

Photometric Test Report

Relevant Standards

- ☒ IES LM-79-2008
- ☒ ANSI C82.77:2017

Prepared For

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Test Date

2021/9/10

Issue Date

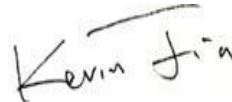
2021/9/22

Prepared By



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Approved By



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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	9.02%
		20.00%	277V	14.61%
Power Factor (THD & PF - section 4.3)	ANSI C82.77:2014	0.9	120V	0.993
		0.9	277V	0.949
Allowable CCTs* (K) (Integrating Sphere - Section 4.1)	IES LM-79-2008	7 step	3045±175	5023
		4 step	3045±100	
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		13
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		93
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/VHO/850	O1

Remark(If any)

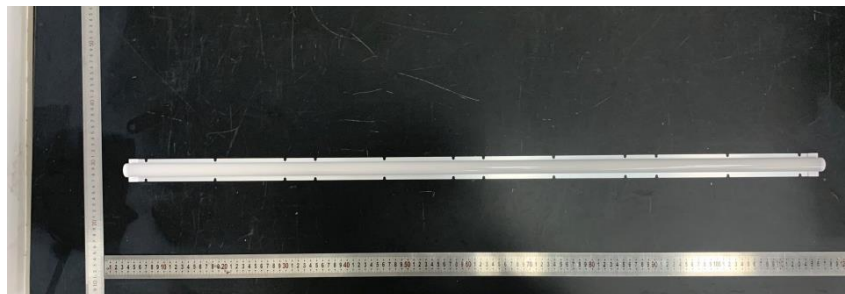
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3.0 Production Description

Tested Model: VEKM-L41F/VHO/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/VHO/850	Sample ID.	O1
Operate 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 parameters were measured using an integrating sphere, a spectroradiometer and software. The ambient temperature condition inside the sphere was maintained at $25^{\circ}\text{C} \pm 1^{\circ}\text{C}$.

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

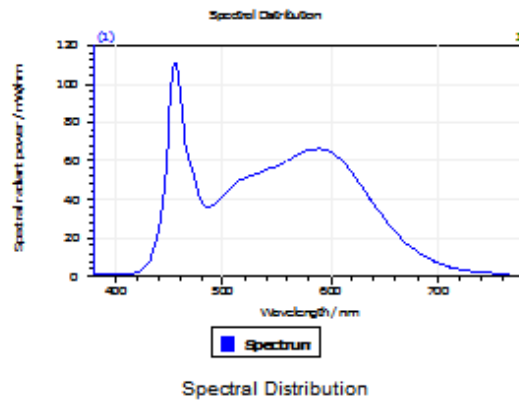
Voltage (Vac)	Frequency (Hz)	Current (A)	Power (W)	Power Factor	THD
120.05	60	0.371	44.27	0.993	9.02%
276.97	60	0.170	44.58	0.949	14.61%

CCT (K)	CRI	R9	Duv	Light Output (lm)	Efficacy (lm/W)
5023	84.9	13.1	0.0016	6302	141.4

Rf	Rg	IES Rcs,h1
84	93	-12%

4.1 Integrating Sphere Test

Results

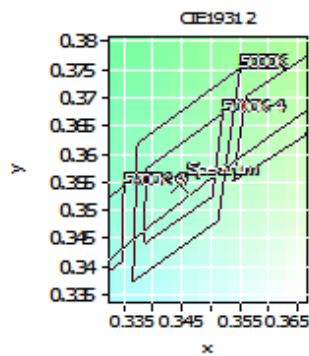


Spectral values

DominantWavelength	570.85 nm
Purity	0.098
PeakWavelength	455.87 nm
Radiant Power	12.87 W
Width50%:	

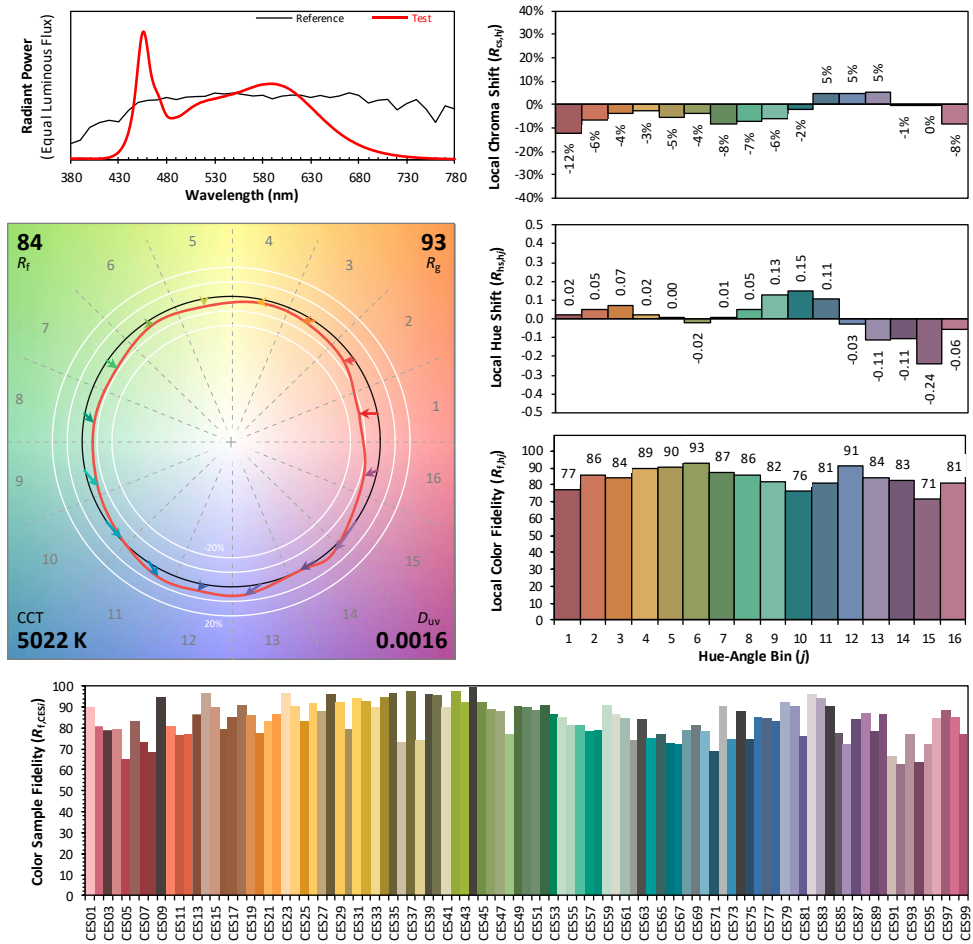
Color Coordinates

Correlated Color Temperat		5023 K	
x: 0.3448	u: 0.2101	u': 0.2101	
y: 0.3545	v: 0.3240	v': 0.4860	
CRI01	84.6	CRI09	13.1
CRI02	94.8	CRI10	86.7
CRI03	93.9	CRI11	81.1
CRI04	81.1	CRI12	65.4
CRI05	84.6	CRI13	88.3
CRI06	90.4	CRI14	97.3
CRI07	83.9	CRI15	78.8
CRI08	65.8	CRI16	73.5
ResultsCRI	84.9		



PlanckDistance	1.6E-003
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4.1 Integrating Sphere Test



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

x 0.3448
 y 0.3545
 u' 0.2101
 v' 0.4860

CIE 13.3-1995
(CRI)

R_a 85
 R_g 14

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*****