

PHOTOMETRIC TESTING & EVALUATION TO IES LM-79-19

Sample Tested

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

Prepared for:

Vista Professional Outdoor Lighting

1625 Surveyor Ave
Simi Valley, CA 93063

Technical Report Number

80239581-41

February 6, 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-WG-RGBW-FL-MV-DMX-With Filter-RED Output Type C LED Luminaire to IES LM-79-19.

Executive Summary

Sample Tested = 1052YM-X-WG-RGBW-FL-MV-DMX-With Filter-RED 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 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 (%)
35.02	536.31	15.31	0.9568	16.06

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-WG-RGBW-FL-MV-DMX-With Filter-RED 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-WG-RGBW-FL-MV-DMX-With Filter-RED Output
	Integrating Sphere
Luminous Efficacy (Lumens/Watt)	35.02
Total Luminous Flux (Lumens)	536.31
Total Radiant Flux (Watts)	2.63
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)	0.6969 / 0.303
Chromaticity (Chroma u/Chroma v)	0.5317 / 0.3468
Chromaticity (Chroma u'/Chroma v')	0.5317 / 0.5202
Duv Value	0.0000
Stabilization Time (Light and Power)	30 minutes
Total Run Time (Integrating Sphere)	35 minutes
Scotopic/Photopic ratio $\Phi(v')/\Phi(v)$	0.03

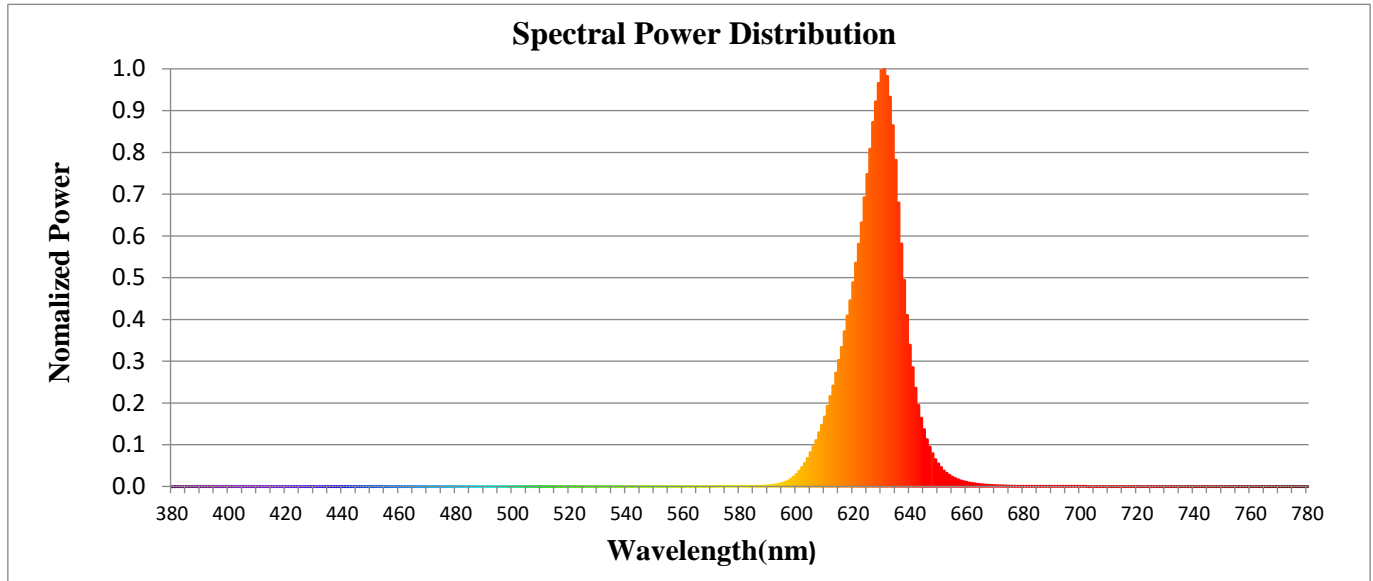
Electrical Input Results:	Sample Reference
	1052YM-X-WG-RGBW-FL-MV-DMX-With Filter-RED Output
Input Power (Watts)	15.31
Input Voltage (Volts AC)	120.13
Input Current (Amps)	0.13
Input Frequency (Hertz)	60.0
Power Factor	0.9568
Total Harmonic Distortion (THD V,A)%	0.13, 16.06

Additional Information	Sample Reference
	1052YM-X-WG-RGBW-FL-MV-DMX-With Filter-RED Output
Ambient Temperature	25°C
Integrating Sphere Detector	CDS 2600 Spectroradiometer
Absortion Correction Used?	Yes
Date Tested	1/23/2025

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:

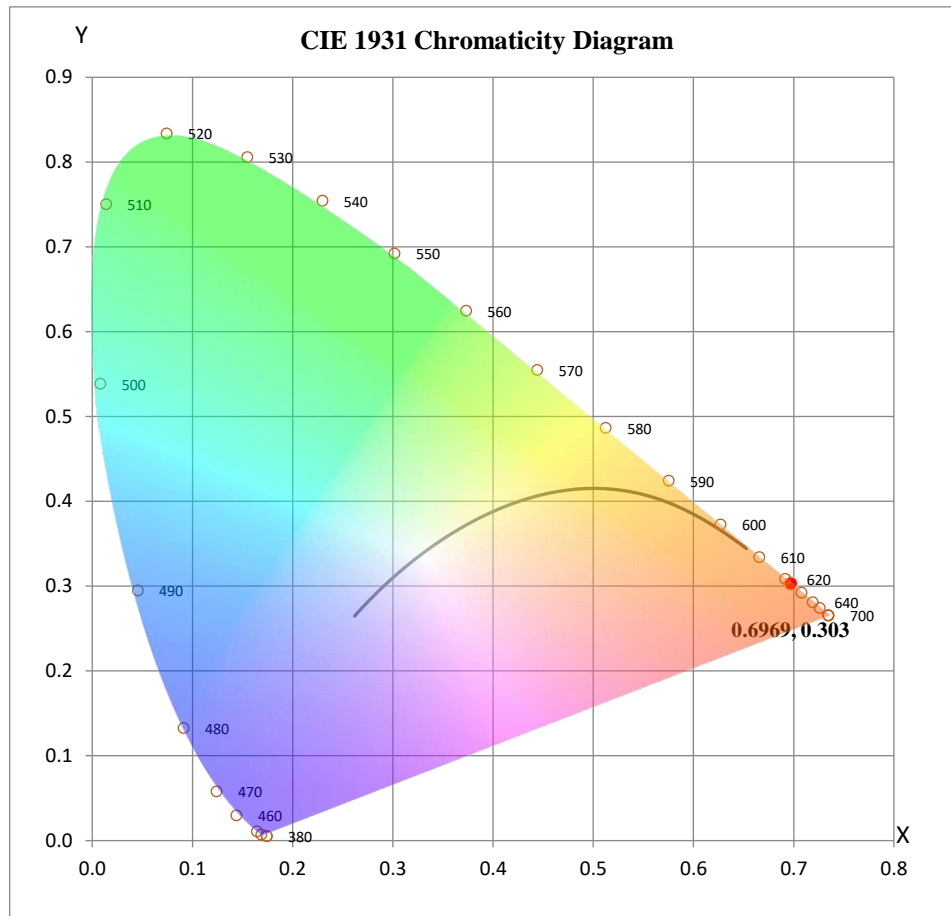


Spectral response of the Radiant Flux
 (380nm to 780nm - calibrated range of the Spectroradiometer)

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:

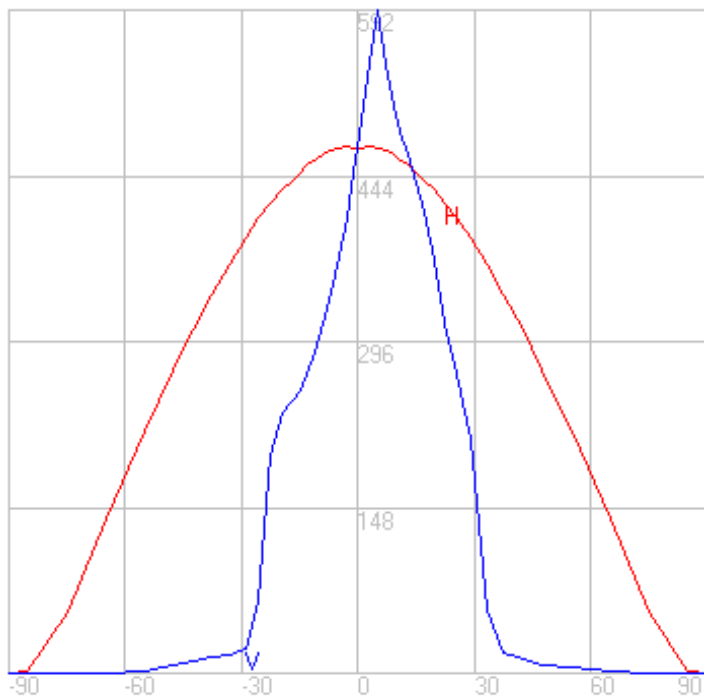
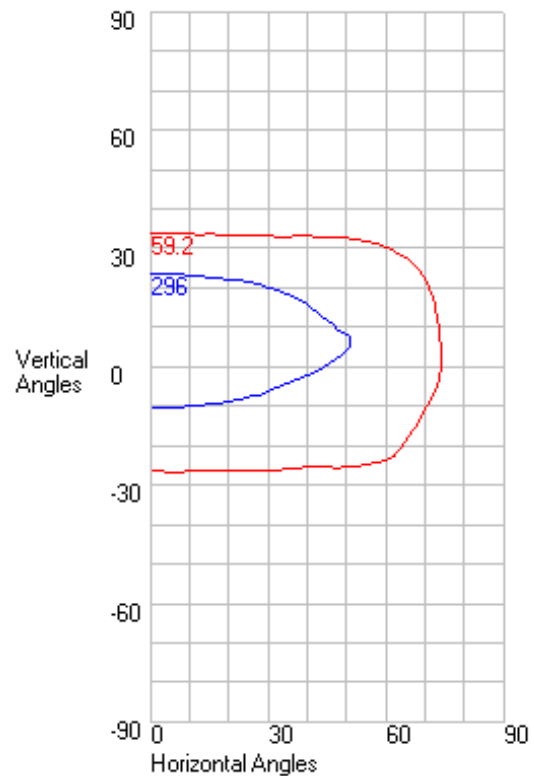


$x = 0.6969$ $y = 0.303$

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

Photometric Test Results

Characteristics	
NEMA Type	7 H x 4 V
Maximum Candela	592.00
Maximum Candela Angle	0 H 5 V
Horizontal Beam Angle (50%)	102.20
Vertical Beam Angle (50%)	33.90
Horizontal Field Angle (10%)	148.20
Vertical Field Angle (10%)	58.70
Beam Lumens	288.00
Field Lumens	508

Axial Candela Display

Isocandela Curves


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

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	469	534	592	531	492	469	438	405	361	312	273	242	189	65	22	18	15	12	10	8	7	6	5	4	3	2	2	1	0	0	0	0	0	0	0	0	0	0	
	5	469	534	588	534	493	470	440	407	363	313	275	243	192	66	22	18	15	12	10	9	7	6	5	4	3	2	2	1	0	0	0	0	0	0	0	0	0	0	
	10	469	532	589	534	494	470	440	407	365	318	278	247	201	73	24	18	15	13	11	9	7	6	5	4	3	2	2	1	1	0	0	0	0	0	0	0	0	0	
	15	469	531	587	538	494	472	443	410	371	322	282	250	213	98	29	19	16	13	11	9	8	6	5	4	3	3	2	1	1	0	0	0	0	0	0	0	0	0	
	20	469	529	583	543	496	475	447	416	379	332	289	257	228	136	43	20	17	13	11	10	8	7	6	4	3	3	2	1	1	0	0	0	0	0	0	0	0	0	
	25	469	527	583	549	499	477	451	420	387	343	299	264	236	178	65	23	17	14	12	10	8	7	6	5	4	3	2	1	1	0	0	0	0	0	0	0	0	0	
	30	469	524	580	557	504	481	457	429	397	358	313	274	244	209	110	35	19	16	13	11	9	7	6	5	4	3	2	2	1	0	0	0	0	0	0	0	0	0	
	35	469	522	578	567	512	485	463	436	406	372	329	287	254	226	178	73	25	17	14	12	10	8	7	5	4	3	2	2	1	0	0	0	0	0	0	0	0	0	
	40	469	518	571	575	521	489	469	445	415	386	348	306	270	241	213	141	52	20	16	13	11	9	7	6	5	4	2	2	1	0	0	0	0	0	0	0	0	0	
	45	469	514	565	581	534	495	475	453	426	397	367	330	292	259	232	201	130	48	20	15	12	10	8	6	5	4	3	2	1	1	0	0	0	0	0	0	0	0	
	50	469	511	557	585	555	509	483	463	439	412	384	355	319	282	251	223	193	126	53	21	14	12	9	7	6	4	3	2	1	1	0	0	0	0	0	0	0	0	
	55	469	506	546	581	569	525	491	469	449	425	400	375	347	313	277	245	219	192	141	73	28	14	11	9	7	5	4	3	2	1	0	0	0	0	0	0	0	0	0
	60	469	502	537	571	580	549	510	480	459	439	417	393	368	341	311	278	245	217	193	159	99	46	19	12	9	7	5	3	2	1	0	0	0	0	0	0	0	0	0
	65	469	498	526	555	577	572	538	501	472	452	434	412	387	363	338	310	281	251	222	194	169	132	83	39	16	10	7	5	3	2	1	0	0	0	0	0	0	0	0
	70	469	493	515	538	559	572	563	535	503	474	451	430	409	385	361	335	311	284	257	228	199	172	148	116	72	40	15	8	5	3	1	0	0	0	0	0	0	0	0
	75	469	489	504	521	537	550	557	554	542	515	489	459	432	408	384	361	339	314	287	261	234	206	179	152	127	102	65	40	18	5	2	1	0	0	0	0	0	0	
	80	469	485	495	503	513	520	525	530	532	530	520	506	484	457	430	402	375	347	319	292	266	240	213	186	159	131	106	83	60	31	18	6	0	0	0	0	0	0	0
	85	469	478	482	485	487	487	486	483	482	479	476	470	463	454	443	427	410	390	367	344	323	298	271	241	212	180	148	116	89	65	43	26	10	4	1	0	0	0	0
90	469	471	469	466	462	455	448	439	431	421	410	397	383	368	353	338	322	307	287	271	253	236	217	196	179	157	138	118	97	78	54	33	16	6	1	0	0	0	0	
95	469	467	461	454	444	433	421	410	397	384	369	353	337	319	302	285	267	250	230	211	192	174	155	136	118	100	83	66	51	38	25	10	2	0	0	0	0	0	0	
100	469	465	453	442	429	415	399	384	369	353	338	321	305	286	270	253	236	218	201	183	166	150	134	117	103	88	71	42	19	4	2	1	0	0	0	0	0	0	0	
105	469	458	444	428	413	396	378	360	343	327	311	293	276	258	241	225	209	194	179	164	150	137	123	98	56	19	8	6	4	3	1	0	0	0	0	0	0	0	0	
110	469	452	433	415	396	378	358	339	320	301	284	266	250	234	219	205	191	179	166	154	128	76	31	12	10	8	7	5	3	2	0	0	0	0	0	0	0	0	0	
115	469	447	425	403	382	361	340	319	298	280	264	247	233	218	205	193	183	169	132	62	25	13	12	10	9	7	5	3	2	0	0	0	0	0	0	0	0	0	0	
120	469	443	417	392	369	348	324	302	280	263	248	234	221	210	199	186	149	73	31	15	14	12	11	9	8	6	4	2	1	0	0	0	0	0	0	0	0	0	0	
125	469	439	410	383	358	334	308	287	267	250	236	224	215	204	184	114	48	20	15	14	13	11	10	8	6	4	2	1	1	0	0	0	0	0	0	0	0	0	0	
130	469	436	404	375	348	321	296	275	257	242	230	220	211	184	96	39	18	16	14	13	12	10	9	7	4	3	2	1	0	0	0	0	0	0	0	0	0	0	0	
135	469	432	398	367	338	310	286	266	248	236	225	216	190	99	39	18	16	15	14	12	11	9	7	5	3	2	1	1	0	0	0	0	0	0	0	0	0	0	0	
140	469	429	392	360	330	301	277	259	243	232	223	204	124	47	19	17	16	14	13	11	10	8	6	4	2	2	1	1	0	0	0	0	0	0	0	0	0	0	0	
145	469	426	388	354	322	294	271	253	240	229	218	166	64	23	18	16	15	14	12	11	9	7	4	3	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	
150	469	423	383	348	315	287	265	249	237	228	203	104	38	19	17	16	15	13	11	10	8	6	4	3	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	
155	469	422	380	344	309	282	261	246	235	225	181	66	23	18	17	15	14	13	11	9	7	5	3	2	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	
160	469	419	377	339	305	278	258	243	233	218	143	48	19	18	16	15	14	12	11	8	6	4	3	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	
165	469	418	375	337	302	276	256	242	232	211	106	36	19	18	16	15	13	12	10	8	5	4	3	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	
170	469	417	374	336	301	274	255	241	232	205	88	29	19	17	16	15	13	11	10	7	5	3	2	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	
175	469	416	373	334	299	273	254	241	232	198	77	25	19	17	16	14	13	11	9	7	5	3	2	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	
180	469	417	372	333	298	272	253	240	231	195	73	25	19	17	16	14	13	11	9	7	4	3	2	2	1	1	0	0	0	0	0	0	0	0	0	0	0	0	0	

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