

PHOTOMETRIC TESTING & EVALUATION TO IES LM-79-19

Sample Tested

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

Prepared for:

Vista Professional Outdoor Lighting

1625 Surveyor Ave
Simi Valley, CA 93063

Technical Report Number

80239581-26

February 13, 2025

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-NS-RGBW-FL-MV-DMX-With Filter-GREEN Output Type C LED Luminaire to IES LM-79-19.

Executive Summary

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

Sample Number = 44003367

Driver = ELDOLED PW50U-M4Z0X1

LED Module = LUMILEDS LUXEON 3528 RGB

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 (%)
45.64	943.00	20.66	0.9703	14.37

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-NS-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-NS-RGBW-FL-MV-DMX-With Filter-GREEN Output
	Integrating Sphere
Luminous Efficacy (Lumens/Watt)	45.64
Total Luminous Flux (Lumens)	943.00
Total Radiant Flux (Watts)	2.07
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)	0.1463 / 0.7017
Chromaticity (Chroma u/Chroma v)	0.0526 / 0.3783
Chromaticity (Chroma u'/Chroma v')	0.0526 / 0.5675
Duv Value	0.1620
Stabilization Time (Light and Power)	30 minutes
Total Run Time (Integrating Sphere)	35 minutes
Scotopic/Photopic ratio $\Phi(v')/\Phi(v)$	3.20

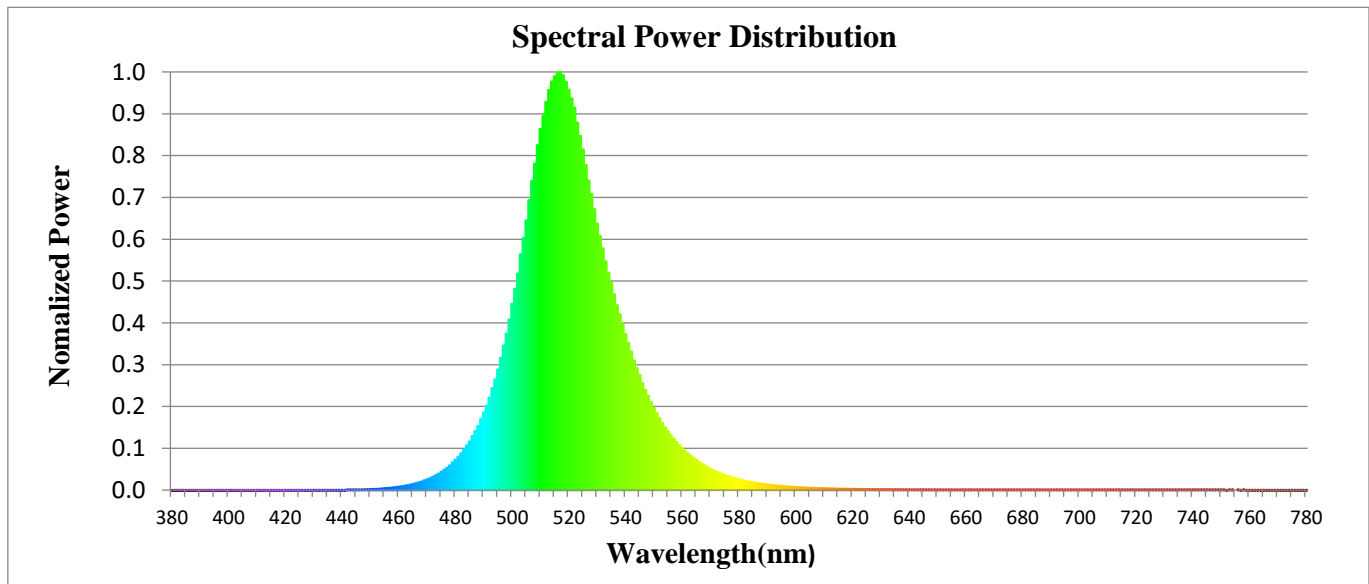
Electrical Input Results:	Sample Reference
	1052YM-X-NS-RGBW-FL-MV-DMX-With Filter-GREEN Output
Input Power (Watts)	20.66
Input Voltage (Volts AC)	120.11
Input Current (Amps)	0.18
Input Frequency (Hertz)	60.0
Power Factor	0.9703
Total Harmonic Distortion (THD V,A)%	0.2, 14.37

Additional Information	Sample Reference
	1052YM-X-NS-RGBW-FL-MV-DMX-With Filter-GREEN Output
Ambient Temperature	25°C
Integrating Sphere Detector	CDS 2600 Spectroradiometer
Absortion Correction Used?	Yes
Date Tested	2/11/2025

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Spectral Flux

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

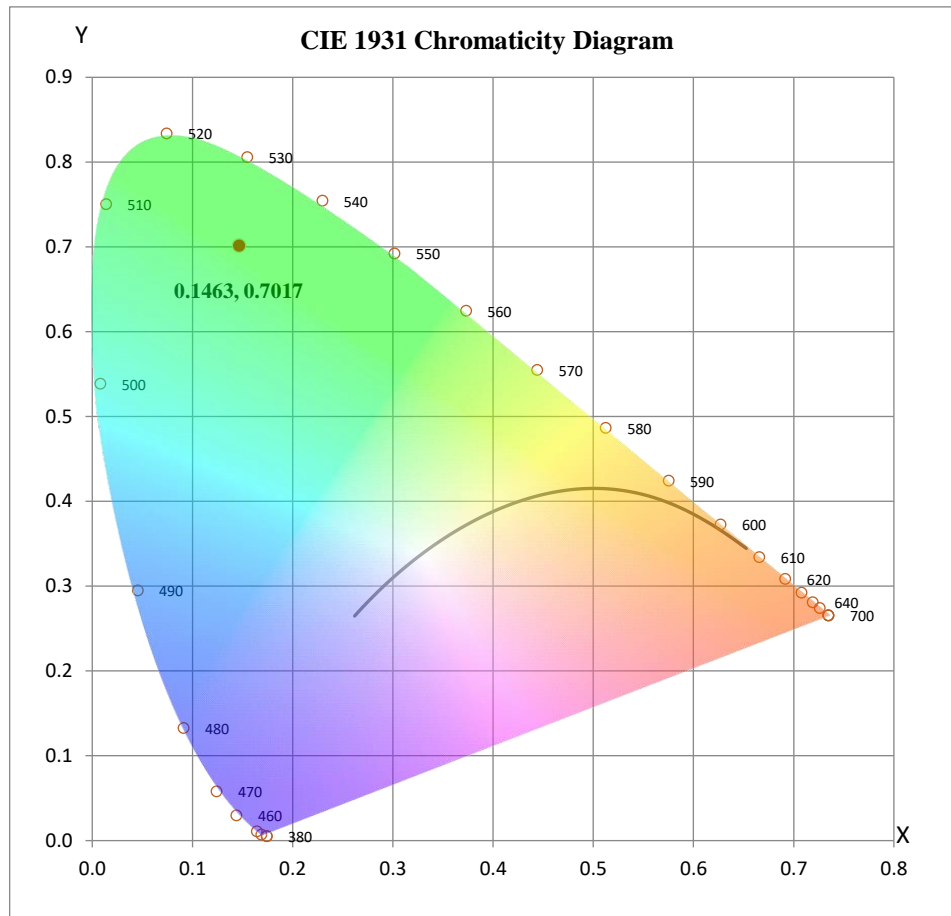


Spectral response of the Radiant Flux
 (380nm to 780nm - calibrated range of the Spectroradiometer)

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Chromaticity Diagram

The following image shows the chromaticity diagram for the sample:

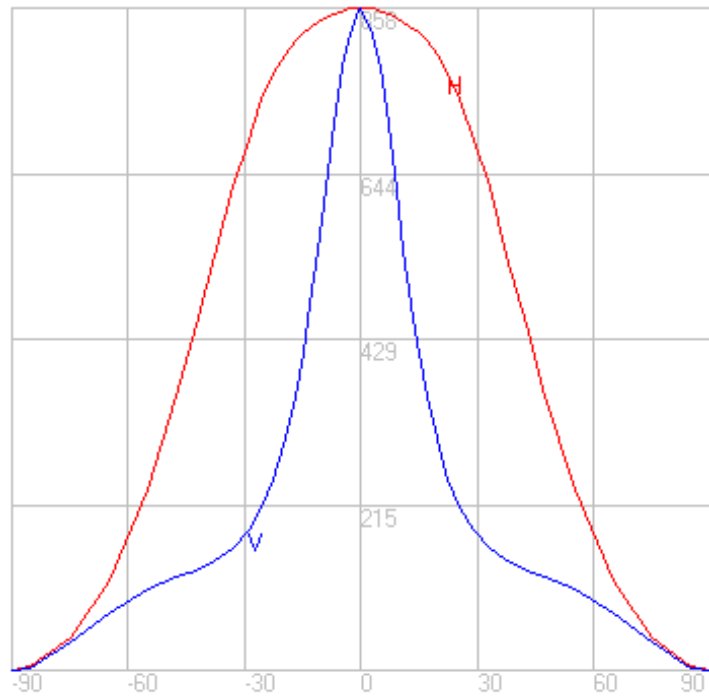
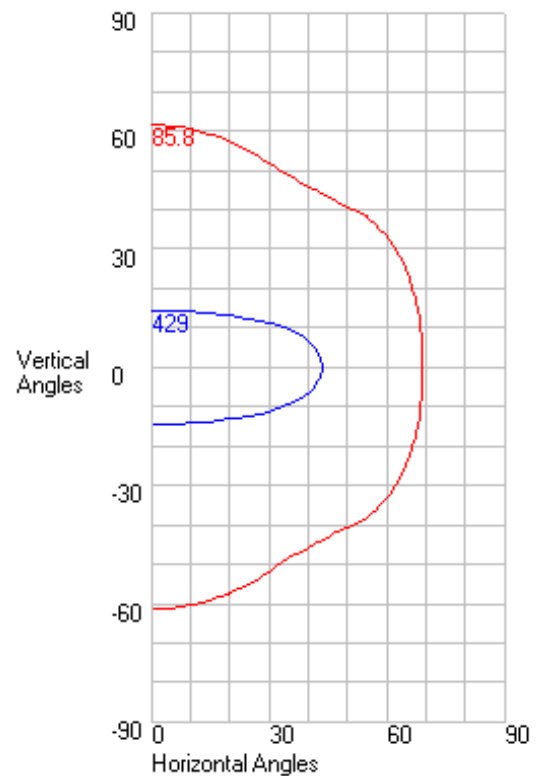


$x = 0.1463$ $y = 0.7017$

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Photometric Test Results

Characteristics	
NEMA Type	7 H x 6 V
Maximum Candela	858.00
Maximum Candela Angle	-3 H 0 V
Horizontal Beam Angle (50%)	87.00
Vertical Beam Angle (50%)	28.80
Horizontal Field Angle (10%)	138.30
Vertical Field Angle (10%)	122.80
Beam Lumens	362.00
Field Lumens	841

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	858	836	784	691	581	491	410	343	290	248	216	192	174	160	150	142	135	130	125	120	115	110	105	98	91	84	75	66	56	46	36	26	17	9	2	0	0
	5	858	837	786	703	594	493	412	345	291	249	218	193	175	161	151	142	136	130	125	120	116	110	105	98	91	83	75	66	56	46	35	26	17	8	2	0	0
	10	858	837	787	708	595	497	416	348	294	252	220	195	176	162	151	142	136	130	125	120	115	109	104	97	90	82	74	65	55	45	35	25	16	8	3	0	0
	15	858	836	790	715	599	504	424	355	299	256	224	198	179	163	152	143	135	129	124	119	113	108	102	96	89	81	73	63	54	44	34	25	16	8	3	0	0
	20	858	836	792	721	608	514	435	365	308	264	230	203	182	166	154	144	136	129	123	117	112	106	100	94	87	79	71	62	52	43	33	24	15	8	3	0	0
	25	858	839	796	730	630	528	448	379	320	274	238	209	187	170	156	145	136	129	122	116	110	104	98	91	84	76	68	59	50	41	32	23	15	8	3	0	0
	30	858	841	801	739	652	546	466	395	336	288	249	219	195	176	161	148	138	129	122	115	109	102	96	89	82	74	66	57	48	39	30	22	14	7	2	0	0
	35	858	845	809	751	665	567	487	416	356	304	263	231	205	183	166	152	141	131	123	115	108	101	94	87	79	72	64	55	46	38	29	21	13	7	3	0	0
	40	858	844	813	762	685	589	511	441	379	326	282	247	218	194	175	159	146	135	125	116	108	100	93	85	78	70	62	53	45	36	28	20	13	7	2	0	0
	45	858	848	818	773	713	624	540	470	408	353	307	268	236	209	187	169	154	141	129	119	110	101	93	85	77	69	61	52	44	35	27	19	12	7	2	0	0
	50	858	849	825	787	735	651	571	505	442	386	337	295	259	229	204	183	166	150	137	125	114	105	95	87	78	69	61	52	43	35	26	19	12	6	3	0	0
	55	858	851	830	799	753	682	615	546	482	425	374	329	290	257	228	203	183	165	149	135	123	111	101	91	81	71	62	53	44	35	26	19	12	6	3	0	0
	60	858	852	836	811	775	724	661	593	528	472	420	373	330	293	260	232	208	187	168	151	136	123	110	98	87	76	66	56	46	36	27	19	12	7	3	1	0
	65	858	854	840	823	794	753	698	639	587	527	475	426	381	340	303	271	243	218	195	175	157	141	125	111	98	85	73	61	50	39	29	20	13	7	3	1	0
	70	858	856	847	833	813	785	748	697	640	592	536	488	442	398	358	322	289	260	233	209	187	166	147	130	113	98	83	69	56	44	32	22	14	7	3	1	0
75	858	858	852	840	826	806	781	751	706	654	609	559	511	467	425	385	348	314	282	252	225	199	176	153	133	113	95	79	63	49	36	25	15	8	3	1	0	
80	858	859	854	846	836	824	807	784	752	718	677	637	583	538	496	455	414	374	336	300	267	235	205	177	152	129	107	87	69	53	39	27	17	9	4	1	0	
85	858	858	853	850	843	834	820	804	785	758	720	688	649	605	560	513	469	426	382	340	300	262	227	195	166	139	115	93	74	56	41	28	17	9	4	1	0	
90	858	859	854	851	844	835	827	815	794	775	748	707	674	639	584	537	493	447	401	356	313	273	235	201	170	142	117	95	75	57	42	29	18	10	4	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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