAINING TO SURFACE MOUNTED LUMINAIRES

Unless otherwise noted under METHOD, General requirements are applied.

The test was conducted in a draft-free room as specified in clause 19.10.3 or 19.11.3.

The rated wattage of any lamp used for the temperature test was the highest wattage rating marked on the luminaire.

INSTALLATION AND SUPPORT (Clause 19.1)

The luminaire was installed or supported to simulate intended usage, in accordance with the manufacturer's instructions. Where more than one installation methods are specified the luminaire was installed to result in the maximum operating temperatures.

A luminaire part designed to be adjustable by the user was positioned or adjusted to cause maximum heating of the luminaire, mounting surface, or both.

A luminaire part that was marked in accordance with Table 20.1.1, Item 2.31, was positioned for the temperature test in accordance with the marking.

TEMPERATURE TEST STABILIZATION (Clause 19.2)

Temperatures were measured after they stabilized, when:

The test was run for a minimum of 7.5 h. or the test was run for a minimum of 3 h, and then three successive readings taken at 15 min intervals were within 1°C of one another and not rising. (Temperature shall be measured **after** the test has been running for a minimum of 3 h)

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FREQUENCY (Clause 19.4)

Frequency-sensitive equipment was tested at rated frequency, and equipment marked with more than one frequency was tested at the frequency that produced the maximum temperature rise.

AMBIENT TEMPERATURE (Clause 19.5)

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

The ambient temperature was measured by means of a thermocouple or thermometer.

The thermocouple intended to measure ambient temperature was immersed in
0.5 oz (15 ml) of mineral oil in a glass container or attached to a metal mass of approximately 1 oz (30 g) that was within a cylindrical metal shield open at the top and bottom. The glass container or cylindrical metal shield 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.

[ ] Tests were conducted in an elevated ambient temperature with a source of heated air providing the elevated temperature for which the luminaire was marked. The maximum airflow past the luminaire was less than 9.1 m/min (30 ft/min). Maximum variations of 5°C from the intended ambient temperature was added to or subtracted from the observed temperature readings.

THERMOCOUPLES:

Reference Section 19.7 of UL 1598.

THERMOCOUPLES CONTACT:

Thermocouples were 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.

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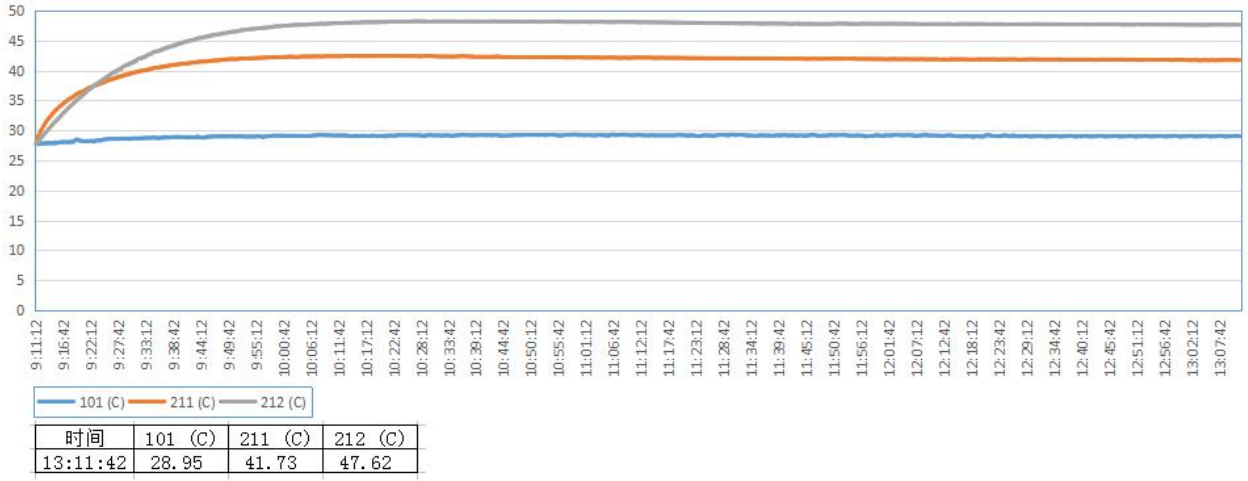
TEST RESULTS

Test Model No.:	VFN036(4000K)
LED Driver Model No.:	2 × LP-XLPCC-HS4
LED Package/Module No.:	67-21S Series
Rating of LED Package/Module	150mA
Manufacturer of LED Package/ Module	EVERLIGHT ELECTRONICS CO., LTD

Input Voltage (V)	120
Input Power (W)	35.68
LED Board Input Current (mA)	279
Single LED Input Current (mA)	55.4

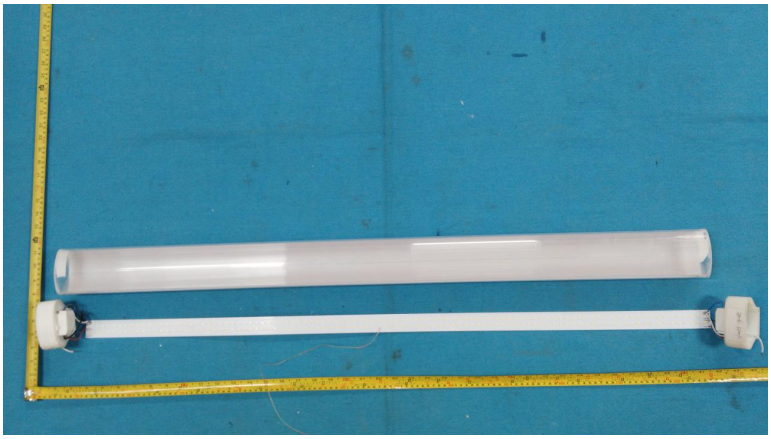
LED Ts/°C (Temperature at soldering board)	37.78
LED driver TC/℃ (test channel number)	43.67
Ambient °C	25.00

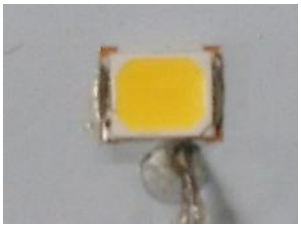


时间	101 (C)	211 (C)	212 (C)
13:11:42	28.95	41.73	47.62

Thermocouple location:

VFN036(4000K)





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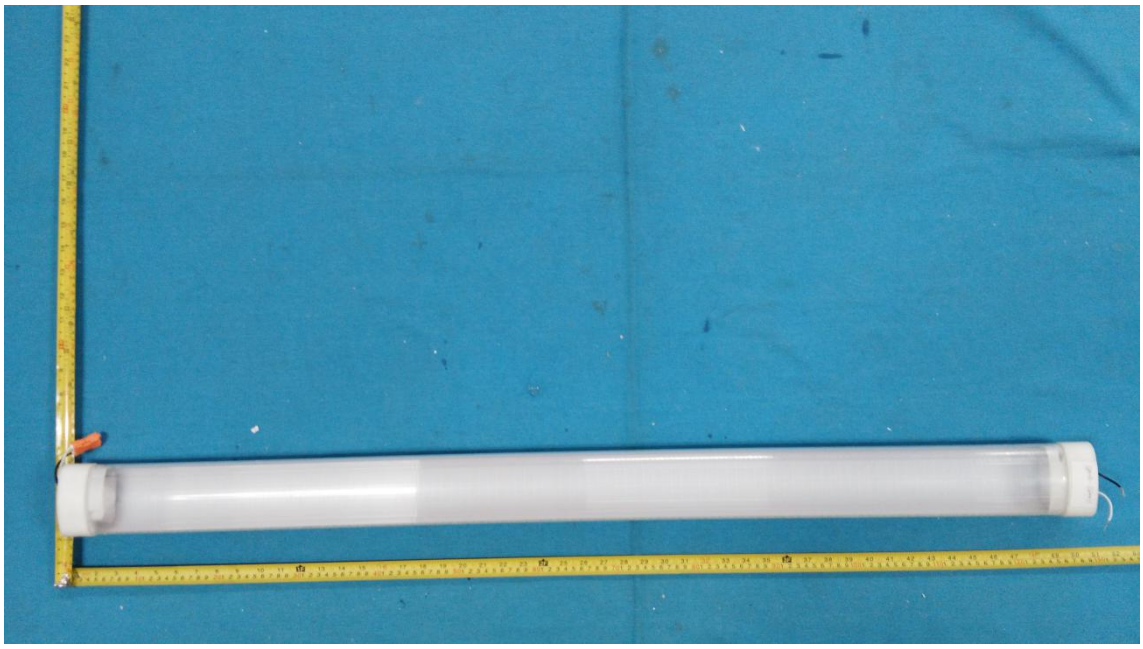

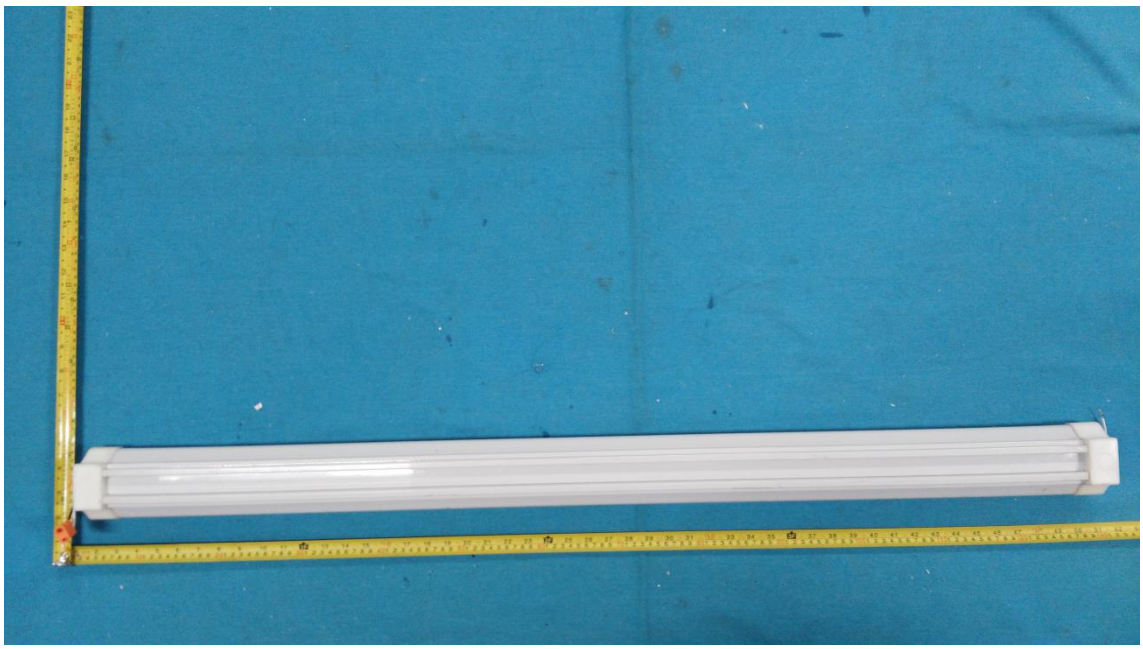

End of Report