



Report No.: 80239581-34 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-GREEN Output

Prepared for:

Vista Professional Outdoor Lighting

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Technical Report Number
80239581-34 R1

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Program Description

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

Executive Summary

Sample Tested = 1052YM-X-WF-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 (%)
49.90	1035.84	20.76	0.9724	14.44

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-GREEN 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-GREEN Output
	Integrating Sphere
Luminous Efficacy (Lumens/Watt)	49.90
Total Luminous Flux (Lumens)	1035.84
Total Radiant Flux (Watts)	2.30
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)	0.1372 / 0.7085
Chromaticity (Chroma u/Chroma v)	0.0489 / 0.3786
Chromaticity (Chroma u'/Chroma v')	0.0489 / 0.5679
Duv Value	0.1649
Stabilization Time (Light and Power)	30 minutes
Total Run Time (Integrating Sphere)	35 minutes
Scotopic/Photopic ratio $\Phi(v')/\Phi(v)$	3.30

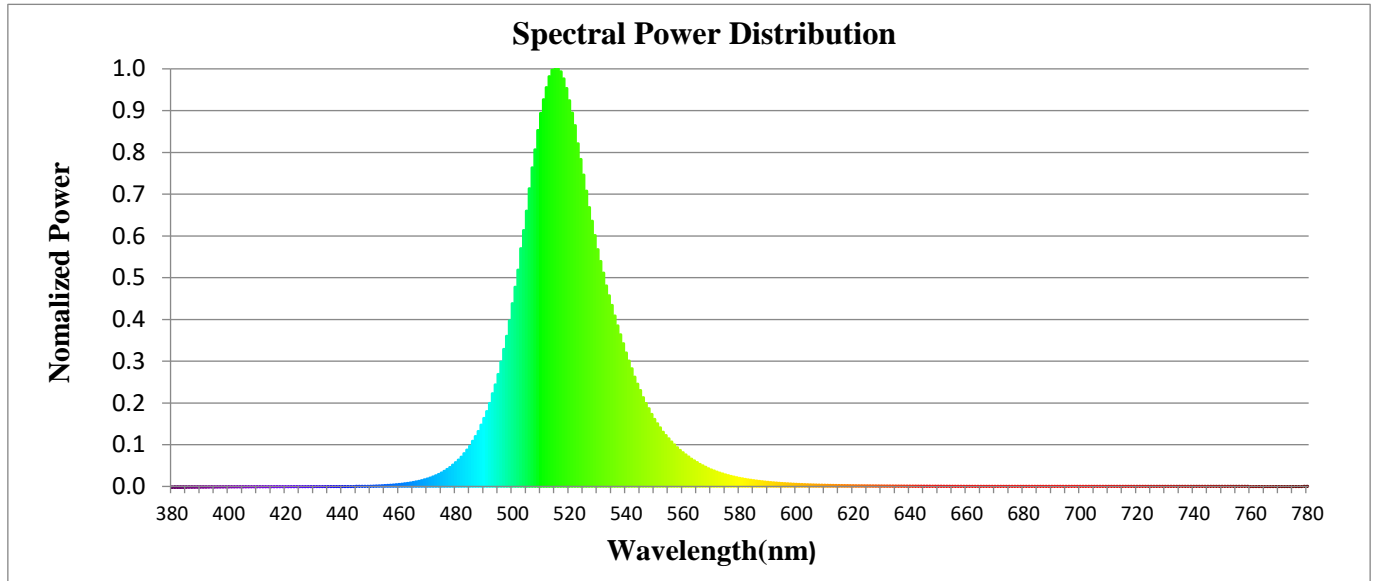
Electrical Input Results:	Sample Reference
	1052YM-X-WF-RGBW-FL-MV-DMX-With Filter-GREEN Output
Input Power (Watts)	20.76
Input Voltage (Volts AC)	120.10
Input Current (Amps)	0.18
Input Frequency (Hertz)	60.0
Power Factor	0.9724
Total Harmonic Distortion (THD V,A)%	0.11, 14.44

Additional Information	Sample Reference
	1052YM-X-WF-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

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Spectral Flux

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

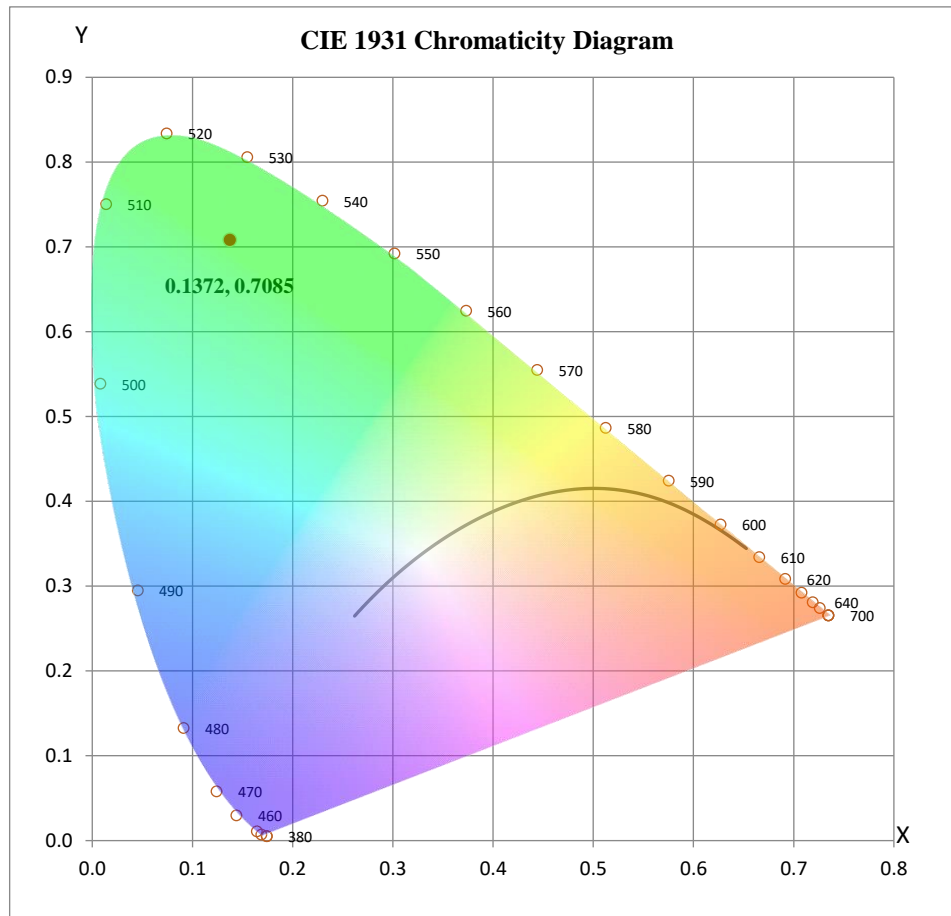


Spectral response of the Radiant Flux
 (380nm to 780nm - calibrated range of the Spectroradiometer)

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Chromaticity Diagram

The following image shows the chromaticity diagram for the sample:

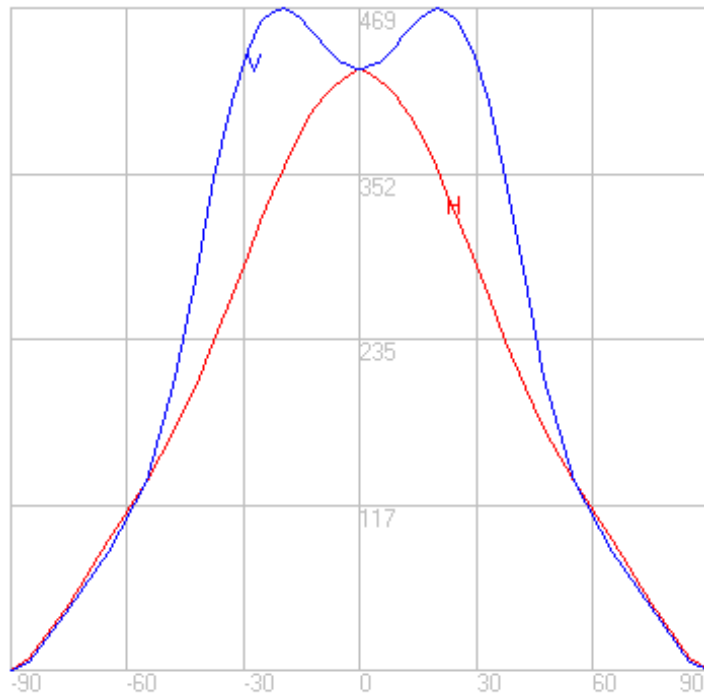
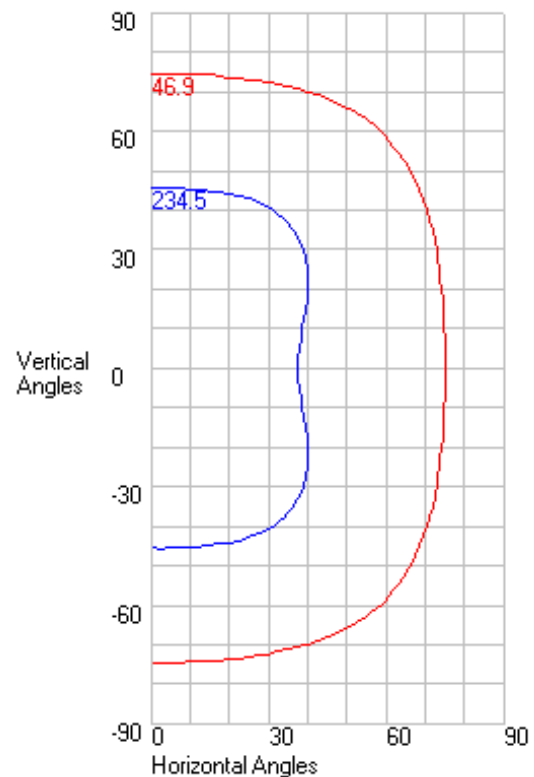


$x = 0.1372$ $y = 0.7085$

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Photometric Test Results

Characteristics	
NEMA Type	7 H x 7 V
Maximum Candela	469.00
Maximum Candela Angle	0 H -19.5 V
Horizontal Beam Angle (50%)	79.90
Vertical Beam Angle (50%)	91.10
Horizontal Field Angle (10%)	148.70
Vertical Field Angle (10%)	149.00
Beam Lumens	673.00
Field Lumens	1007

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	426	428	431	438	446	453	461	467	469	467	462	450	434	409	382	349	314	276	241	208	179	155	134	118	103	92	83	74	65	55	45	35	24	14	6	1	0
	5	426	427	431	438	446	453	460	466	468	466	460	449	431	409	381	349	314	277	242	209	181	155	134	118	105	92	83	74	65	56	45	35	24	14	6	1	0
	10	426	427	431	437	445	451	458	463	466	465	460	449	431	409	382	351	316	280	244	212	183	159	136	119	105	94	84	75	65	56	45	35	24	14	6	1	0
	15	426	427	430	436	442	449	456	461	463	462	457	447	431	411	384	353	319	284	250	218	187	162	140	121	107	95	85	75	66	56	46	35	24	14	6	1	0
	20	426	427	430	435	441	447	453	457	459	458	453	444	429	411	385	357	324	291	255	223	193	167	143	125	109	96	86	76	66	56	46	35	24	14	6	2	0
	25	426	427	429	434	439	445	450	453	455	453	449	440	427	409	387	360	329	297	263	231	200	173	150	130	112	99	87	77	67	56	46	35	24	14	6	1	0
	30	426	426	429	433	437	441	445	448	449	448	444	436	424	407	387	362	334	303	271	239	208	181	156	134	117	101	89	78	67	57	46	35	24	14	7	1	0
	35	426	426	428	430	434	437	440	441	442	440	436	428	417	403	384	362	336	307	277	247	216	188	162	141	121	105	91	79	68	57	46	35	24	14	6	2	0
	40	426	426	427	428	430	433	434	435	434	431	427	419	409	395	379	359	336	309	281	252	222	195	168	145	125	109	94	80	68	57	46	34	24	14	7	1	0
	45	426	426	426	427	427	428	428	427	425	422	416	408	398	385	370	352	330	307	281	253	226	198	173	150	130	111	96	81	69	57	45	34	24	14	7	2	0
	50	426	425	425	424	424	423	420	418	414	409	403	395	385	372	358	340	321	299	276	251	226	199	175	152	132	113	97	84	70	57	46	34	24	14	7	1	0
	55	426	425	424	423	420	417	414	409	404	397	390	381	369	357	342	326	307	287	266	243	219	196	173	152	132	114	98	84	70	58	46	34	24	14	7	2	0
	60	426	425	423	420	417	413	407	401	393	385	375	364	353	339	325	308	291	272	252	231	209	188	167	149	130	113	98	85	70	58	46	35	24	14	7	2	0
	65	426	424	422	418	414	407	401	393	383	373	361	349	336	321	306	289	272	254	236	217	198	178	161	143	128	112	98	85	72	59	47	35	24	14	7	1	0
	70	426	425	422	417	412	404	395	385	374	362	349	336	320	305	288	272	254	237	220	203	186	170	153	138	123	110	97	84	72	59	47	35	24	14	7	2	0
75	426	425	422	417	411	402	392	380	368	353	339	324	307	291	273	256	239	222	206	189	174	160	145	132	120	107	96	84	72	59	47	36	24	14	7	2	0	
80	426	424	420	415	408	398	387	375	361	347	330	314	296	278	262	244	227	210	195	179	165	152	140	128	117	105	94	83	72	59	47	36	24	14	7	2	0	
85	426	425	420	415	407	397	385	372	358	341	325	307	289	272	254	237	219	204	187	173	160	147	135	124	114	103	94	83	72	59	48	36	25	15	7	2	0	
90	426	423	418	413	405	395	383	370	354	339	321	305	286	269	251	233	216	200	185	171	157	145	134	123	113	103	92	83	72	59	47	36	25	15	8	2	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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