Photometric Test Report

Relevant Standards

☑IES LM-79-2008

☑ANSI C82.77:2017

Prepared For

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2021/9/10

Issue Date

2021/9/22

Prepared By	**Approved By**
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The results contained in this report pertain only to the tested sample.

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1.0 Test Summary

DLC Technical Requirements v5.1

Retrofit Kits for Direct Linear Ambient Luminaires				
Requirement Category	**Test Method**	**Requirements**		**Test value**
Total Harmonic Distortion (A%) (THD & PF - section 4.3)	ANSI C82.77:2014	20.00%	120V	12.91%
		20.00%	277V	17.97%
Power Factor (THD & PF - section 4.3)	ANSI C82.77:2014	0.9	120V	0.986
		0.9	277V	0.893
Allowable CCTs* (K) (Integrating Sphere - Section 4.1)	IES LM-79-2008	7 step	5029±355	5010
		4 step	5029±220	
Minimum CRI (Integrating Sphere - Section 4.1)	IES LM-79-2008 CIE 13.3-1995	⩾80		85
Minimum R9 (Integrating Sphere - Section 4.1)	IES LM-79-2008 CIE 13.3-1995	⩾0		9
Minimum Rf (Integrating Sphere - Section 4.1)	ANSI/IES TM-30-18	⩾70		84
Minimum Rg (Integrating Sphere - Section 4.1)	ANSI/IES TM-30-18	⩾89		94
Minimum IES Rcs,h1 (Integrating Sphere - Section 4.1)	ANSI/IES TM-30-18	-12%⩽IES Rcs,h1⩽+23%		-12%

2.0 Test List

Test Item	Test	Test Date	Model Number	Sample No.
1	Integrating Sphere Test	2021/9/10	VEKM-L41F/HO/850	K1

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.
2、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.

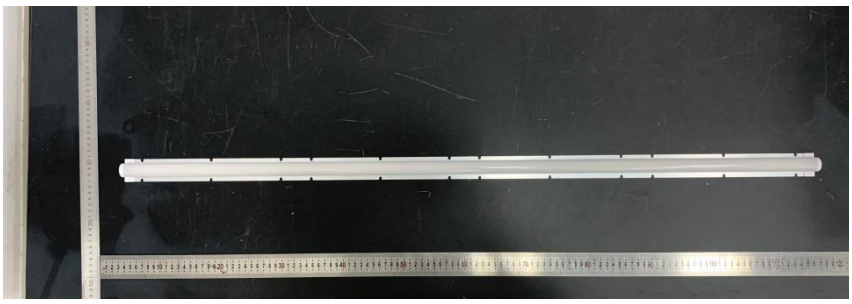
3.0 Production Description

Tested Model: VEKM-L41F/HO/850

Electrical Specification: 120V-277V,50/60HZ

Test in Fixture: Lithonia C2 32 MVOLT GEB10IS

Photos of Luminaire Characteristics



4.0 LM-79 Measurement and Test Results

4.1 Integrating Sphere Test

Model No.	VEKM-L41F/HO/850	Sample ID.	K1
Opreate time (Min.)	90	Stabilization time (Min.)	70
Temperature (°C)	25.1	Humidity (%RH)	52.0

Test Method
The samples were tested according to the IES LM-79-2008.
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 voltage of an AC power supply (RMS voltage) or DC power supply (instantaneous voltage) applied to the device under test shall be regulated to within ±0.2 percent under load.
The sample was measured using 4π geometry and 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 Result

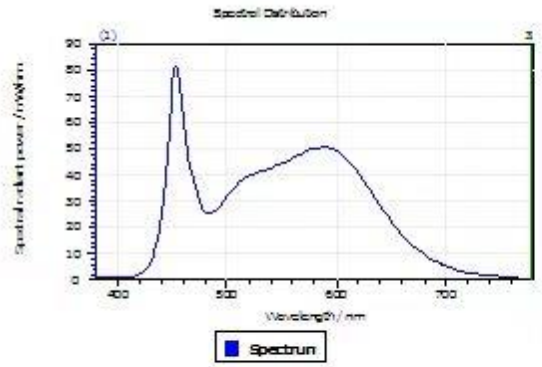
Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD
120.03	60	0.188	22.25	0.986	12.91%
277.02	60	0.092	22.71	0.893	17.97%

CCT (K)	CRI	R9	Duv	Light Output (lm)	Efficacy (lm/W)
5010	84.5	8.7	0.0017	3218	141.7

Rf	Rg	IES Rcs,h1
84	94	-12%

4.1 Integrating Sphere Test

Results



Spectral Distribution

Spectral values

DominantWavelength	570.93 nm
Purity	0.101
PeakWavelength	463.66 nm
Radiant Power	9.76 W
Width50%:	

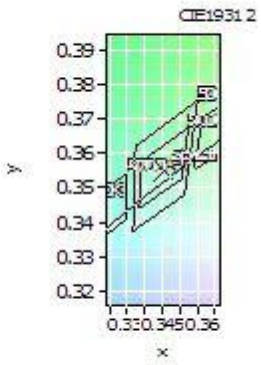
Color Coordinates

Correlated Color Temperat 5010 K

x:	0.3452	u:	0.2101	u':	0.2101
y:	0.3561	v:	0.3242	v':	0.4864

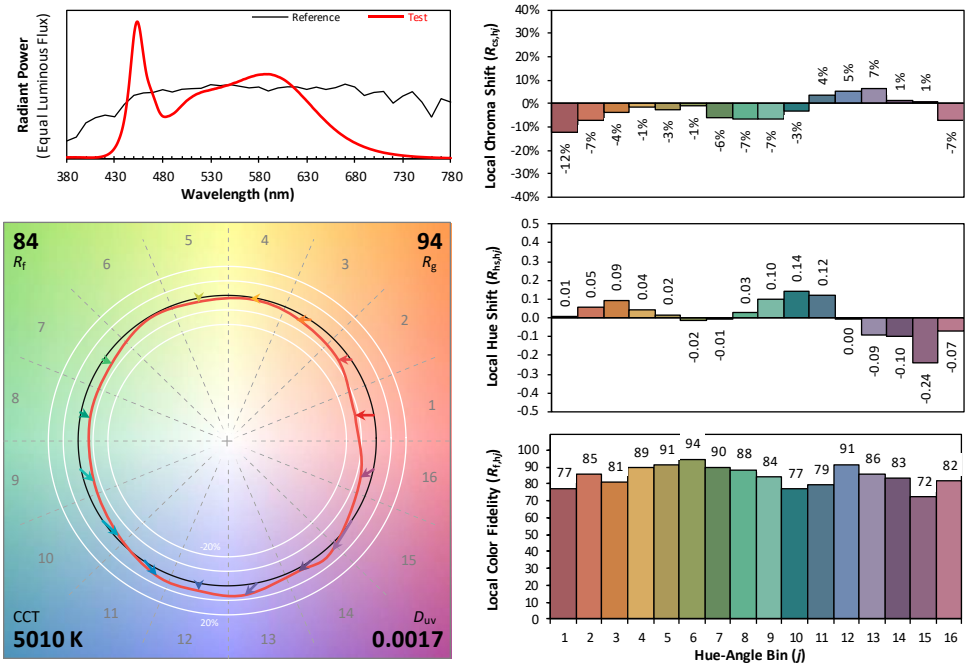
CRI01	83.2	CRI09	8.7
CRI02	92.4	CRI10	81.4
CRI03	95.1	CRI11	82.1
CRI04	82.2	CRI12	64.6
CRI05	83.8	CRI13	86.2
CRI06	88.2	CRI14	98.0
CRI07	85.2	CRI15	77.2
CRI08	65.6	CRI16	73.2

ResultsCRI 84.5



PlanckDistance 1.7E-003

4.1 Integrating Sphere Test



Notes: This is a recommended method for displaying ANSI/IES TM-30-18 information.

x	0.3452
y	0.3551
u'	0.2101
v'	0.4864

CIE 13.3-1995 (CRI)

R_a	85
R_9	9

lors are for visual orientation purposes only. Created with the ANSI/IES TM-30-18 Calculator Version 2.0

5.0 Equipment Information

Test Equipment			
Equipment ID	Equipment Name	Last Calibration Date	Calibration Due Date
DLF107	Integrating Sphere System	2020/12/26	2021/12/25
DLF108	Auxiliary Lamp	2020/12/26	2021/12/25
DLF122	Measurement Standard Lamp Standard Lamp Type: 220 V, 0.4720 A, Tungsten, Omni-derectional	2020/12/26	2021/12/25
DLF116	AC Power Source	2020/12/26	2021/12/25
DLF113	Power Meter	2020/12/26	2021/12/25
DLF112	Temperature Recorder	2020/12/26	2021/12/25
DLF114	Temperature & Humidity Datalogger	2020/12/26	2021/12/25
DLF101	Goniophotometer	2020/12/26	2021/12/25
DLF125	Standard Lamp Standard Lamp Type: 76.58 V, 6.7875 A, Tungsten, Omni-derectional	2020/12/26	2021/12/25
DLF104	AC Power Source	2020/12/26	2021/12/25
DLF507	DC Power Source	2020/12/26	2021/12/25
DLF102	Power Meter	2020/12/26	2021/12/25
DLF111	Temperature & Humidity Datalogger	2020/12/26	2021/12/25
DLF119	Power Meter	2020/12/26	2021/12/25
DLF031	Temperature data logger	2020/12/26	2021/12/25
DLF022	Digital power meter	2020/12/26	2021/12/25
DLF003	Temperature & Humidity Datalogger	2020/12/26	2021/12/25

********** End of Test Report**********