



Report No.: 80239581-35 R1
Project No.: 80239581
Client: Vista Professional Outdoor Lighting

PHOTOMETRIC TESTING & EVALUATION TO IES LM-79-19

Sample Tested

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

Prepared for:

Vista Professional Outdoor Lighting

1625 Surveyor Ave
Simi Valley, CA 93063

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Test Report Prepared and Released by:

K. A. Patel

Keyur Patel
Certifier-I

Test Report Reviewed by:

KC Fletcher

KC Fletcher
Manager

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Program Description

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

Executive Summary

Sample Tested = 1052YM-X-WF-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 (%)
13.20	276.46	20.95	0.9718	14.36

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-WF-RGBW-FL-MV-DMX-With Filter-BLUE Output

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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-WF-RGBW-FL-MV-DMX-With Filter-BLUE Output
	Integrating Sphere
Luminous Efficacy (Lumens/Watt)	13.20
Total Luminous Flux (Lumens)	276.46
Total Radiant Flux (Watts)	3.58
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)	0.1289 / 0.0716
Chromaticity (Chroma u/Chroma v)	0.1431 / 0.1193
Chromaticity (Chroma u'/Chroma v')	0.1431 / 0.1789
Duv Value	0.1630
Stabilization Time (Light and Power)	30 minutes
Total Run Time (Integrating Sphere)	35 minutes
Scotopic/Photopic ratio $\Phi(v')/\Phi(v)$	14.95

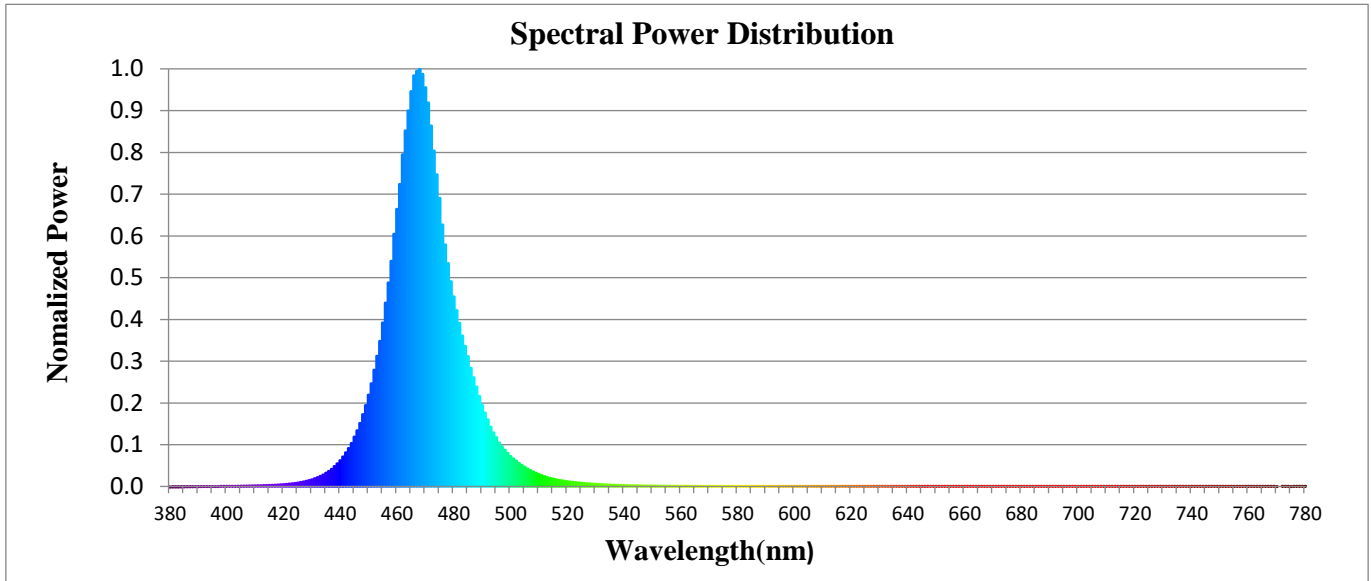
Electrical Input Results:	Sample Reference
	1052YM-X-WF-RGBW-FL-MV-DMX-With Filter-BLUE Output
Input Power (Watts)	20.95
Input Voltage (Volts AC)	120.02
Input Current (Amps)	0.18
Input Frequency (Hertz)	60.0
Power Factor	0.9718
Total Harmonic Distortion (THD V,A)%	0.2, 14.36

Additional Information	Sample Reference
	1052YM-X-WF-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:



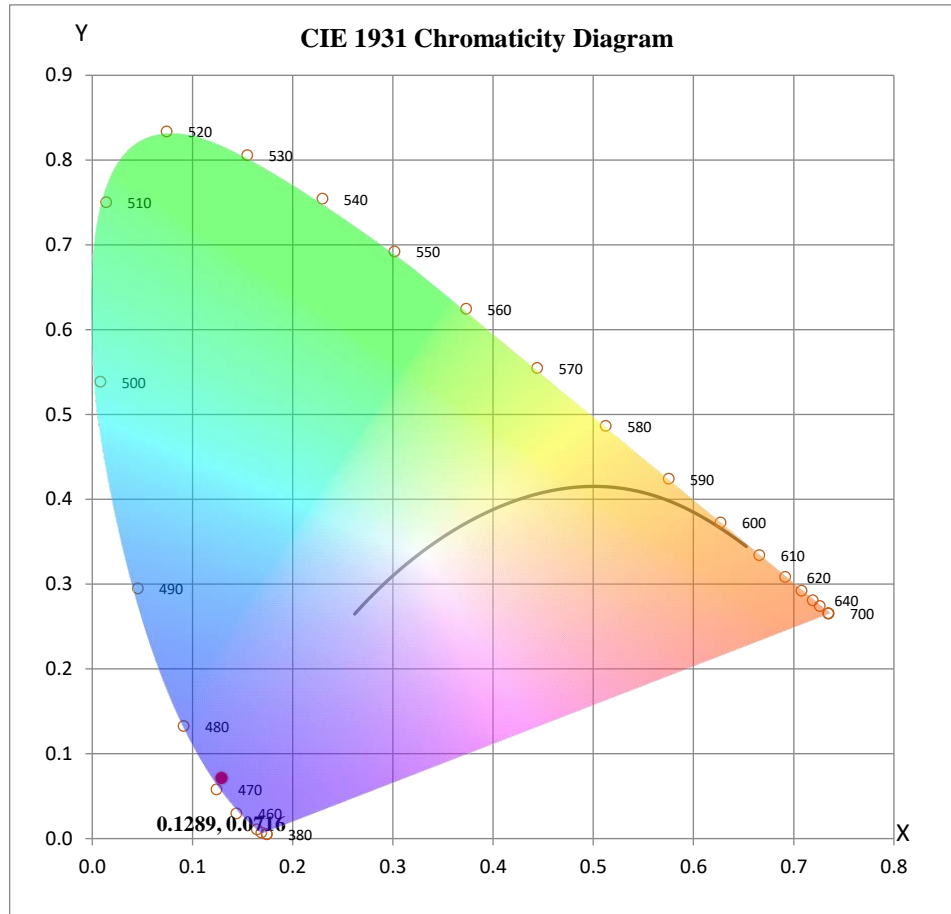
Spectral response of the Radiant Flux

(380nm to 780nm - calibrated range of the Spectroradiometer)

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Chromaticity Diagram

The following image shows the chromaticity diagram for the sample:

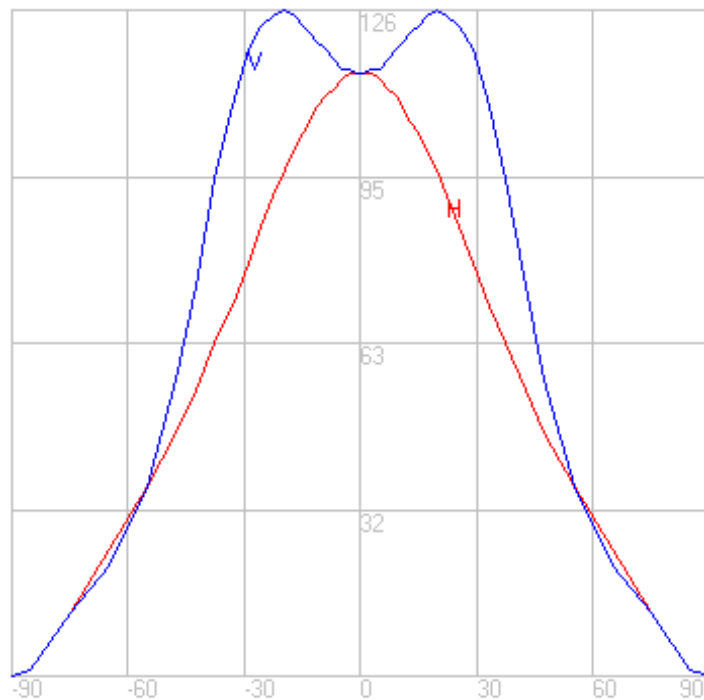
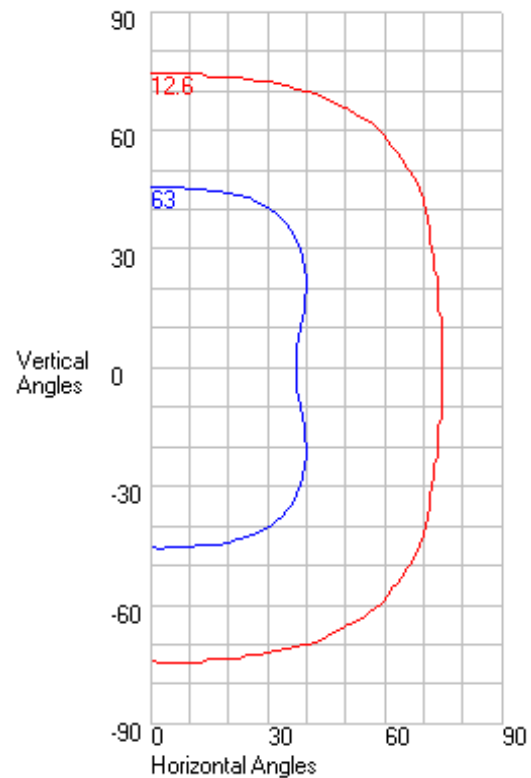


$x = 0.1289$ $y = 0.0716$

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Photometric Test Results

Characteristics	
NEMA Type	7 H x 7 V
Maximum Candela	126.00
Maximum Candela Angle	0 H -19.5 V
Horizontal Beam Angle (50%)	79.50
Vertical Beam Angle (50%)	91.10
Horizontal Field Angle (10%)	147.10
Vertical Field Angle (10%)	148.70
Beam Lumens	177.00
Field Lumens	269

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	114	115	115	118	119	122	123	125	126	125	123	121	117	110	102	94	84	74	64	56	48	42	36	32	28	24	21	20	17	15	12	9	7	4	1	0	0	
	5	114	115	115	118	119	122	123	125	125	125	123	121	115	110	102	94	84	75	66	56	48	42	36	31	28	24	23	20	17	15	12	9	7	4	1	0	0	
	10	114	114	115	117	119	121	123	125	125	125	123	121	115	110	102	94	84	75	66	58	50	43	36	32	28	25	23	20	17	15	12	9	7	4	1	0	0	
	15	114	114	115	117	119	121	122	123	125	125	122	119	115	110	103	95	86	76	67	58	50	43	38	32	28	25	23	20	17	15	12	9	7	4	1	0	0	
	20	114	114	115	117	118	121	122	122	123	123	122	119	115	110	103	95	87	78	68	60	52	44	39	34	29	25	23	20	17	15	12	9	7	4	1	0	0	
	25	114	114	115	117	118	119	121	122	122	122	121	118	114	110	103	97	88	79	71	62	54	46	40	35	29	27	23	20	17	15	12	9	7	4	1	0	0	
	30	114	114	115	115	117	118	119	121	121	121	119	117	114	109	103	97	90	82	72	64	56	48	42	36	31	27	24	21	17	15	12	9	7	4	1	0	0	
	35	114	114	114	115	117	117	118	118	118	118	117	114	111	107	103	97	90	82	74	66	58	50	43	38	32	28	24	21	19	15	12	9	7	4	1	0	0	
	40	114	114	114	115	115	115	117	117	117	115	114	113	109	106	101	95	90	82	75	67	59	52	44	39	34	29	25	21	19	15	12	9	7	4	1	0	0	
	45	114	114	114	114	114	114	114	114	114	113	111	109	106	103	99	94	88	82	75	67	60	52	46	40	35	29	25	21	19	15	12	9	7	4	1	0	0	
	50	114	114	114	114	114	113	113	111	111	110	107	106	103	99	95	91	86	79	74	67	60	52	46	40	35	29	25	21	19	15	12	9	5	4	1	0	0	
	55	114	114	114	114	113	111	111	110	109	106	105	102	99	95	91	87	82	76	71	64	58	52	46	40	35	29	25	21	19	15	12	9	7	4	1	0	0	
	60	114	114	113	113	111	111	109	107	106	103	101	98	94	91	87	82	78	72	67	62	55	50	44	39	35	29	25	23	19	15	12	9	7	4	1	0	0	
	65	114	114	113	113	111	109	107	105	103	99	97	94	90	86	82	78	72	67	63	58	52	47	43	38	34	29	25	23	19	16	12	9	7	4	1	0	0	
	70	114	114	113	111	110	109	106	103	101	97	94	90	86	82	78	72	68	63	59	54	50	44	40	36	32	29	25	23	19	16	12	9	7	4	1	0	0	
	75	114	114	113	111	110	107	105	102	98	95	91	87	82	78	74	68	64	59	55	51	47	43	39	35	32	28	25	21	19	16	12	9	7	4	1	0	0	
	80	114	114	113	111	110	107	105	101	97	92	88	84	79	75	70	66	60	56	52	48	44	40	38	34	31	28	25	21	19	16	12	9	7	4	1	0	0	
	85	114	114	113	111	109	107	103	99	95	91	87	82	78	72	68	63	59	54	50	46	43	39	36	34	31	28	24	21	19	16	12	9	7	4	1	0	0	
90	114	114	113	111	109	106	103	99	95	91	86	82	76	71	67	63	58	54	50	46	42	39	36	32	29	27	24	21	19	16	12	9	7	4	1	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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