

PHOTOMETRIC TESTING & EVALUATION TO IES LM-79-19

Sample Tested

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

Prepared for:

Vista Professional Outdoor Lighting

1625 Surveyor Ave
Simi Valley, CA 93063

Technical Report Number

80239581-33 R1

January 27, 2025

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Program Description

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

Executive Summary

Sample Tested = 1052YM-X-WF-RGBW-FL-MV-DMX-With Filter-RED 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 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 (%)
28.72	441.10	15.36	0.9567	16.21

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-RED 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-RED Output
	Integrating Sphere
Luminous Efficacy (Lumens/Watt)	28.72
Total Luminous Flux (Lumens)	441.10
Total Radiant Flux (Watts)	2.17
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)	0.697 / 0.3029
Chromaticity (Chroma u/Chroma v)	0.532 / 0.3468
Chromaticity (Chroma u'/Chroma v')	0.532 / 0.5202
Duv Value	0.0000
Stabilization Time (Light and Power)	70 minutes
Total Run Time (Integrating Sphere)	75 minutes
Scotopic/Photopic ratio $\Phi(v')/\Phi(v)$	0.03

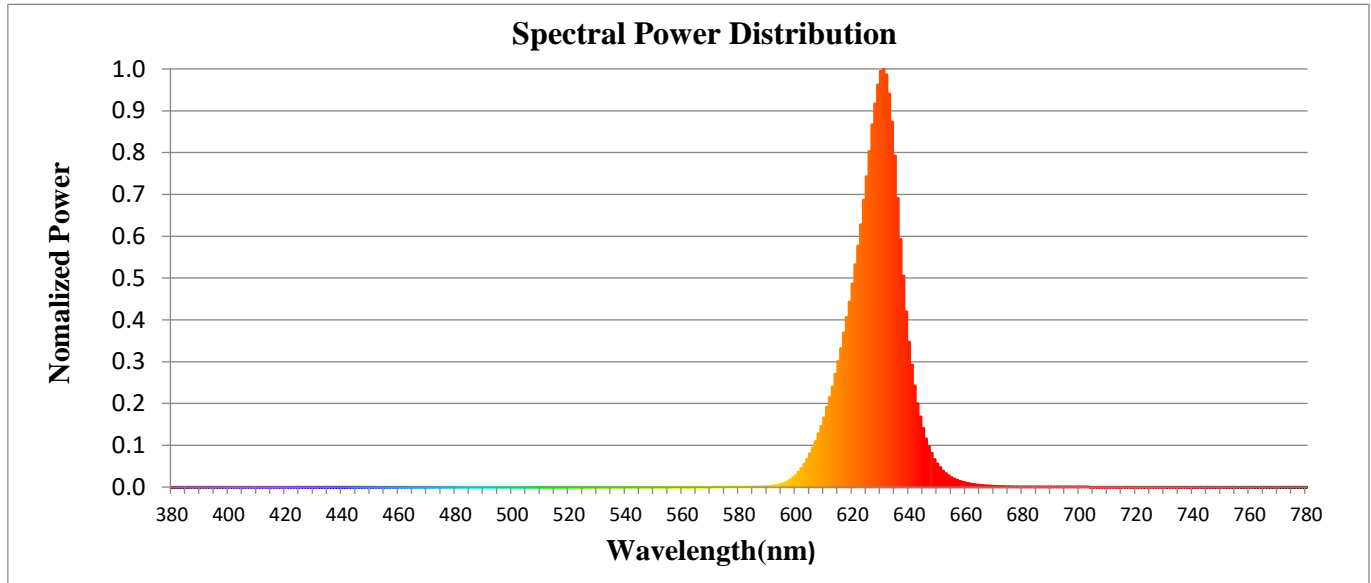
Electrical Input Results:	Sample Reference
	1052YM-X-WF-RGBW-FL-MV-DMX-With Filter-RED Output
Input Power (Watts)	15.36
Input Voltage (Volts AC)	120.04
Input Current (Amps)	0.13
Input Frequency (Hertz)	60.0
Power Factor	0.9567
Total Harmonic Distortion (THD V,A)%	0.12, 16.21

Additional Information	Sample Reference
	1052YM-X-WF-RGBW-FL-MV-DMX-With Filter-RED 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:

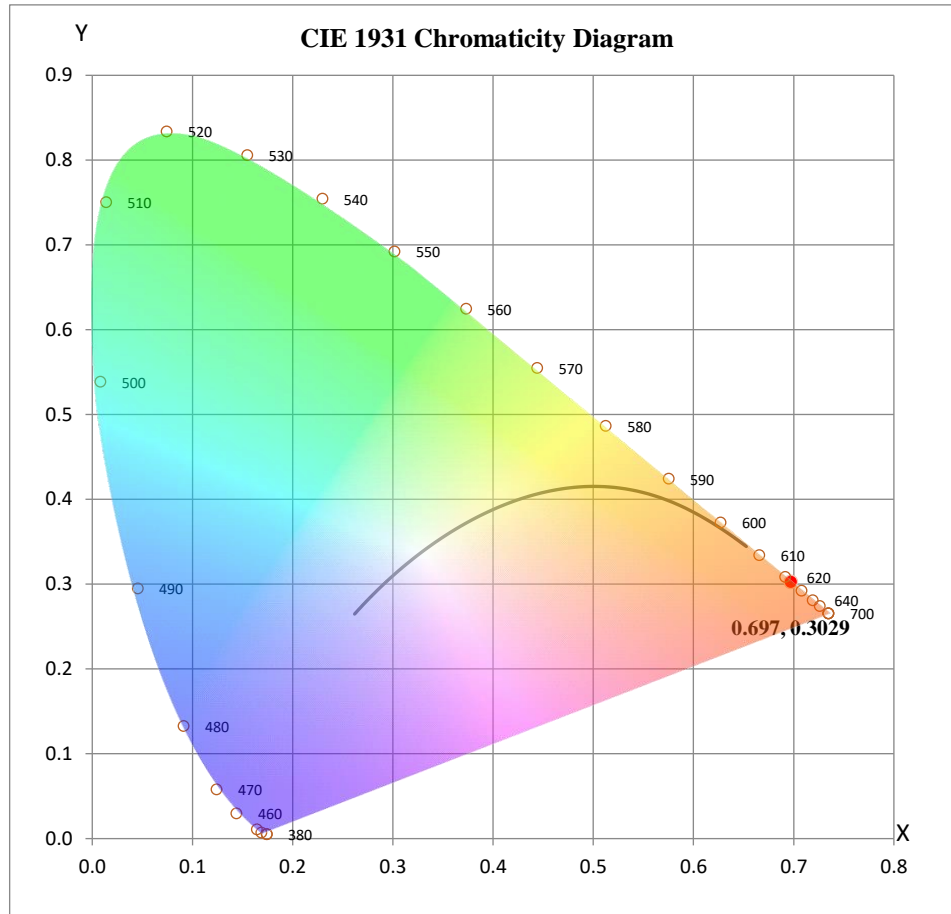


Spectral response of the Radiant Flux
 (380nm to 780nm - calibrated range of the Spectroradiometer)

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Chromaticity Diagram

The following image shows the chromaticity diagram for the sample:

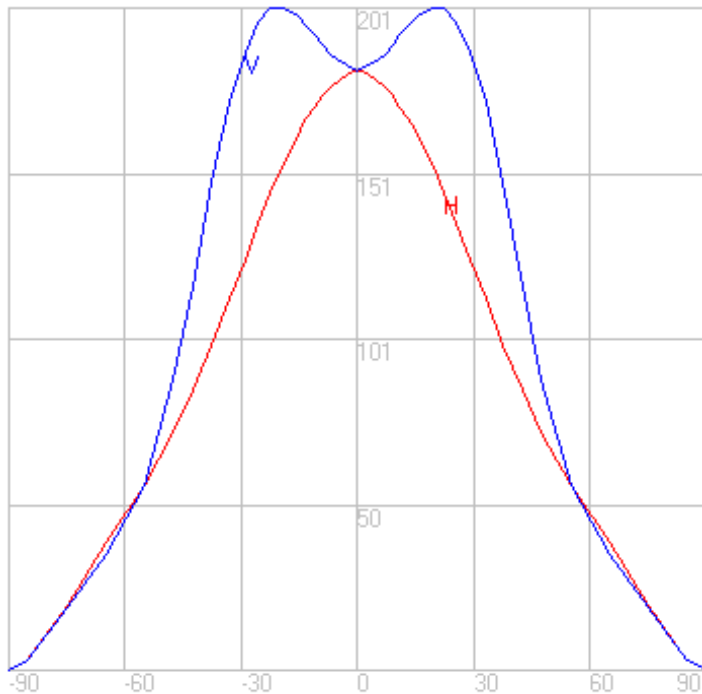
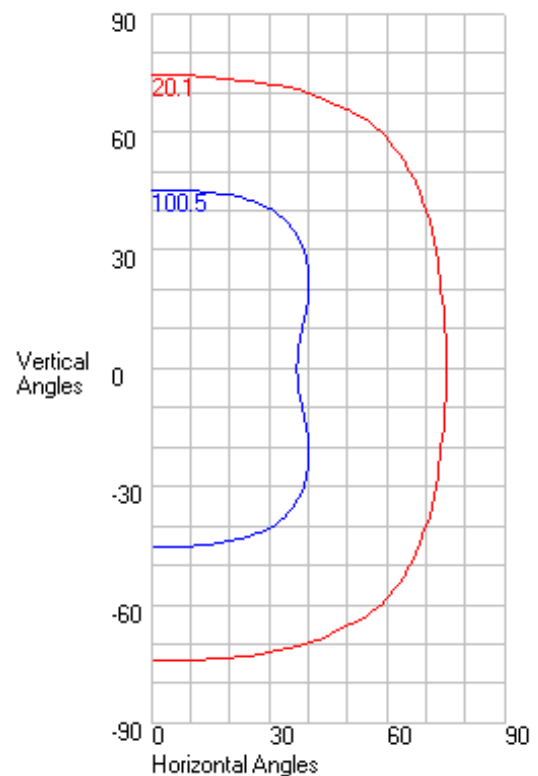


$x = 0.697$ $y = 0.3029$

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Photometric Test Results

Characteristics	
NEMA Type	7 H x 7 V
Maximum Candela	201.00
Maximum Candela Angle	-1 H -19.5 V
Horizontal Beam Angle (50%)	80.00
Vertical Beam Angle (50%)	90.70
Horizontal Field Angle (10%)	147.70
Vertical Field Angle (10%)	148.60
Beam Lumens	286.00
Field Lumens	429

Axial Candela Display

Isocandela Curves


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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	182	184	185	188	191	195	198	200	201	201	198	192	185	175	163	148	133	117	102	88	75	65	56	49	43	39	35	31	27	24	19	15	10	6	3	1	0	
	5	182	184	186	188	191	195	198	200	201	200	198	193	185	175	163	148	133	118	102	88	76	65	56	49	44	39	35	31	27	23	19	15	10	6	2	1	0	
	10	182	184	185	188	191	194	197	199	200	199	197	192	185	175	163	149	135	119	104	90	77	66	57	50	44	39	35	31	28	24	19	15	10	6	3	0	0	
	15	182	183	185	187	190	193	196	198	199	198	196	191	185	176	164	151	136	121	106	92	79	68	59	51	45	40	36	32	28	24	19	15	10	6	2	1	0	
	20	182	183	185	187	189	192	194	196	197	196	194	190	184	175	165	152	138	123	108	94	81	70	60	52	46	40	36	32	28	24	19	15	10	6	2	1	0	
	25	182	183	184	186	188	190	193	194	195	194	192	189	183	175	165	154	140	126	112	98	85	73	63	54	47	41	37	32	28	24	20	15	10	6	3	1	0	
	30	182	183	184	185	187	189	191	192	193	192	190	187	181	175	166	155	143	129	115	102	88	76	65	57	49	43	37	33	28	24	19	15	10	6	2	1	0	
	35	182	183	183	185	186	187	189	189	190	189	187	184	179	173	165	155	144	131	118	105	92	80	68	59	51	44	39	33	29	24	19	15	10	6	2	1	0	
	40	182	183	183	184	185	186	186	187	186	185	183	180	176	170	163	154	144	132	120	107	95	82	72	62	53	46	40	34	29	24	19	15	10	6	3	0	0	
	45	182	183	183	183	183	183	183	183	182	181	179	175	171	166	159	151	142	132	120	109	97	85	74	64	55	47	40	35	29	24	19	14	10	6	3	1	0	
	50	182	182	182	182	182	181	181	180	178	176	173	170	165	160	154	147	138	129	119	108	96	85	75	65	56	48	41	35	29	24	19	14	10	6	3	1	0	
	55	182	182	182	181	180	179	177	176	173	171	167	163	159	153	147	140	132	123	114	104	94	84	74	64	56	48	41	35	30	24	19	15	10	6	3	1	0	
	60	182	182	181	180	179	177	175	172	169	165	161	157	152	146	139	132	125	117	108	99	89	80	71	63	55	48	41	36	30	25	20	15	10	6	3	1	0	
	65	182	182	181	180	178	175	172	168	165	160	155	150	144	138	131	124	117	109	101	93	84	76	68	61	54	47	41	36	30	25	20	15	10	6	3	1	0	
	70	182	182	181	179	177	173	170	165	161	155	150	144	137	131	124	116	109	101	94	86	79	72	65	58	52	46	41	36	30	25	20	15	10	6	3	1	0	
	75	182	182	181	179	176	172	168	163	158	152	145	138	131	124	117	109	102	95	88	81	74	68	62	56	51	45	40	35	30	25	20	15	10	6	3	1	0	
80	182	182	181	178	175	171	166	161	155	148	141	134	127	119	112	104	97	89	83	76	70	64	59	54	49	44	40	35	30	25	20	15	10	6	3	1	0		
85	182	182	180	178	174	170	165	159	153	146	139	131	124	116	108	101	93	86	79	73	67	62	57	53	48	44	39	35	30	25	20	15	10	6	3	1	0		
90	182	181	179	177	173	169	164	158	152	145	138	130	122	114	107	99	92	85	78	72	66	61	56	52	48	43	39	35	30	25	20	15	10	6	3	1	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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