



Report No.: 80239581-53  
Project No.: 80239581  
Client: Vista Professional Outdoor Lighting

## PHOTOMETRIC TESTING & EVALUATION TO IES LM-79-19

Sample Tested

**1054YM-X-MF-RGBW-FL-MV-DMX-With Filter-RED Output**

Prepared for:

**Vista Professional Outdoor Lighting**

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Simi Valley, CA 93063

**Technical Report Number**

80239581-53

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## Program Description

Photometric and electrical testing of a 1054YM-X-MF-RGBW-FL-MV-DMX-With Filter-RED Output Type C LED Luminaire to IES LM-79-19.

## Executive Summary

Sample Tested = 1054YM-X-MF-RGBW-FL-MV-DMX-With Filter-RED Output

Sample Number = 44003367

Driver = ELDOLED PW50U-M4Z0X1

LED Module = LUMILEDS LUXEON 3528 RGB

Test Condition = The sample features Red, Green, Blue, and White light settings. It was tested with only the Red light turned on. The color settings were adjusted using an ENTTEC DMX USB PRO DMX512 controller. Candela values are scaled to calculate the same output of the sphere measurement.

Luminous Efficacy (Lumens/Watt)	Luminous Flux (Lumens)	Input Power (Watts)	Power Factor	ATHD (%)
33.95	1008.63	29.71	0.9383	25.00

CCT(K)	CRI	R9	Rcs,h1	Rf / Rg
N.A.	N.A.	N.A.	N.A.	N.A.

\* The above results are recorded / derived from measurements made using an Integrating Sphere

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**Test Sample Pictures**

The following sample was submitted for evaluation:



**Vista Professional Outdoor Lighting : 1054YM-X-MF-RGBW-FL-MV-DMX-With Filter-RED Output**

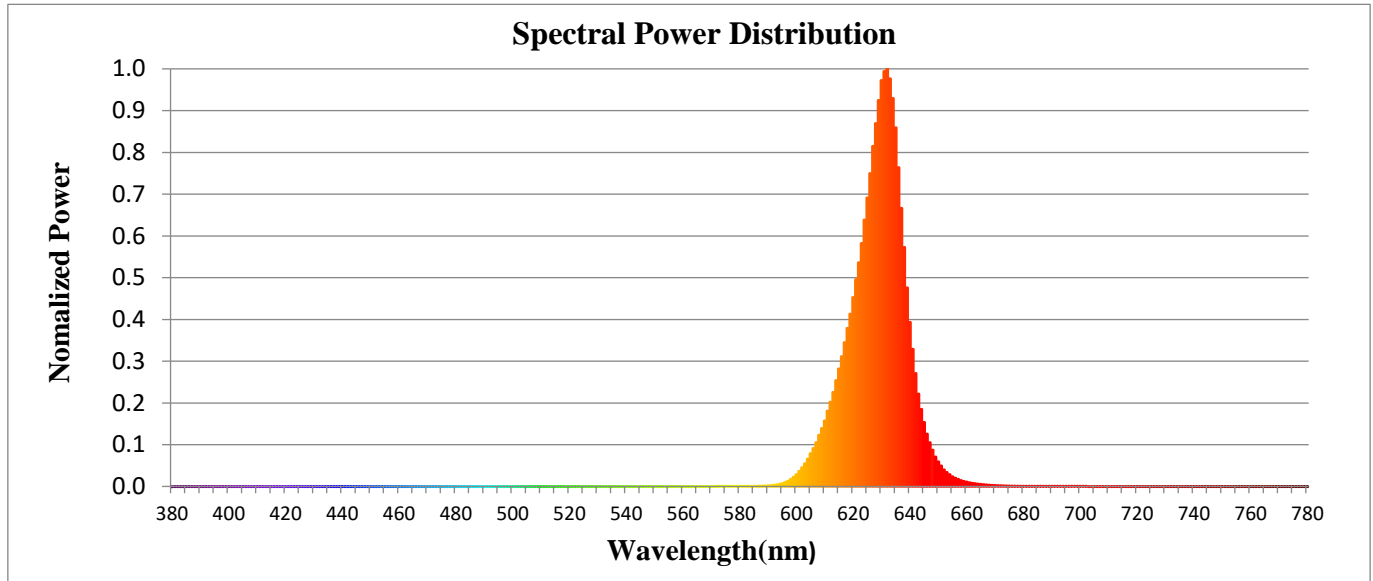
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Test Result	
<p>The following results were measured after stabilization of the sample in the Integrating Sphere (unless otherwise stated). Stability shall be achieved when the variation (Maximum to minimum) of at least three readings of the light output and electrical power consumption, taken at a maximum of 10 minute intervals over a period of 20 minutes and divided by the last of these measurements chronologically, is less than 0.5%.</p>	
Key Photometric Results	Sample Reference
	1054YM-X-MF-RGBW-FL-MV-DMX-With Filter-RED Output
	Integrating Sphere
Luminous Efficacy (Lumens/Watt)	33.95
Total Luminous Flux (Lumens)	1008.63
Total Radiant Flux (Watts)	5.06
Correlated Color Temperature (CCT)	N.A.
Color Rendering Index (CRI)(Ra)	N.A.
R9 Value	N.A.
IES R <sub>f</sub> / IES R <sub>g</sub>	N.A.
Local Chroma Shift R <sub>cs,h1</sub>	N.A.
Chromaticity (Chroma x/Chroma y)	0.6976 / 0.3023
Chromaticity (Chroma u/Chroma v)	0.5334 / 0.3466
Chromaticity (Chroma u'/Chroma v')	0.5334 / 0.52
Duv Value	0.0000
Stabilization Time (Light and Power)	90 minutes
Total Run Time (Integrating Sphere)	95 minutes
Scotopic/Photopic ratio $\Phi(v')/\Phi(v)$	0.03
Electrical Input Results:	Sample Reference
	1054YM-X-MF-RGBW-FL-MV-DMX-With Filter-RED Output
Input Power (Watts)	29.71
Input Voltage (Volts AC)	120.01
Input Current (Amps)	0.26
Input Frequency (Hertz)	60.0
Power Factor	0.9383
Total Harmonic Distortion (THD V,A)%	0.23, 25
Additional Information	Sample Reference
	1054YM-X-MF-RGBW-FL-MV-DMX-With Filter-RED Output
Ambient Temperature	25.4°C
Integrating Sphere Detector	CDS 2600 Spectroradiometer
Absortion Correction Used?	Yes
Date Tested	3/19/2025

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## Spectral Flux

The following graph shows the spectral response curve of the radiant flux for the sample:

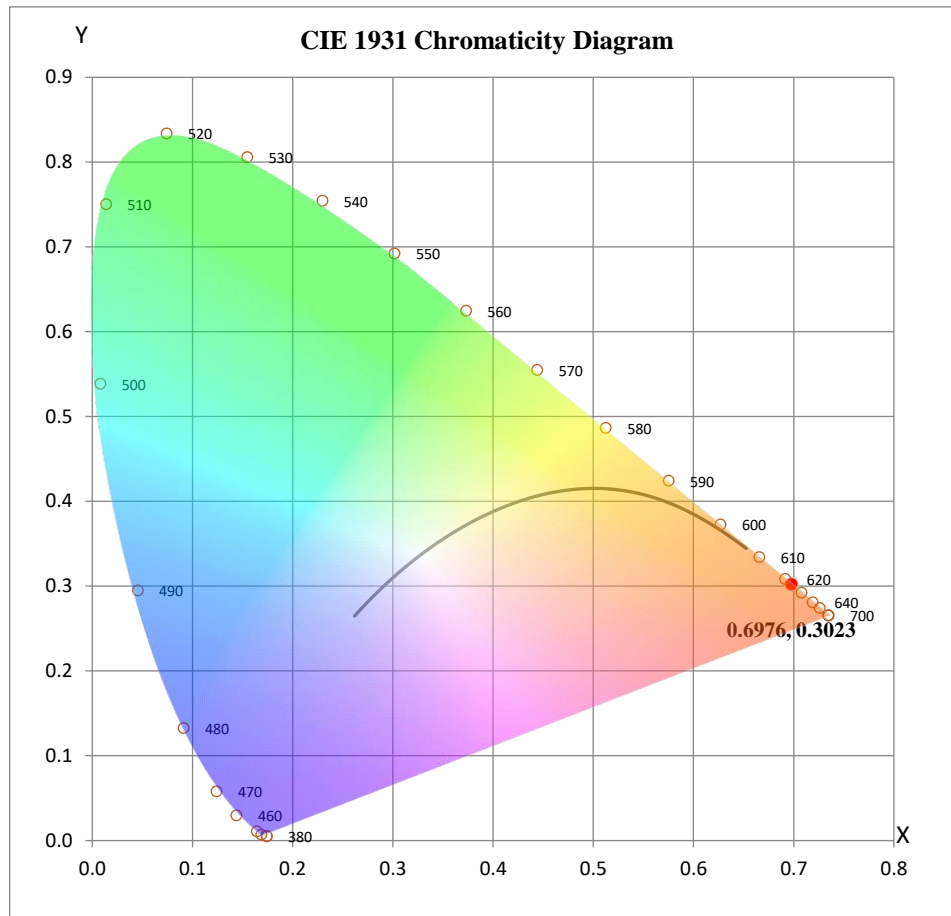


**Spectral response of the Radiant Flux**  
 (380nm to 780nm - calibrated range of the Spectroradiometer)

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## Chromaticity Diagram

The following image shows the chromaticity diagram for the sample:

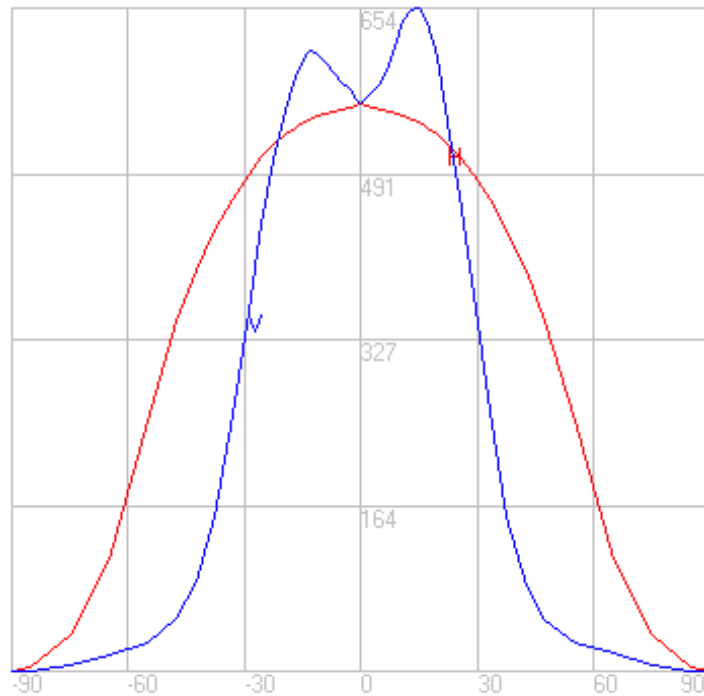
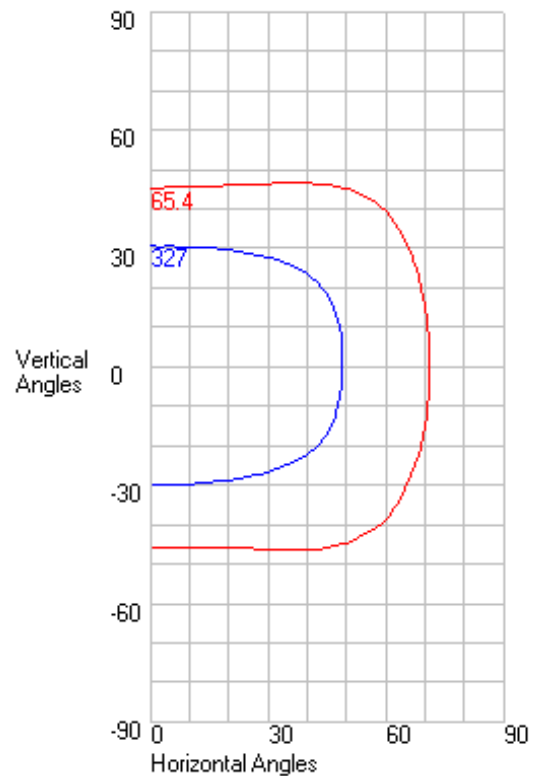


$x = 0.6976$        $y = 0.3023$

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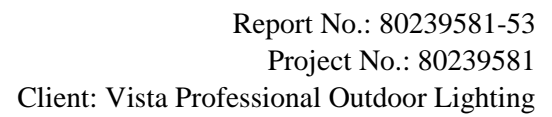
**Photometric Test Results**

Characteristics	
NEMA Type	7 H x 5 V
Maximum Candela	654.00
Maximum Candela Angle	0 H 15 V
Horizontal Beam Angle (50%)	93.70
Vertical Beam Angle (50%)	60.70
Horizontal Field Angle (10%)	140.30
Vertical Field Angle (10%)	90.90
Beam Lumens	690.00
Field Lumens	948

**Axial Candela Display**

**Isocandela Curves**


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### Vertical Angle

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**Photometric Testing Information**

The sample was evaluated for photometric and electrical characteristics using an integrating sphere and a goniophotometer, each located in purpose-built, temperature and humidity-controlled, draft free environments

The integrating sphere is by Labsphere which exhibits a “4 $\pi$  geometry” configuration according to IES LM-79-19 and is applicable for all types of LED products (directional and non-directional light projections). Its spectroradiometer is an array-type detector manufactured and calibrated by Labsphere.

The integrating sphere uses self-absorption correction to eliminate errors due to mismatches between the standard reference lamp and the test samples being measured. The auxiliary lamp used to perform this task is a halogen type lamp powered by a calibrated Lamp Power Supply manufactured and calibrated by Labsphere. Ambient temperature (for photometric analysis) is measured using a “J-Type” thermocouple located inside the integrating sphere at the same height as the sample under test and not more than 1 meter in horizontal distance away from the sample. The thermocouple is located behind the baffle of the photo detector in order to eliminate any direct optical radiation from the sample under test.

**Luminaire Stabilization.**

The sample was placed inside the integrating sphere and powered by a regulated and conditioned Voltage alternating current supply. The correlated color temperature, color rendering index, chromaticity coordinates and electrical power measurements contained in this report are the numeric averages of the three readings upon which stabilization is verified. The stabilization times shown on the results pages of this report denote the time of the 1st measurement (of the 3 consecutive readings) since this is the minimum time that the sample is assumed to have taken to reach stabilization.

The integrating sphere is calibrated using a quartzline halogen lamp with the following specifications:  
(Calibrated by Labsphere – NIST traceable).

Lamp ID	J178	L177	A178
Manufacture	Donar	Donar	Donar
Model Number	SCL-1400-J178	SCL-1400-L177	SCL-1400-A178
Part ID	SCL-1400	SCL-1400	SCL-1400
Current (A)	2.679	2.679	2.679
Wattage (W)	75.0	75.0	75.0
Voltage (VDC)	28.0	28.0	28.0
Luminous Flux	1306	1417	1343
Calibration Date	6/21/2021	2/16/2021	6/21/2021

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**Photometric Testing Information (Continued)**

The goniophotometer Mayer Engineering Type C is calibrated using a frosted tungsten filament FDS/DZE lamp with the following specifications:

Manufacturer: GE  
Part Number: DZE  
Bulb Number: 106-A  
Voltage: 16.93 Volts DC reference  
Calibration Current: 4.863 Amperes  
Luminous Intensity: 168.8 Candelas  
Calibration Date: 4/25/12 (NIST traceable)

Manufacturer: GE  
Part Number: DZE  
Bulb Number: 106-B  
Voltage: 16.45 Volts DC reference  
Calibration Current: 4.79 Amperes  
Luminous Intensity: 145.3 Candelas  
Calibration Date: 4/25/12 (NIST traceable)

Manufacturer: GE  
Part Number: DZE  
Bulb Number: 106-C  
Voltage: 16.57 Volts DC reference  
Calibration Current: 4.829 Amperes  
Luminous Intensity: 157.0 Candelas  
Calibration Date: 4/25/12 (NIST traceable)

A Yokogawa WT210 Power Analyzer was used to measure all electrical characteristics of the sample.

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### Equipment List: Goniophotometer Type C

Description	Manufacturer and Model Number	CSA Instrument Reference Number	Calibration Due Date
Optometer	Gigahertz Optik P9801	OPT400	N/A
Programmable DC Power Supply	Chroma Instruments 62012P-80-60	DCP300	N/A
Regulated Power Supply	Chroma Instruments 61602	AC301	N/A
Power Analyzer	Yokogawa WT210	Z00019641	10/28/2025

### Equipment List: Sphere D Equipment

Description	Manufacturer and Model Number	CSA Instrument Reference Number	Calibration Due Date
Integrating Sphere 118"	Labsphere LMS-3M	Z00029788	N/A
Spectroradiometer	Labsphere CDS2600	N/A	N/A
Auxiliary Lamp PSU	Labsphere LPS525	N/A	N/A
Power Analyzer	Yokogawa WT310E	Z00025875	5/14/2025
Programmable AC Power Supply	Chroma Instruments 61605	Z00023974	N/A

\* All equipment is calibrated to ISO / IEC 17025-2017 guidelines.

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