

PHOTOMETRIC TESTING & EVALUATION TO IES LM-79-19

Sample Tested

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

Prepared for:

Vista Professional Outdoor Lighting

1625 Surveyor Ave
Simi Valley, CA 93063

Technical Report Number

80239581-38

March 7, 2025

Test Report Prepared and Released by:

K. A. Patel

Keyur Patel
Certifier-I

Test Report Reviewed by:

KC Fletcher

KC Fletcher
Manager

This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government. TM-30-18 is not covered under NVLAP Accreditation. **The results in this report relate only to the sample tested.**

This report shall not be reproduced, except in full, without the approval of CSA Group

Program Description

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

Executive Summary

Sample Tested = 1052YM-X-WW-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 (%)
50.92	1064.91	20.91	0.9721	14.48

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

This report shall not be reproduced, except in full, without the approval of CSA Group

TABLE OF CONTENTS

Test Sample Pictures.....	4
Test Result.....	5
Spectral Power Distribution.....	6
Chromaticity Diagram.....	7
Photometric Test Results.....	8
Candela Tabulation.....	9
Photometric Testing Information.....	10
Equipment List.....	12

This report shall not be reproduced, except in full, without the approval of CSA Group

Test Sample Pictures

The following sample was submitted for evaluation:



Vista Professional Outdoor Lighting : 1052YM-X-WW-RGBW-FL-MV-DMX-With Filter-GREEN Output

This report shall not be reproduced, except in full, without the approval of CSA Group

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-WW-RGBW-FL-MV-DMX-With Filter-GREEN Output
	Integrating Sphere
Luminous Efficacy (Lumens/Watt)	50.92
Total Luminous Flux (Lumens)	1064.91
Total Radiant Flux (Watts)	2.38
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)	0.1345 / 0.7086
Chromaticity (Chroma u/Chroma v)	0.0479 / 0.3785
Chromaticity (Chroma u'/Chroma v')	0.0479 / 0.5677
Duv Value	0.1657
Stabilization Time (Light and Power)	30 minutes
Total Run Time (Integrating Sphere)	35 minutes
Scotopic/Photopic ratio $\Phi(v')/\Phi(v)$	3.33

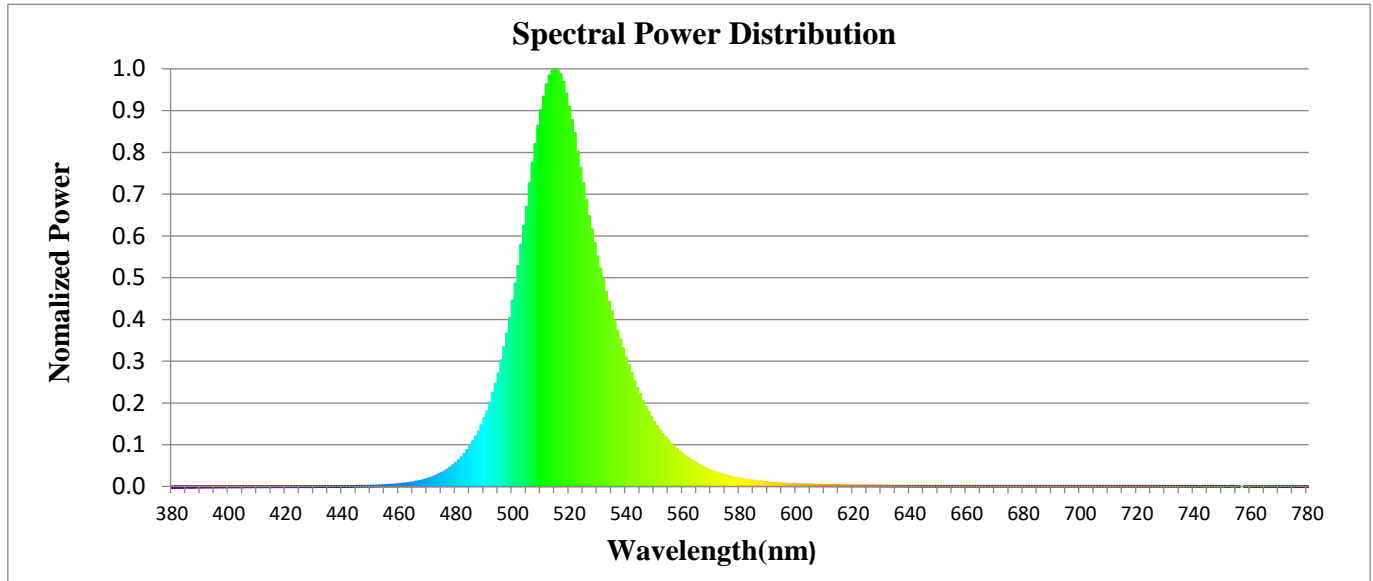
Electrical Input Results:	Sample Reference
	1052YM-X-WW-RGBW-FL-MV-DMX-With Filter-GREEN Output
Input Power (Watts)	20.91
Input Voltage (Volts AC)	120.02
Input Current (Amps)	0.18
Input Frequency (Hertz)	60.0
Power Factor	0.9721
Total Harmonic Distortion (THD V,A)%	0.1, 14.48

Additional Information	Sample Reference
	1052YM-X-WW-RGBW-FL-MV-DMX-With Filter-GREEN Output
Ambient Temperature	24.6°C
Integrating Sphere Detector	CDS 2600 Spectroradiometer
Absortion Correction Used?	Yes
Date Tested	3/7/2025

This report shall not be reproduced, except in full, without the approval of CSA Group

Spectral Flux

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

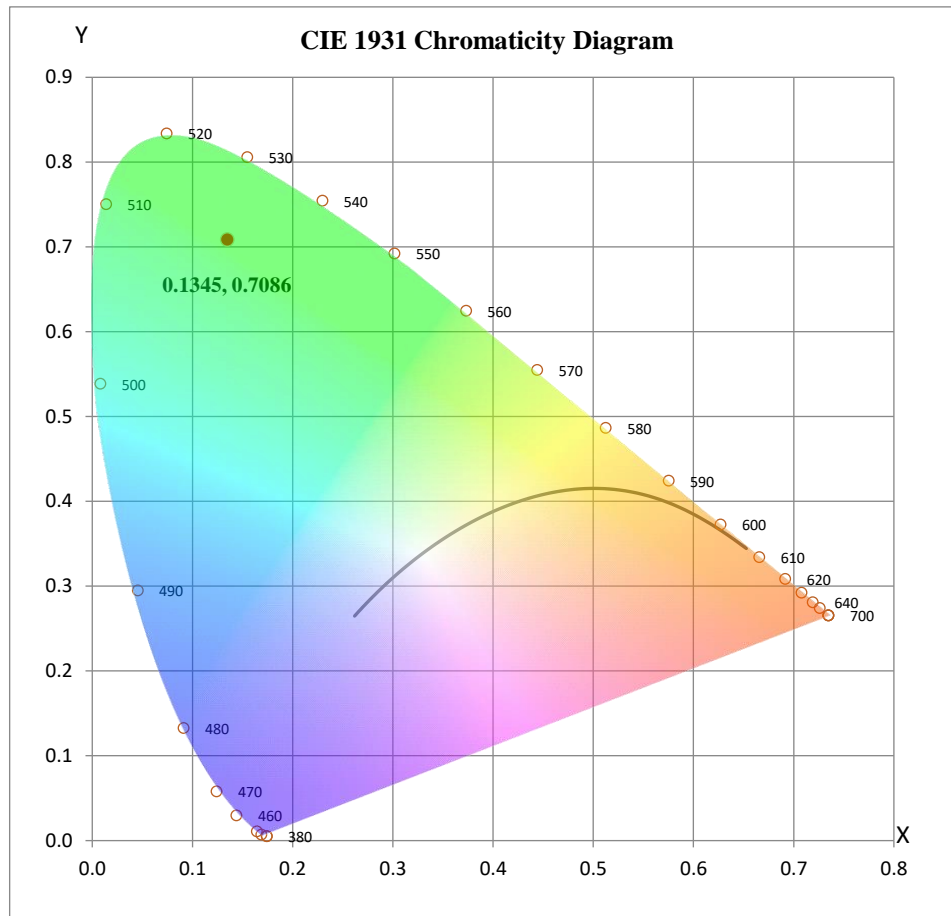


Spectral response of the Radiant Flux
 (380nm to 780nm - calibrated range of the Spectroradiometer)

This report shall not be reproduced, except in full, without the approval of CSA Group

Chromaticity Diagram

The following image shows the chromaticity diagram for the sample:

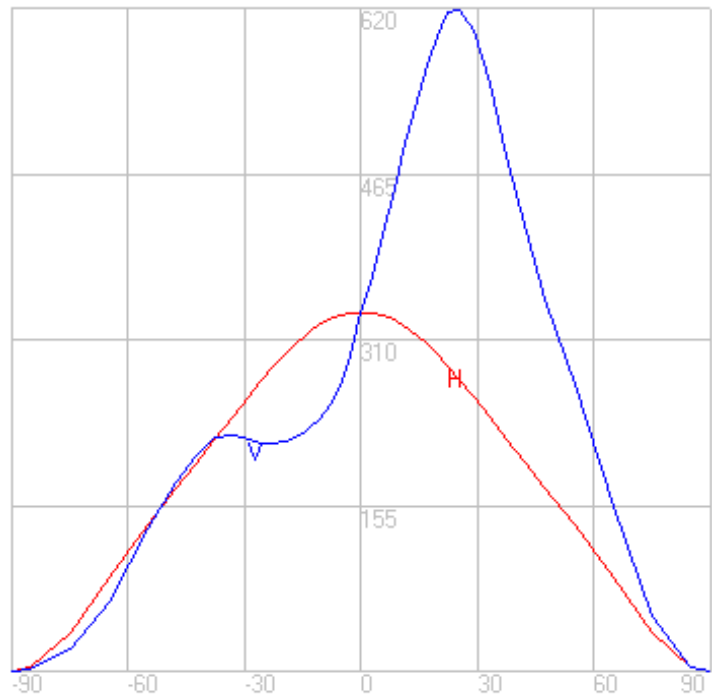
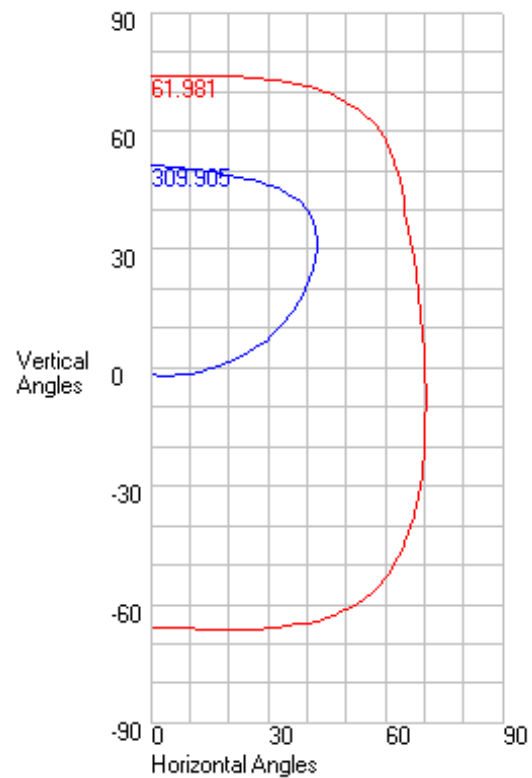


$x = 0.1345$ $y = 0.7086$

This report shall not be reproduced, except in full, without the approval of CSA Group

Photometric Test Results

Characteristics	
NEMA Type	7 H x 7 V
Maximum Candela	619.81
Maximum Candela Angle	-1 H 25.5 V
Horizontal Beam Angle (50%)	83.00
Vertical Beam Angle (50%)	53.10
Horizontal Field Angle (10%)	135.30
Vertical Field Angle (10%)	139.70
Beam Lumens	442.00
Field Lumens	1022

Axial Candela Display

Isocandela Curves


This report shall not be reproduced, except in full, without the approval of CSA Group

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	334	363	400	437	473	507	541	573	600	616	621	612	591	559	521	483	446	411	378	349	321	295	269	242	214	185	155	125	98	73	51	34	20	11	4	1	0	
	5	334	367	404	441	476	511	544	575	601	619	623	612	589	558	520	481	444	410	378	348	320	293	267	240	212	183	153	124	96	72	50	32	19	10	4	1	0	
	10	334	366	403	440	475	508	541	573	598	615	620	612	592	560	523	485	448	413	380	350	322	295	268	242	214	185	156	126	99	74	52	34	20	10	4	0	0	
	15	334	365	402	437	471	504	536	566	591	609	616	610	592	563	528	490	452	417	384	353	324	296	269	242	215	187	158	129	102	76	55	36	22	11	4	1	0	
	20	334	365	399	435	467	499	529	558	583	602	611	607	592	567	534	497	460	423	389	357	326	297	270	243	216	188	161	133	106	81	58	38	23	12	5	1	0	
	25	334	363	397	431	462	492	521	548	572	591	601	601	590	569	539	505	468	431	396	363	331	301	272	245	217	190	163	136	109	84	61	41	25	13	5	1	0	
	30	334	362	394	426	456	484	510	535	558	576	587	590	583	568	543	512	477	441	406	371	338	307	277	247	219	191	164	138	111	87	63	43	27	14	6	1	0	
	35	334	361	391	421	449	474	499	521	541	558	570	576	573	562	543	517	487	452	417	381	347	314	282	251	222	193	165	138	113	88	65	45	28	15	6	1	0	
	40	334	360	387	414	440	463	485	504	522	537	549	555	555	549	536	516	491	460	427	393	357	323	289	257	226	196	168	140	113	88	66	46	29	15	6	2	0	
	45	334	357	382	407	431	451	470	486	501	513	523	529	532	529	521	507	486	461	432	399	366	332	298	265	233	201	171	142	115	89	66	46	29	16	7	2	0	
	50	334	355	377	399	420	439	454	467	478	488	495	500	502	500	494	484	468	449	425	398	368	337	304	271	238	206	174	145	116	90	67	46	29	16	7	2	0	
	55	334	353	372	391	409	425	438	448	456	462	466	468	468	465	459	450	438	422	402	380	355	328	298	268	237	206	176	146	117	91	67	46	29	16	7	2	0	
	60	334	350	366	382	397	410	420	427	432	435	437	436	432	426	419	409	397	382	365	345	324	300	274	247	219	191	164	137	110	86	63	44	27	14	6	2	0	
	65	334	348	361	373	385	394	401	406	409	409	408	403	397	389	379	367	353	338	320	301	281	259	236	212	188	164	140	117	94	73	54	37	23	12	6	2	0	
	70	334	346	356	365	372	378	382	384	384	382	378	372	363	353	341	327	312	295	278	259	239	218	197	176	155	135	114	95	77	59	44	30	19	10	4	1	0	
	75	334	344	350	356	360	363	363	362	359	355	348	340	330	318	304	290	274	258	240	222	204	185	167	148	130	113	96	80	64	50	37	25	16	8	4	1	0	
	80	334	341	345	347	348	347	345	341	335	328	320	310	298	285	272	257	243	227	211	195	179	163	147	132	116	101	86	72	59	46	34	24	15	8	3	1	0	
	85	334	339	340	339	337	334	329	322	315	306	296	285	274	261	248	235	221	207	193	180	166	152	138	125	111	98	85	71	59	46	35	24	15	8	4	1	0	
	90	334	335	334	330	326	320	313	305	295	286	275	264	252	240	229	217	205	194	183	171	160	149	137	125	112	100	87	75	62	49	37	26	16	9	4	1	0	
	95	334	333	329	323	316	308	299	289	279	268	257	247	236	226	216	207	198	189	180	171	161	150	140	129	117	105	92	79	66	53	40	28	18	10	4	1	0	
	100	334	330	323	315	306	296	285	274	263	253	243	234	225	217	210	203	196	188	180	172	164	155	145	134	123	111	98	84	70	57	43	30	19	10	5	1	0	
	105	334	327	318	308	297	285	273	262	251	242	233	226	219	213	207	202	196	189	183	176	168	160	151	141	129	117	103	89	75	60	45	32	21	11	5	1	0	
	110	334	325	313	301	287	274	262	251	242	234	227	221	216	211	206	201	196	191	186	180	173	166	157	146	135	121	107	93	77	62	47	33	21	12	5	2	0	
	115	334	322	308	293	279	265	253	243	235	229	223	218	214	209	206	202	198	194	190	185	179	171	162	151	138	124	110	94	78	63	48	34	22	12	6	1	0	
	120	334	319	303	287	271	257	246	237	231	225	220	216	212	209	206	203	200	198	195	190	184	176	166	153	140	125	110	94	78	62	47	34	22	13	6	1	0	
	125	334	317	299	282	265	251	241	234	227	222	218	214	211	209	207	205	204	203	200	196	188	179	167	153	139	124	108	92	76	60	46	32	21	12	6	2	0	
	130	334	315	295	276	259	246	237	230	225	220	216	213	211	209	208	208	208	208	205	199	190	178	165	151	135	120	104	88	72	57	44	31	20	12	5	1	0	
	135	334	312	291	271	255	243	234	228	222	218	215	212	211	210	211	212	213	212	208	200	189	176	161	146	131	115	99	84	69	54	41	29	19	11	5	1	0	
	140	334	311	288	267	251	240	232	225	220	217	214	212	211	212	214	216	217	215	208	198	185	171	156	141	125	110	94	79	65	51	38	27	18	10	4	1	0	
	145	334	309	285	264	248	237	230	224	219	216	213	212	212	214	217	220	220	215	206	194	180	166	151	135	120	105	89	75	60	47	35	24	16	9	4	1	0	
	150	334	307	282	260	245	235	228	222	218	215	213	212	213	216	220	222	219	212	202	189	175	161	146	131	116	101	85	70	56	43	31	21	14	8	4	1	0	
	155	334	306	280	258	243	234	227	221	217	214	212	213	215	218	221	222	218	209	198	185	172	157	143	127	112	97	81	66	51	38	28	19	12	7	3	1	0	
	160	334	305	278	256	242	233	225	220	216	214	213	213	216	219	222	221	216	207	195	183	169	155	140	125	109	93	76	61	46	35	25	18	11	7	3	1	0	
	165	334	304	277	255	241	232	225	219	216	213	213	214	217	220	221	220	214	204	193	180	167	153	138	123	107	89	72	56	43	33	24	17	11	6	3	1	0	
	170	334	303	276	254	240	231	224	219	215	213	213	214	217	220	221	219	213	203	192	179	165	151	136	121	104	86	69	54	41	31	23	16	10	6	3	1	0	
	175	334	303	275	254	240	231	224	218	215	213	213	214	217	220	221	218	212	202	191	178	164	150	135	120	102	84	67	52	40	30	22	16	10	6	3	1	0	
180	334	300	273	251	238	230	223	218																															

This report shall not be reproduced, except in full, without the approval of CSA Group

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

This report shall not be reproduced, except in full, without the approval of CSA Group

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.

This report shall not be reproduced, except in full, without the approval of CSA Group

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.

Accreditation

- This report, and use of the NVLAP logo, shall not be used by a client to claim certification, approval, or endorsement by NVLAP, NIST, or any agency of the U.S. Government.
- This report, and use of the CSA logo, shall not be used by a client to claim certification, approval, or endorsement by CSA.
- This test report, may contain sections with product performance criteria, which has been specified by certification program(s) not affiliated with NVLAP. TM-30-18 is not covered under NVLAP Accreditation.
- This test report, contains sections with test data recorded within the scope of this lab's accreditation through NVLAP. In these instances, the NVLAP Logo and associated testing lab code will be present on the header of the first page and last page.



This report shall not be reproduced, except in full, without the approval of CSA Group