NVLAP Lab Code: 200952-0

Verification Services

Project No. 4787550049
Report No. 4787550049_11
Report Issued Date: 2016-08-15

Test Report

Customer Company & Address:			
ESPEN TECHNOLOGY ,INC **SANTA FE SPRINGS CA 90670 USA**			
Contact Person:	Melanie Barton		
Phone Number:	562-529-2938	**Email Address:**	melanie@espentech.com

Relevant Standards:	IES LM-79-2008
Product Description:	Luminaire Description: Indoor Retrofit kit Troffer Light Source: LGIT 5630 Ballast/Driver: VPL50-085-MVHDA-PD-1C
Brand Name:	ESPEN
Tested Model Number:	VEKT2X4L-850
Product Family:	VEKT2X4L-830 VEKT2X4L-835 VEKT2X4L-840
Allowable Variations:	Different CCT
Electrical Specification:	120~277 V AC, 50~60 Hz, 36W

Test Laboratory & Address:			
UL Verification Services (Guangzhou) Co., Ltd. ADD: Building A1, 1F & 2F, Nansha Science and Technology Innovation Center, No. 25, South Huanshi Avenue , Nansha District, Guangzhou 511458, China			
Telephone:	+86 20 28667188	**Fax:**	+86 20 83486605

Sample Reception Date:	2015-12-14	**Test Date:**	2015-12-21

Tested By	**Approved By**
Jonathan Xu /Jonathan Xu	Duff Yang /Duff Yang
Signatory & Test Personnel Name	**Signatory & Approval Name**

The results reported herein have been performed in accordance with the laboratory's terms of accreditation. This report shall not be reproduced except in full without the written approval of the Laboratory. The results in this report apply to the test sample(s) mentioned above at the time of the testing period only and are not to be used to indicate applicability to other similar products. This report does not imply that the product(s) has met the criteria for certification.

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Test Report

Statement of Results

Test Flow	Test Item	Sample ID (Lab)	Pass/Fail/NA
1	Integrating Sphere Test	2270242-S4	Evaluate by customer

Deviation from Test Method (*if any*)

N/A

Remark *(if any)*

1. This report shall not be used by the client to claim product endorsement by NVLAP, NIST or any agency of the US government.

Test Report

Test Flow 1 : Integrating Sphere Test

Environmental Conditions

Temperature: 25.1℃

Test Equipment

Equipment ID	Equipment Name	Last Calibration Date	Calibration Due Date
GVS-LE-PE005	2-meter Integrating Sphere	Before Use	Before Use
GVS-LE-FS025	Measurement Standard Lamp	2015-06-17	2016-06-16

Test Sample

2270242-S4

Test Method

The sample was tested according to the IES LM-79-2008.
The samples were tested fully and properly mounted in the troffer,Lithonia 2GT8 2 32 A12 MVOL GEB10IS.
Photometric paramters were measured using an integrating sphere, a spectroradiometer and software. The ambient temperature condition inside the sphere was maintained at 25º C ± 1º C.
The sample measurements were made using a spectroradiometer connected by a fiber optic cable and detector through the detector port of the integrating sphere. The sample was operated at rated voltage and was stabilized before measurement. Chromaticity coordinates, correlated color temperature and color rendering index were calculated from the spectral radiant flux measurements taken at 1 nm intervals over the range of 380 to 780 nm.

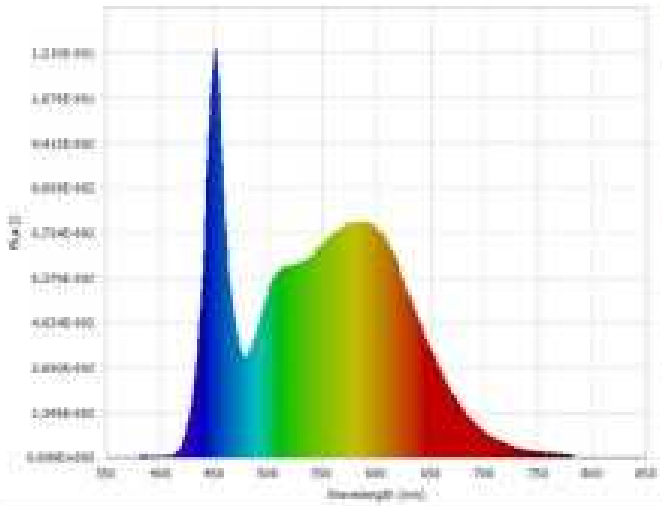
Test Results

Test Type	Voltage (V AC)	Frequency (Hz)	Current (A)	Power Factor	Power(W)
Input	120.08	60	0.296	0.996	35.3

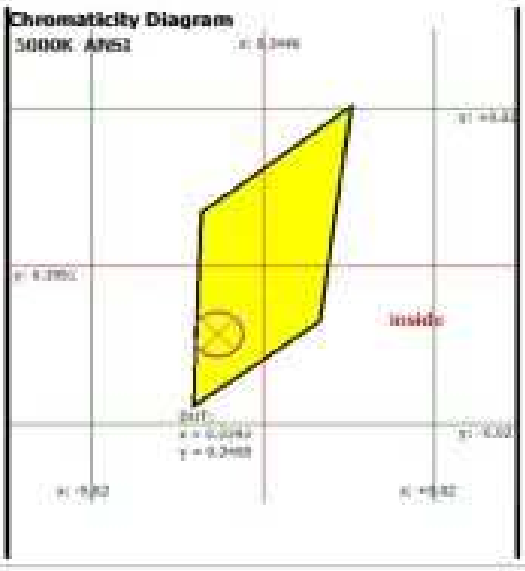
Test Type	CCT (K)	CRI	Lumen Output (lm)	Luminous Efficacy (lm/W)
Output	5212	85	4443	125.7

Test Report

Spectral Flux Graph



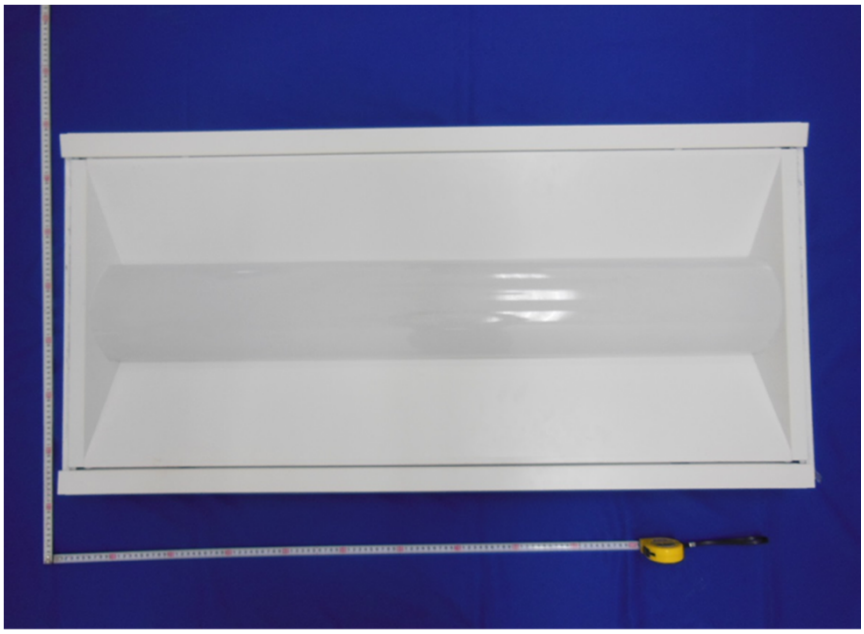
Chromaticity Diagram

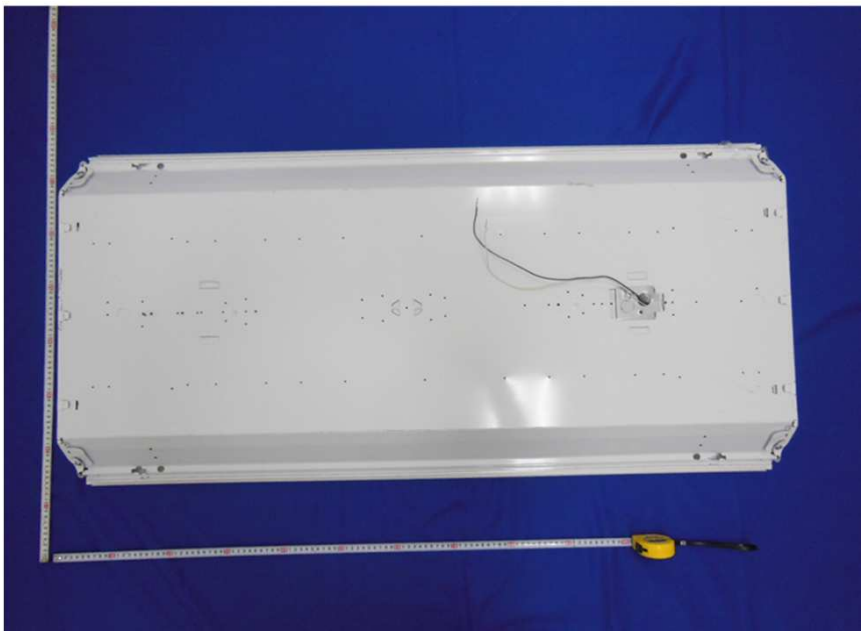


Spectral Result

Radiant Flux Φ	14.07 (W)	Luminous Flux Φ(v)	4443.32 (lm)
Φ(v')	9011.38 (lm')	Chrom x	0.3393
Chrom y	0.3465	Chrom u	0.2095
Chrom v	0.3209	Duv	-0.0002
Chrom u'	0.2095	Chrom v'	0.4813
λ (peak)	449.8 (nm)	λ (center)	449.7 (nm)
λ (centroid)	548.1 (nm)	λ (dom)	569.0 (nm)
FWHM	21.5 (nm)	Purity	5.8 (%)
CCT	5212.0 (K)	Luminous Efficacy η	125.70 (lm/W)
SDCM	N/A	Ra	84.93
R1	83.7	R2	89.9
R3	93.9	R4	85.5
R5	85.2	R6	85.7
R7	86.7	R8	68.8
R9	12.1	R10	76.4
R11	86.1	R12	69.6
R13	85.3	R14	97.0
R15	78.4	DUT Current	0.2955 (A)
DUT Voltage	120.0800 (V)	DUT PF	0.9962
DUT Power	35.3490 (W)	DUT Freq	60.0 (Hz)
DUT THD	5.5 (%)	DUT Comments:	N/A
Date/Time	2015/12/21 15:06:55		

Photos of sample





End of Test Report