



Report No.: 80239581-5
Project No.: 80239581
Client: Vista Professional Outdoor Lighting

PHOTOMETRIC TESTING & EVALUATION TO IES LM-79-19

Sample Tested

1051YM-X-MF-RGBW-SB-MV-DMX-With Filter-RED Output

Prepared for:

Vista Professional Outdoor Lighting

1625 Surveyor Ave
Simi Valley, CA 93063

Technical Report Number

80239581-5

March 7, 2025

Test Report Prepared and Released by:

K. A. Patel

Keyur Patel
Certifier-I

Test Report Reviewed by:

KC Fletcher

KC Fletcher
Manager

This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government. TM-30-18 is not covered under NVLAP Accreditation. **The results in this report relate only to the sample tested.**

This report shall not be reproduced, except in full, without the approval of CSA Group

Program Description

Photometric and electrical testing of a 1051YM-X-MF-RGBW-SB-MV-DMX-With Filter-RED Output Type C LED Luminaire to IES LM-79-19.

Executive Summary

Sample Tested = 1051YM-X-MF-RGBW-SB-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 (%)
31.06	262.35	8.45	0.9126	14.56

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

This report shall not be reproduced, except in full, without the approval of CSA Group

TABLE OF CONTENTS

Test Sample Pictures.....	4
Test Result.....	5
Spectral Power Distribution.....	6
Chromaticity Diagram.....	7
Photometric Test Results.....	8
Candela Tabulation.....	9
Photometric Testing Information.....	10
Equipment List.....	12

This report shall not be reproduced, except in full, without the approval of CSA Group

Test Sample Pictures

The following sample was submitted for evaluation:



Vista Professional Outdoor Lighting : 1051YM-X-MF-RGBW-SB-MV-DMX-With Filter-RED Output

This report shall not be reproduced, except in full, without the approval of CSA Group

Test Result

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%.

Key Photometric Results	Sample Reference
	1051YM-X-MF-RGBW-SB-MV-DMX-With Filter-RED Output
	Integrating Sphere
Luminous Efficacy (Lumens/Watt)	31.06
Total Luminous Flux (Lumens)	262.35
Total Radiant Flux (Watts)	1.31
Correlated Color Temperature (CCT)	N.A.
Color Rendering Index (CRI)(Ra)	N.A.
R9 Value	N.A.
IES R _f / IES R _g	N.A.
Local Chroma Shift R _{cs,h1}	N.A.
Chromaticity (Chroma x/Chroma y)	0.6976 / 0.3023
Chromaticity (Chroma u/Chroma v)	0.5332 / 0.3467
Chromaticity (Chroma u'/Chroma v')	0.5332 / 0.52
Duv Value	0.0000
Stabilization Time (Light and Power)	45 minutes
Total Run Time (Integrating Sphere)	50 minutes
Scotopic/Photopic ratio $\Phi(v')/\Phi(v)$	0.03

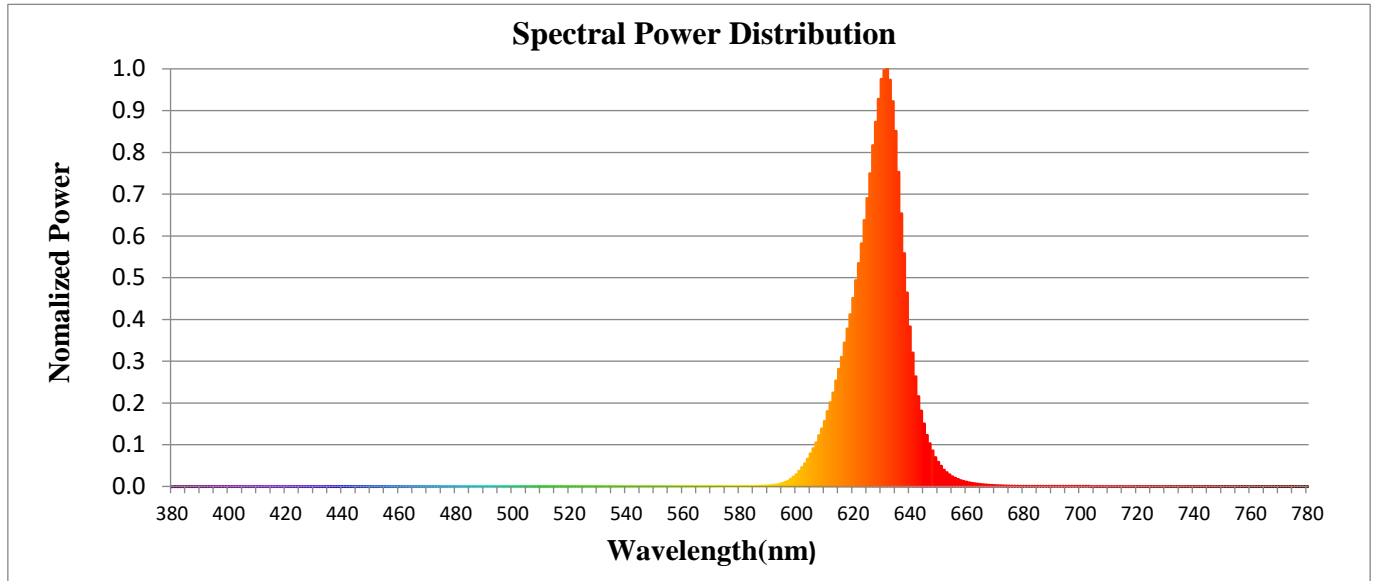
Electrical Input Results:	Sample Reference
	1051YM-X-MF-RGBW-SB-MV-DMX-With Filter-RED Output
Input Power (Watts)	8.45
Input Voltage (Volts AC)	120.03
Input Current (Amps)	0.08
Input Frequency (Hertz)	60.0
Power Factor	0.9126
Total Harmonic Distortion (THD V,A)%	0.17, 14.56

Additional Information	Sample Reference
	1051YM-X-MF-RGBW-SB-MV-DMX-With Filter-RED Output
Ambient Temperature	25.8°C
Integrating Sphere Detector	CDS 2600 Spectroradiometer
Absortion Correction Used?	Yes
Date Tested	3/4/2025

This report shall not be reproduced, except in full, without the approval of CSA Group

Spectral Flux

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

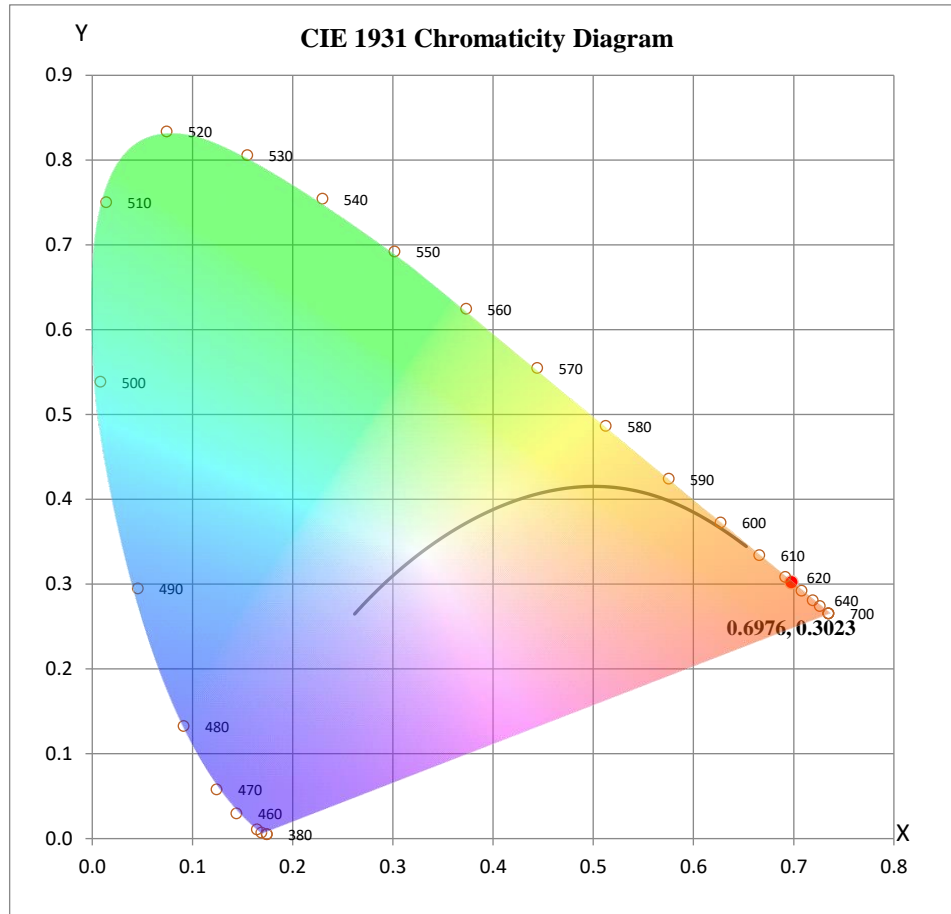


Spectral response of the Radiant Flux
 (380nm to 780nm - calibrated range of the Spectroradiometer)

This report shall not be reproduced, except in full, without the approval of CSA Group

Chromaticity Diagram

The following image shows the chromaticity diagram for the sample:

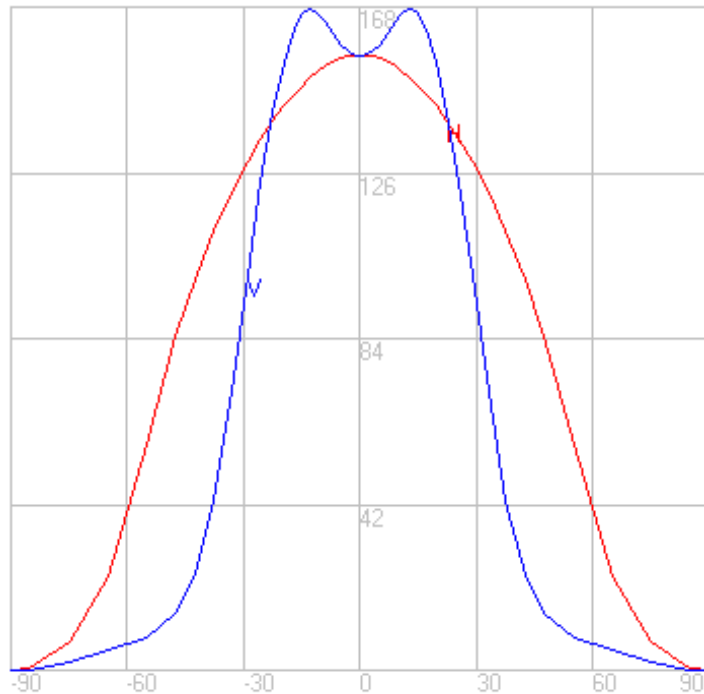
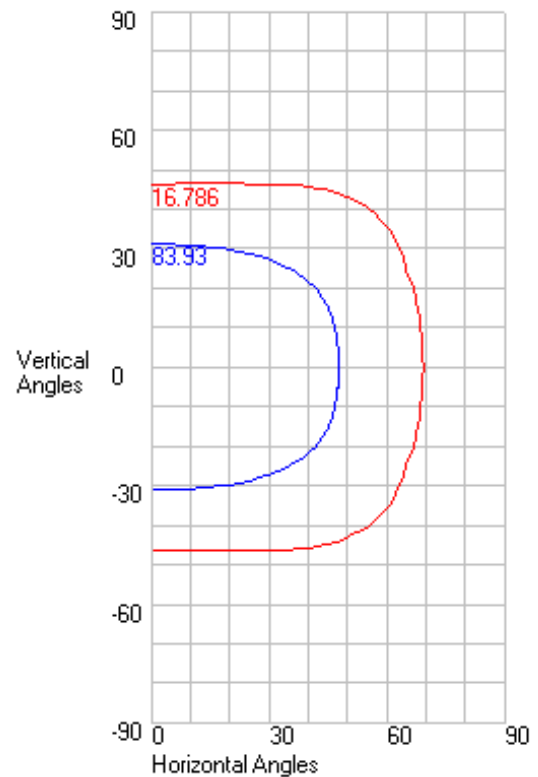


$x = 0.6976$ $y = 0.3023$

This report shall not be reproduced, except in full, without the approval of CSA Group

Photometric Test Results

Characteristics	
NEMA Type	7 H x 5 V
Maximum Candela	167.86
Maximum Candela Angle	-1 H -13 V
Horizontal Beam Angle (50%)	91.90
Vertical Beam Angle (50%)	62.40
Horizontal Field Angle (10%)	136.50
Vertical Field Angle (10%)	92.80
Beam Lumens	184.00
Field Lumens	246

Axial Candela Display

Isocandela Curves


This report shall not be reproduced, except in full, without the approval of CSA Group

Candela Tabulation

		Vertical Angle																																					
Horizontal Angle		0.0	2.5	5.0	7.5	10.0	12.5	15.0	17.5	20.0	22.5	25.0	27.5	30.0	32.5	35.0	37.5	40.0	42.5	45.0	47.5	50.0	52.5	55.0	57.5	60.0	62.5	65.0	67.5	70.0	72.5	75.0	77.5	80.0	82.5	85.0	87.5	90.0	
	0	156	156	158	162	166	168	167	161	152	141	127	111	93	74	57	43	32	24	19	15	12	10	8	7	6	6	5	4	4	3	2	2	1	0	0	0	0	
	5	156	156	159	162	166	168	167	161	153	141	128	111	93	74	58	44	33	25	19	15	12	10	8	7	6	6	5	4	4	3	2	2	1	0	0	0	0	
	10	156	156	158	162	165	168	167	162	153	142	129	113	95	76	59	45	34	25	19	15	12	10	9	7	7	6	5	4	4	3	2	2	1	0	0	0	0	
	15	156	156	158	162	165	168	167	162	154	143	130	115	97	79	62	47	36	27	21	16	13	11	9	8	7	6	5	5	4	3	2	2	1	0	0	0	0	
	20	156	156	158	161	165	167	167	163	155	145	132	118	101	83	65	50	38	29	22	17	14	11	10	8	7	6	6	5	4	3	3	2	1	0	0	0	0	
	25	156	156	158	161	164	167	167	163	156	146	135	121	105	88	70	55	42	32	25	19	15	12	10	9	8	7	6	5	4	4	3	2	1	1	0	0	0	
	30	156	156	158	160	163	166	166	163	157	148	137	125	110	93	76	61	47	36	28	22	17	14	11	10	8	7	6	5	5	4	3	2	1	1	0	0	0	
	35	156	156	158	160	163	165	165	163	158	151	141	129	116	100	84	68	53	41	32	25	20	16	13	11	9	8	7	6	5	4	3	2	1	1	0	0	0	
	40	156	156	157	159	161	163	164	163	159	153	144	133	121	107	91	75	61	48	37	29	23	18	15	12	10	9	8	6	5	4	3	2	2	1	0	0	0	
	45	156	156	157	158	160	162	163	162	159	154	147	137	126	114	99	84	69	56	44	35	27	22	17	14	12	10	8	7	6	5	4	3	2	1	0	0	0	
	50	156	156	156	158	159	160	161	161	159	155	149	141	131	120	107	93	79	65	52	42	33	26	21	17	14	12	10	8	7	5	4	3	2	1	0	0	0	
	55	156	156	156	157	158	158	159	159	158	155	150	143	135	125	114	102	89	75	62	50	40	32	25	20	16	13	11	9	7	6	4	3	2	1	0	0	0	
	60	156	156	156	156	156	156	157	156	155	153	149	144	137	129	120	109	97	84	71	59	48	38	31	24	20	16	13	11	8	7	5	3	2	1	0	0	0	
	65	156	156	156	155	155	155	154	154	153	151	148	143	138	131	123	115	104	93	81	68	57	46	37	30	24	19	15	12	10	7	5	4	2	1	0	0	0	
	70	156	156	155	155	154	153	152	151	150	148	145	141	137	131	125	117	109	99	88	77	65	54	44	35	28	22	18	14	11	8	6	4	2	1	0	0	0	
	75	156	156	155	155	153	152	151	149	147	145	142	138	134	129	124	117	110	102	93	82	71	60	50	40	32	25	20	16	12	9	6	4	3	1	0	0	0	
	80	156	155	155	154	153	151	149	147	145	142	138	135	130	126	121	115	109	102	94	85	75	65	54	44	35	28	22	17	13	10	7	5	3	1	0	0	0	
	85	156	156	155	154	152	150	148	146	143	140	136	132	128	123	118	113	107	100	93	85	76	66	57	47	38	30	23	18	14	10	7	5	3	1	0	0	0	
90	156	156	155	154	152	151	148	146	143	139	135	131	127	122	117	112	106	99	92	85	76	67	57	48	38	30	24	18	14	10	7	5	3	1	0	0	0		

This report shall not be reproduced, except in full, without the approval of CSA Group

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 “ 4π 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

This report shall not be reproduced, except in full, without the approval of CSA Group

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.

This report shall not be reproduced, except in full, without the approval of CSA Group

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.

Accreditation

- This report, and use of the NVLAP logo, shall not be used by a client to claim certification, approval, or endorsement by NVLAP, NIST, or any agency of the U.S. Government.
- This report, and use of the CSA logo, shall not be used by a client to claim certification, approval, or endorsement by CSA.
- This test report, may contain sections with product performance criteria, which has been specified by certification program(s) not affiliated with NVLAP. TM-30-18 is not covered under NVLAP Accreditation.
- This test report, contains sections with test data recorded within the scope of this lab's accreditation through NVLAP. In these instances, the NVLAP Logo and associated testing lab code will be present on the header of the first page and last page.



This report shall not be reproduced, except in full, without the approval of CSA Group