

PHOTOMETRIC TESTING & EVALUATION TO IES LM-79-19

Sample Tested

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

Prepared for:

Vista Professional Outdoor Lighting

1625 Surveyor Ave
Simi Valley, CA 93063

Technical Report Number

80239581-31 R1

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Program Description

Photometric and electrical testing of a 1052YM-X-MF-RGBW-FL-MV-DMX-With Filter-BLUE Output Type C LED Luminaire to IES LM-79-19.

Executive Summary

Sample Tested = 1052YM-X-MF-RGBW-FL-MV-DMX-With Filter-BLUE 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 Blue 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 (%)
12.99	260.36	20.05	0.9680	14.73

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

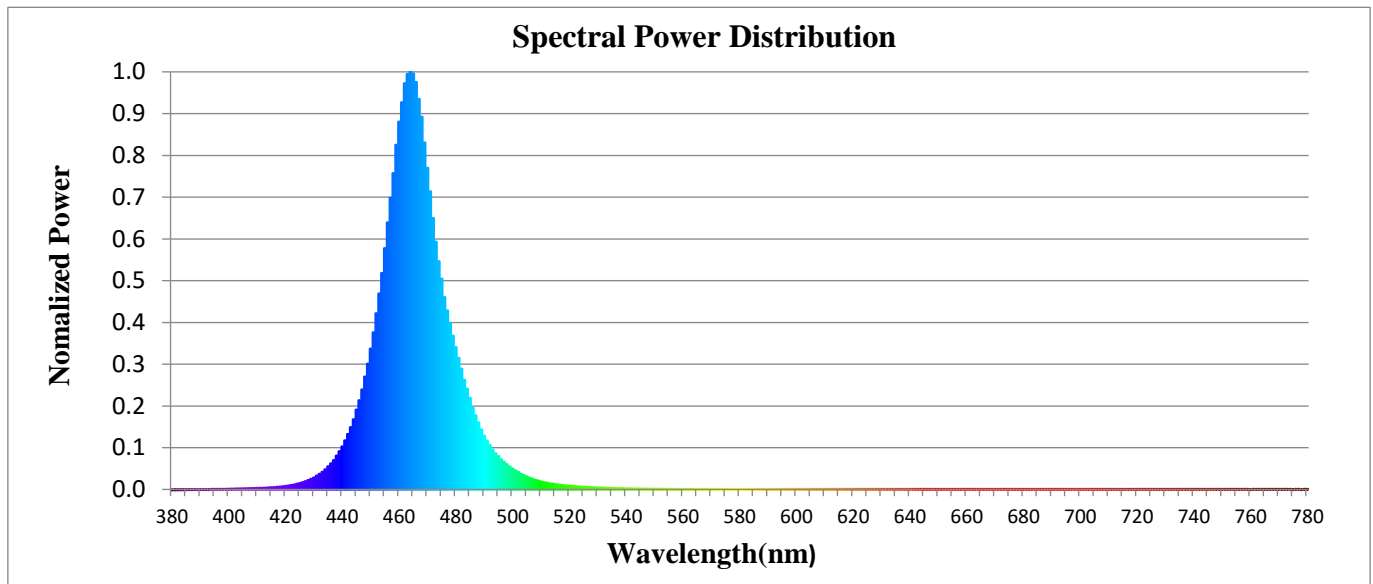
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Test Result	
<p>The following results were measured after stabilization of the sample in the Integrating Sphere (unless otherwise stated). Stability shall be achieved when the variation (Maximum to minimum) of at least three readings of the light output 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
	1052YM-X-MF-RGBW-FL-MV-DMX-With Filter-BLUE Output
	Integrating Sphere
Luminous Efficacy (Lumens/Watt)	12.99
Total Luminous Flux (Lumens)	260.36
Total Radiant Flux (Watts)	3.96
Correlated Color Temperature (CCT)	N.A.
Color Rendering Index (CRI)(Ra)	N.A.
R9 Value	N.A.
IES Rf / IES Rg	N.A.
Local Chroma Shift Rcs,h1	N.A.
Chromaticity (Chroma x/Chroma y)	0.1352 / 0.0564
Chromaticity (Chroma u/Chroma v)	0.1587 / 0.0994
Chromaticity (Chroma u'/Chroma v')	0.1587 / 0.1491
Duv Value	0.1795
Stabilization Time (Light and Power)	30 minutes
Total Run Time (Integrating Sphere)	35 minutes
Scotopic/Photopic ratio $\Phi(v')/\Phi(v)$	16.48
Electrical Input Results:	Sample Reference
	1052YM-X-MF-RGBW-FL-MV-DMX-With Filter-BLUE Output
Input Power (Watts)	20.05
Input Voltage (Volts AC)	120.00
Input Current (Amps)	0.17
Input Frequency (Hertz)	60.0
Power Factor	0.9680
Total Harmonic Distortion (THD V,A)%	0.11, 14.73
Additional Information	Sample Reference
	1052YM-X-MF-RGBW-FL-MV-DMX-With Filter-BLUE Output
Ambient Temperature	25°C
Integrating Sphere Detector	CDS 2600 Spectroradiometer
Absortion Correction Used?	Yes
Date Tested	1/15/2025

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Spectral Flux

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

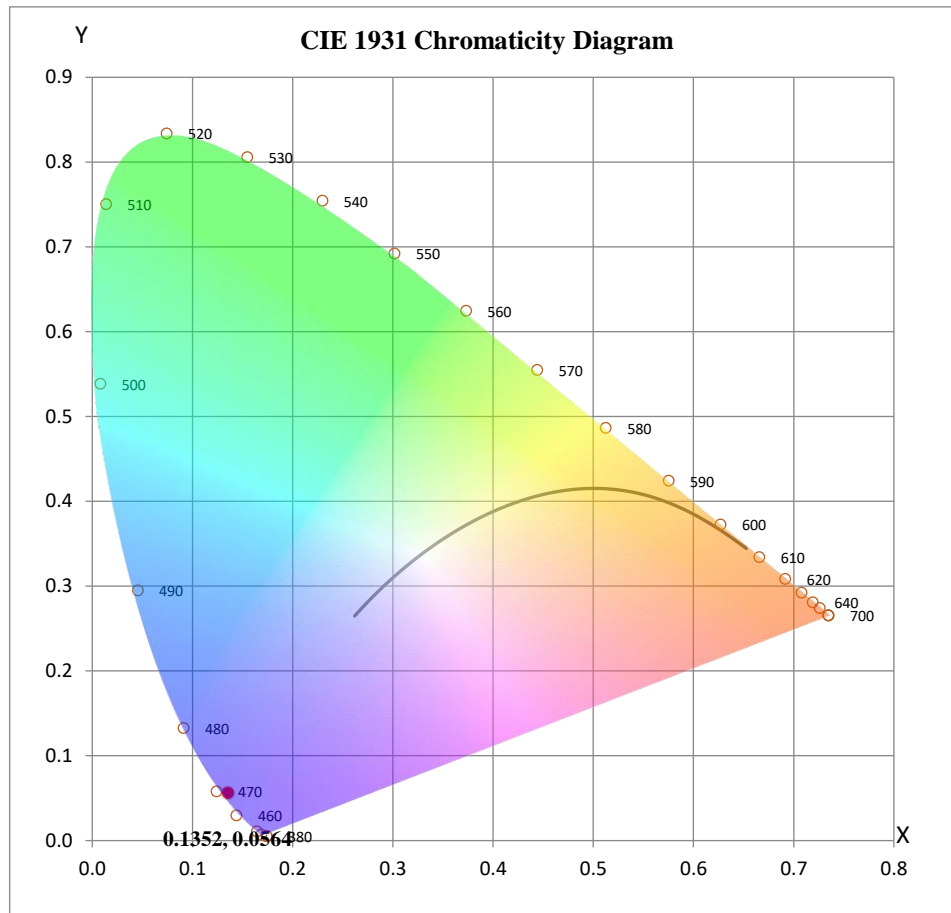


Spectral response of the Radiant Flux
 (380nm to 780nm - calibrated range of the Spectroradiometer)

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Chromaticity Diagram

The following image shows the chromaticity diagram for the sample:

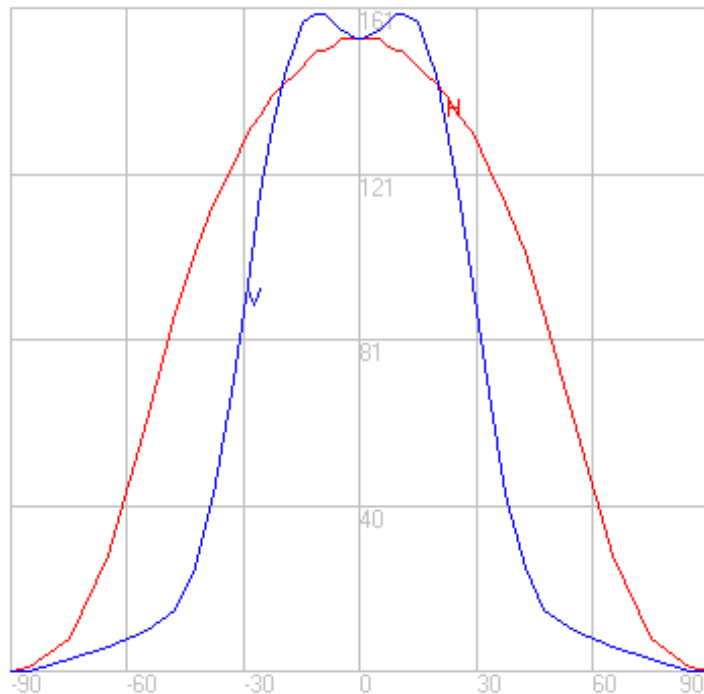
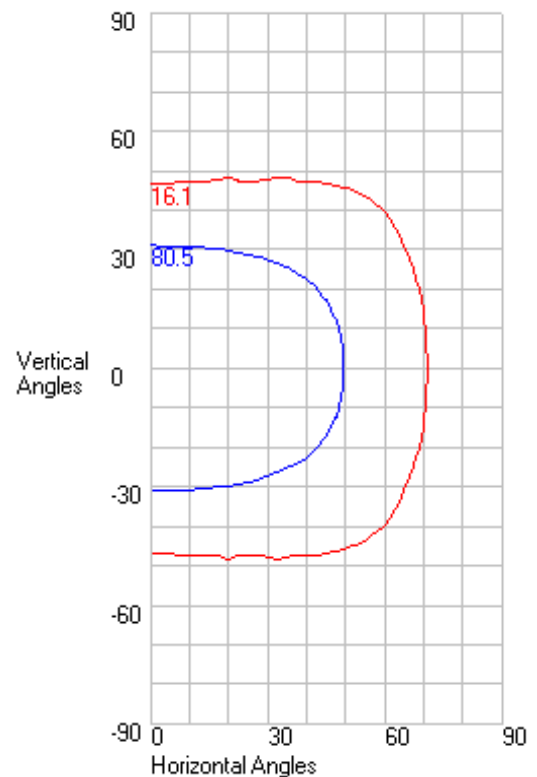


$x = 0.1352$ $y = 0.0564$

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Photometric Test Results

Characteristics	
NEMA Type	7 H x 5 V
Maximum Candela	161.00
Maximum Candela Angle	-1 H -11 V
Horizontal Beam Angle (50%)	96.40
Vertical Beam Angle (50%)	62.20
Horizontal Field Angle (10%)	140.50
Vertical Field Angle (10%)	93.90
Beam Lumens	177.00
Field Lumens	243

Axial Candela Display

Isocandela Curves


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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	154	155	156	159	161	159	158	151	143	132	119	104	87	71	55	43	33	25	19	15	12	11	10	8	7	7	6	6	4	4	3	1	1	0	0	0	0	
	5	154	155	158	159	161	161	156	151	143	133	119	105	87	71	55	43	33	25	19	15	12	11	10	8	7	7	6	6	4	4	3	1	1	0	0	0	0	
	10	154	155	156	159	161	161	156	151	144	133	120	105	89	72	57	44	33	26	21	17	14	11	10	8	7	7	6	6	4	4	3	1	1	0	0	0	0	
	15	154	155	156	159	161	159	156	152	144	134	122	108	91	75	60	47	36	28	22	17	14	11	10	8	8	7	6	6	4	4	3	1	1	0	0	0	0	
	20	154	155	156	158	159	159	156	152	145	136	125	111	96	79	64	50	39	29	24	18	15	12	11	10	8	7	7	6	4	4	3	3	1	0	0	0	0	
	25	154	155	156	158	159	159	158	154	147	138	127	114	100	83	68	54	42	32	25	21	17	14	11	10	8	7	7	6	6	4	3	3	1	0	0	0	0	
	30	154	155	156	158	159	159	158	154	148	140	130	118	104	89	73	60	47	36	29	22	18	15	12	11	10	8	7	6	6	4	3	3	1	1	0	0	0	0
	35	154	155	155	156	158	159	158	154	148	141	133	122	109	94	80	65	53	42	33	26	21	17	14	11	10	8	8	7	6	4	4	3	1	1	0	0	0	0
	40	154	155	155	156	158	158	158	155	150	144	136	126	115	101	87	73	60	47	37	30	24	19	17	14	11	10	8	7	6	6	4	3	1	1	0	0	0	0
	45	154	154	155	156	156	158	156	155	151	145	138	130	120	108	96	82	68	55	44	36	28	22	18	15	12	11	10	8	7	6	4	3	1	1	0	0	0	0
	50	154	154	155	155	156	156	156	154	151	147	141	134	125	115	102	90	76	64	51	42	33	28	22	18	15	12	11	8	7	6	4	3	3	1	0	0	0	0
	55	154	154	154	155	155	155	155	154	151	147	143	136	129	119	109	98	86	73	61	50	40	33	26	22	18	15	12	10	8	7	6	4	3	1	0	0	0	0
	60	154	154	154	154	155	154	154	152	151	147	144	138	132	125	116	105	94	82	71	58	48	39	32	26	21	18	14	11	10	7	6	4	3	1	0	0	0	0
	65	154	154	154	154	154	154	152	151	150	147	143	138	133	127	119	111	101	91	79	68	57	47	39	32	25	21	17	14	11	8	7	4	3	1	0	0	0	0
	70	154	154	154	154	152	152	151	150	148	145	143	138	133	129	122	115	107	97	87	76	65	55	46	37	30	25	19	15	12	10	7	6	3	1	0	0	0	0
	75	154	154	154	154	152	151	150	148	145	144	141	137	133	127	122	116	109	101	93	83	72	62	51	43	35	28	22	18	14	11	8	6	3	1	1	0	0	0
	80	154	154	154	152	152	151	148	147	144	141	138	134	130	126	122	116	109	102	94	86	78	66	57	47	39	32	25	19	15	11	8	6	4	1	0	0	0	0
	85	154	154	154	152	151	150	148	145	143	140	137	133	129	125	119	115	108	102	96	87	79	71	61	51	42	33	26	21	17	12	8	6	4	3	1	0	0	0
90	154	154	154	152	151	150	147	145	143	140	136	133	129	123	119	114	108	102	96	87	80	71	61	51	43	35	28	21	17	12	8	7	4	3	1	0	0	0	

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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 π 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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Revision History

R1 - Candela values are rotated 90°

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