

PHOTOMETRIC TESTING & EVALUATION TO IES LM-79-19

Sample Tested

1052YM-X-MF-RGBW-FL-MV-DMX-With Filter-GREEN Output

Prepared for:

Vista Professional Outdoor Lighting

1625 Surveyor Ave
Simi Valley, CA 93063

Technical Report Number
80239581-30 R1

January 27, 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 1052YM-X-MF-RGBW-FL-MV-DMX-With Filter-GREEN Output Type C LED Luminaire to IES LM-79-19.

Executive Summary

Sample Tested = 1052YM-X-MF-RGBW-FL-MV-DMX-With Filter-GREEN Output

Sample Number = 44003367

Driver = ELDOLED PW50U-M4Z0X1

LED Module = LUMILEDS LUXEON 2835 Architectural

Test Condition = The sample features Red, Green, Blue, and White light settings. It was tested with only the Green 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 (%)
55.52	1145.63	20.64	0.9705	14.39

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 : 1052YM-X-MF-RGBW-FL-MV-DMX-With Filter-GREEN 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
	1052YM-X-MF-RGBW-FL-MV-DMX-With Filter-GREEN Output
	Integrating Sphere
Luminous Efficacy (Lumens/Watt)	55.52
Total Luminous Flux (Lumens)	1145.63
Total Radiant Flux (Watts)	2.50
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)	0.1484 / 0.7017
Chromaticity (Chroma u/Chroma v)	0.0534 / 0.3785
Chromaticity (Chroma u'/Chroma v')	0.0534 / 0.5677
Duv Value	0.1609
Stabilization Time (Light and Power)	30 minutes
Total Run Time (Integrating Sphere)	35 minutes
Scotopic/Photopic ratio $\Phi(v')/\Phi(v)$	3.17

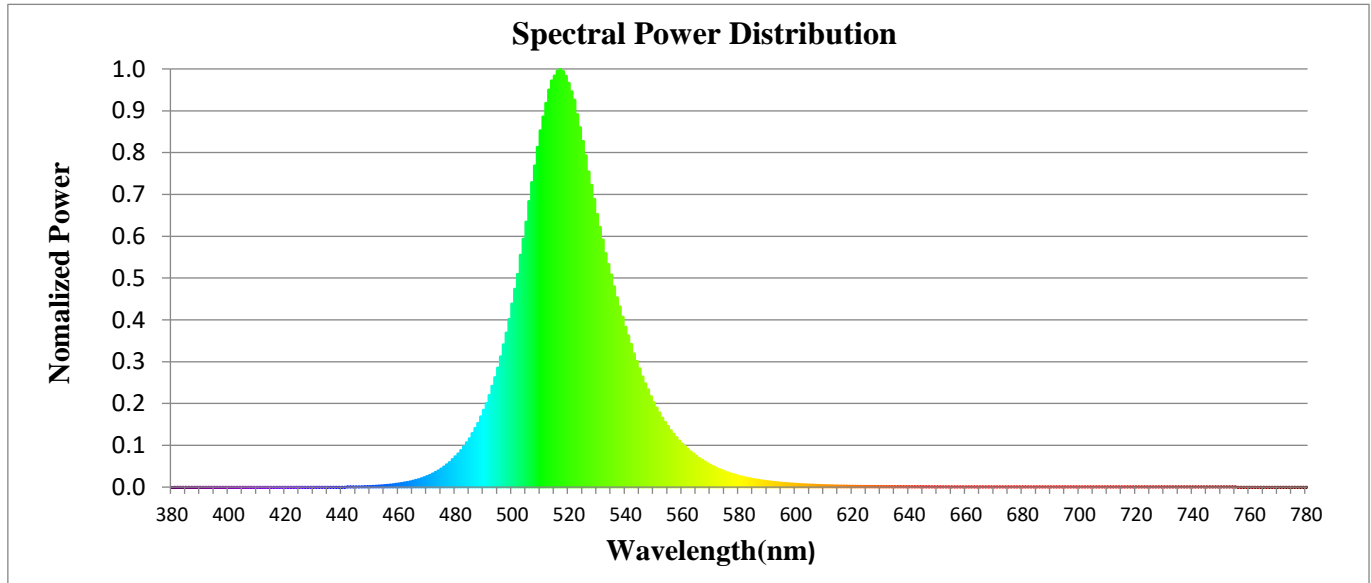
Electrical Input Results:	Sample Reference
	1052YM-X-MF-RGBW-FL-MV-DMX-With Filter-GREEN Output
Input Power (Watts)	20.64
Input Voltage (Volts AC)	120.12
Input Current (Amps)	0.18
Input Frequency (Hertz)	60.0
Power Factor	0.9705
Total Harmonic Distortion (THD V,A)%	0.22, 14.39

Additional Information	Sample Reference
	1052YM-X-MF-RGBW-FL-MV-DMX-With Filter-GREEN Output
Ambient Temperature	25°C
Integrating Sphere Detector	CDS 2600 Spectroradiometer
Absortion Correction Used?	Yes
Date Tested	1/15/2025

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:

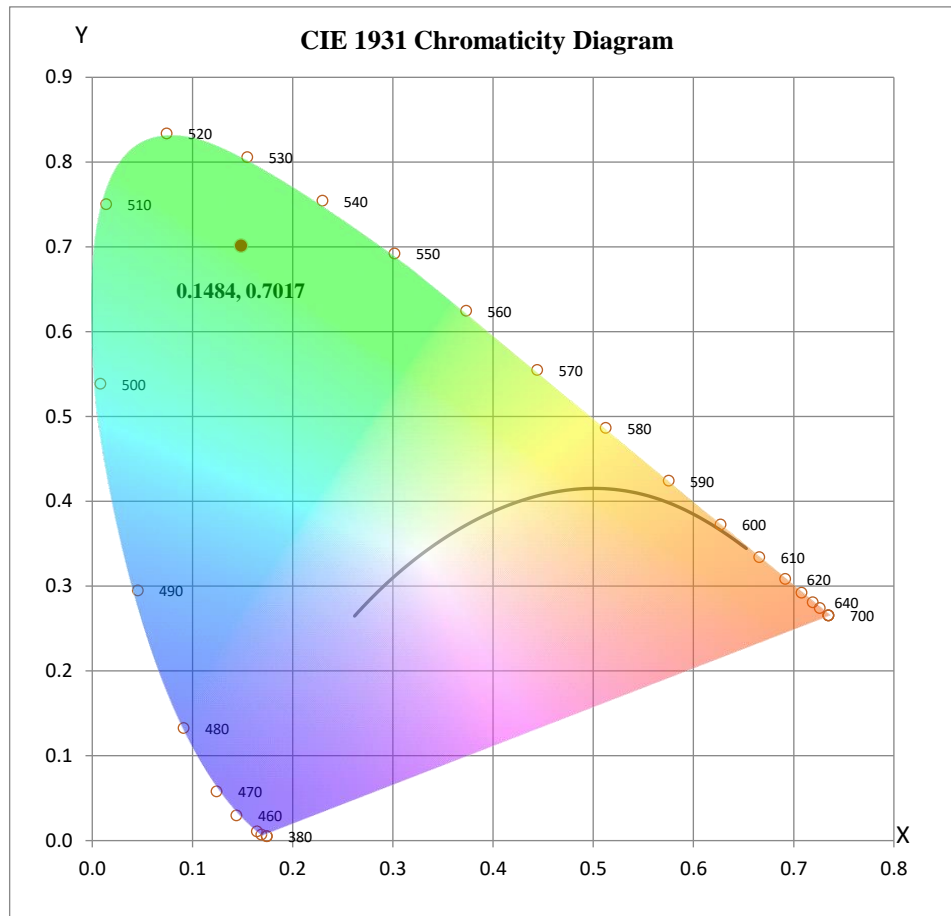


Spectral response of the Radiant Flux
 (380nm to 780nm - calibrated range of the Spectroradiometer)

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:

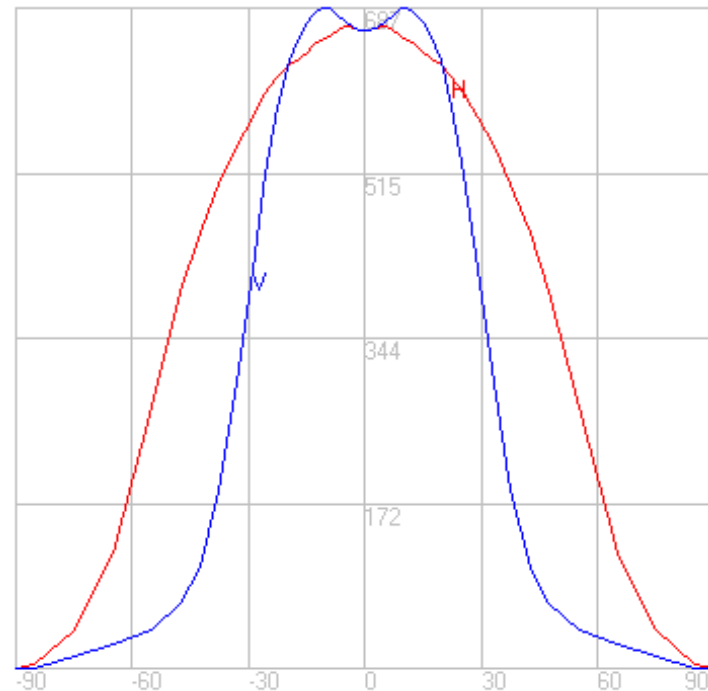
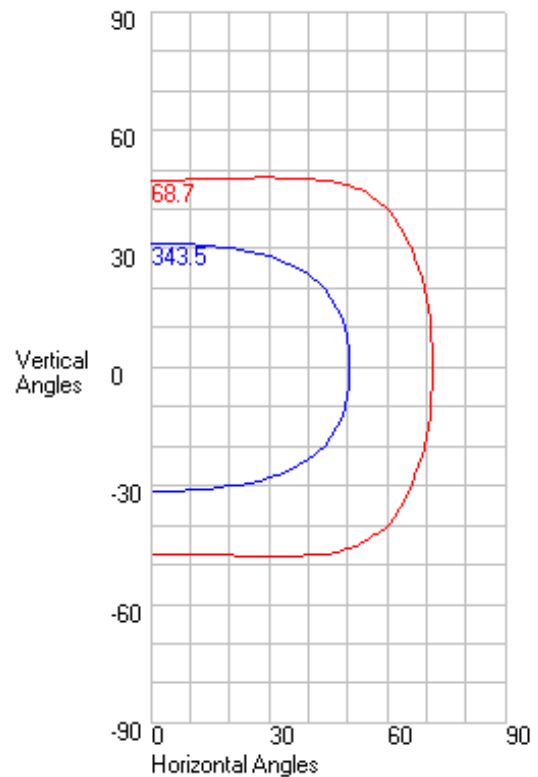


$x = 0.1484$ $y = 0.7017$

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	687.00
Maximum Candela Angle	0 H -11 V
Horizontal Beam Angle (50%)	98.20
Vertical Beam Angle (50%)	62.90
Horizontal Field Angle (10%)	142.00
Vertical Field Angle (10%)	94.60
Beam Lumens	804.00
Field Lumens	1073

Axial Candela Display

Isocandela Curves


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

Candela Tabulation

		Vertical 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
Horizontal Angle	0	665	666	673	682	690	683	673	656	629	585	529	460	386	311	244	185	142	106	84	67	55	46	40	35	30	28	25	22	18	15	12	9	5	3	1	0	0
	5	665	670	676	682	687	683	672	653	627	585	529	462	387	314	245	188	144	110	85	68	55	46	40	35	31	28	25	22	18	15	12	9	5	3	1	0	0
	10	665	666	672	681	688	684	673	652	626	587	533	468	395	319	251	192	148	114	89	70	57	48	41	36	31	28	25	23	19	16	13	9	6	3	1	0	0
	15	665	667	674	681	684	686	672	653	627	594	540	477	404	333	261	204	155	120	93	74	61	50	43	37	34	29	26	23	19	16	13	10	6	3	1	0	0
	20	665	669	674	677	683	683	676	656	634	598	550	490	420	347	279	217	169	129	101	80	65	54	45	39	35	30	27	24	21	17	13	10	6	3	1	0	0
	25	665	666	674	679	682	687	677	663	638	606	560	504	439	369	298	237	183	143	111	88	70	58	49	42	37	32	29	25	22	18	14	11	6	3	1	0	0
	30	665	669	674	678	681	683	679	667	644	613	573	521	460	391	322	260	204	160	124	98	79	64	54	46	40	36	31	27	23	19	15	11	8	4	1	0	0
	35	665	665	673	679	683	686	682	670	652	623	584	539	483	420	353	289	230	182	143	112	90	74	61	52	44	39	34	29	25	21	16	12	8	4	1	0	0
	40	665	668	672	676	680	682	682	670	654	628	598	557	506	450	385	321	263	210	167	132	104	84	69	58	50	43	37	31	27	22	17	13	9	4	2	0	0
	45	665	668	670	674	678	680	680	673	659	636	610	575	531	480	421	359	297	242	194	156	123	99	81	67	56	49	41	36	30	24	19	14	10	5	2	1	0
50	665	667	668	670	675	677	677	674	659	641	619	588	551	507	455	398	340	281	229	185	149	120	97	79	66	55	46	40	34	27	21	15	10	5	2	0	0	
55	665	669	670	672	674	676	674	668	657	641	621	598	569	531	486	436	380	322	269	220	178	144	117	95	78	65	54	45	38	30	23	17	11	6	3	1	0	
60	665	666	670	670	670	670	668	664	653	640	624	604	583	551	514	468	420	367	313	260	214	174	142	115	93	77	63	52	42	34	26	18	12	6	3	1	0	
65	665	664	668	666	666	664	661	655	648	638	625	610	590	563	531	494	452	404	354	302	253	209	171	138	111	91	74	61	49	38	29	21	14	8	3	1	0	
70	665	669	668	666	663	659	654	648	641	632	621	609	592	570	542	510	475	434	388	340	291	244	201	164	133	107	87	69	55	42	32	23	15	9	4	1	0	
75	665	669	668	665	661	655	649	642	635	625	616	606	588	568	544	517	487	451	413	369	322	275	230	189	155	124	99	79	62	48	35	25	16	9	4	1	0	
80	665	666	666	664	659	652	646	638	629	619	609	597	580	560	537	514	487	456	423	385	344	300	254	212	173	138	110	85	67	51	38	26	17	10	4	1	0	
85	665	663	665	663	657	651	643	634	622	612	603	588	571	551	530	507	482	455	425	391	354	313	269	226	186	149	118	93	71	54	40	28	18	10	4	1	0	
90	665	666	668	663	657	651	642	634	626	616	602	586	568	548	528	505	480	453	424	393	356	317	273	229	188	151	120	93	71	54	40	28	17	11	4	1	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.



Revision History

R1 - Candela values are rotated 90°

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