

PHOTOMETRIC TESTING & EVALUATION TO IES LM-79-19

Sample Tested

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

Prepared for:

Vista Professional Outdoor Lighting

1625 Surveyor Ave
Simi Valley, CA 93063

Technical Report Number

80239581-46

March 20, 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-AS-RGBW-FL-MV-DMX-With Filter-GREEN Output Type C LED Luminaire to IES LM-79-19.

Executive Summary

Sample Tested = 1052YM-X-AS-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 (%)
52.67	1076.89	20.45	0.9705	14.50

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.....	11
Equipment List.....	13

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-AS-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-AS-RGBW-FL-MV-DMX-With Filter-GREEN Output
	Integrating Sphere
Luminous Efficacy (Lumens/Watt)	52.67
Total Luminous Flux (Lumens)	1076.89
Total Radiant Flux (Watts)	2.35
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)	0.149 / 0.701
Chromaticity (Chroma u/Chroma v)	0.0536 / 0.3784
Chromaticity (Chroma u'/Chroma v')	0.0536 / 0.5677
Duv Value	0.1606
Stabilization Time (Light and Power)	30 minutes
Total Run Time (Integrating Sphere)	35 minutes
Scotopic/Photopic ratio $\Phi(v')/\Phi(v)$	3.16

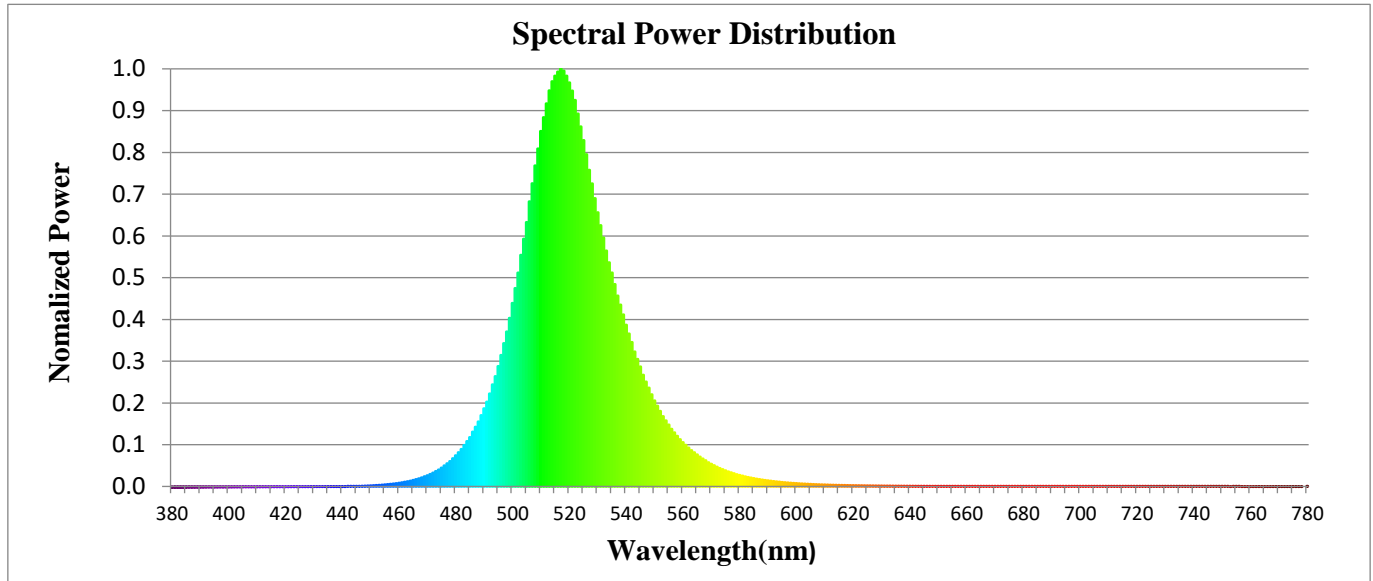
Electrical Input Results:	Sample Reference
	1052YM-X-AS-RGBW-FL-MV-DMX-With Filter-GREEN Output
Input Power (Watts)	20.45
Input Voltage (Volts AC)	120.02
Input Current (Amps)	0.18
Input Frequency (Hertz)	60.0
Power Factor	0.9705
Total Harmonic Distortion (THD V,A)%	0.19, 14.5

Additional Information	Sample Reference
	1052YM-X-AS-RGBW-FL-MV-DMX-With Filter-GREEN Output
Ambient Temperature	25.7°C
Integrating Sphere Detector	CDS 2600 Spectroradiometer
Absortion Correction Used?	Yes
Date Tested	3/18/2025

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:

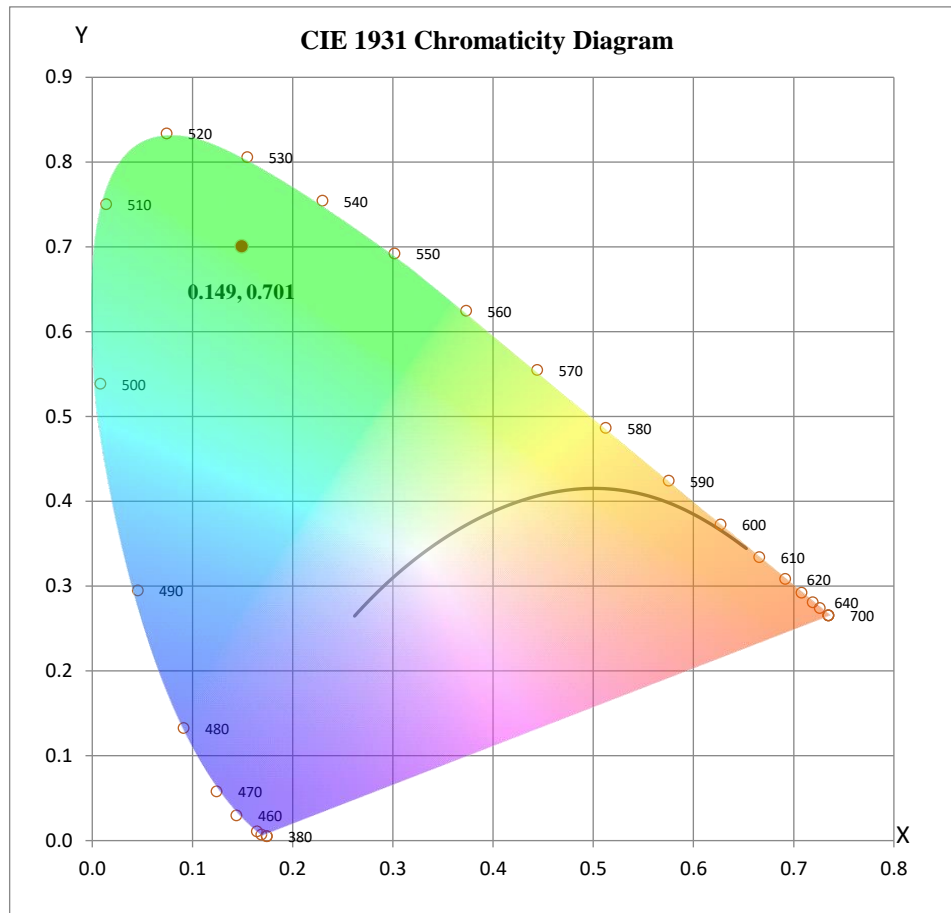


Spectral response of the Radiant Flux
 (380nm to 780nm - calibrated range of the Spectroradiometer)

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:

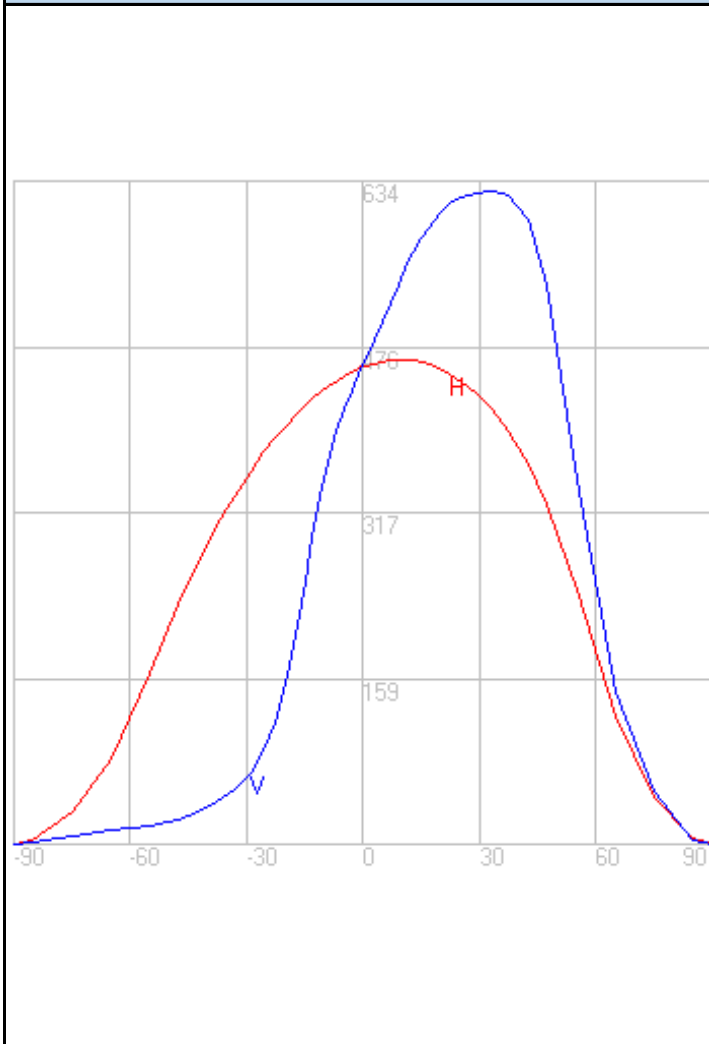
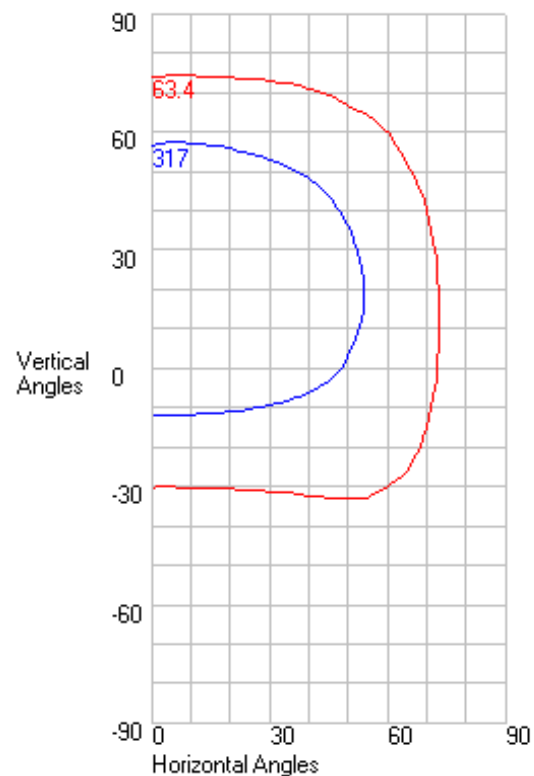


$x = 0.149$ $y = 0.701$

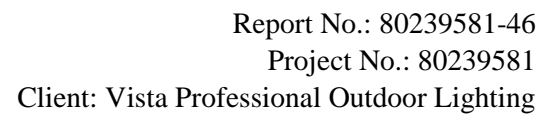
This report shall not be reproduced, except in full, without the approval of CSA Group

Photometric Test Results

Characteristics	
NEMA Type	7 H x 6 V
Maximum Candela	634.00
Maximum Candela Angle	9 H 33 V
Horizontal Beam Angle (50%)	94.70
Vertical Beam Angle (50%)	69.00
Horizontal Field Angle (10%)	139.10
Vertical Field Angle (10%)	104.50
Beam Lumens	735.00
Field Lumens	1016

Axial Candela Display

Isocandela Curves


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



Vertical Angle

34 Bunsen
Irvine, California 92618
www.csagroup.com

Fax: 949-733-4320

Version 1.0



	0	3	5	8	10	13	15	18	20	23	25	28	30	33	35	38	40	43	45	48	50	53	55	58	60	63	65	68	70	73	75	78	80	83	85	88	90
185	457	438	416	388	353	307	253	200	154	118	92	74	63	54	47	41	36	31	27	24	21	19	17	16	15	14	13	12	11	9	7	6	4	2	1	0	0
190	457	439	418	391	355	309	256	203	155	119	94	77	65	55	48	42	36	32	28	24	21	19	18	16	15	14	13	12	11	9	8	6	4	2	1	0	0
195	457	440	418	392	358	315	262	210	163	125	97	79	67	57	50	43	38	33	29	25	22	20	18	17	16	15	14	13	11	10	8	6	4	2	1	0	0
200	457	440	420	395	362	320	270	218	170	132	103	83	70	60	52	45	40	35	30	27	24	21	19	18	17	16	15	13	12	10	8	6	4	3	1	0	0
205	457	440	422	398	367	327	280	228	180	141	111	90	74	63	55	48	42	37	32	28	25	23	21	19	18	17	16	14	13	11	9	7	5	3	1	0	0
210	457	442	424	403	375	337	292	243	196	153	121	98	81	69	59	52	45	40	35	31	27	25	22	21	19	18	17	15	14	12	10	7	5	3	1	0	0
215	457	444	427	408	382	347	306	260	213	170	136	109	90	75	65	57	50	44	39	34	30	27	25	23	21	20	19	17	15	13	10	8	6	3	1	0	0
220	457	444	429	411	388	358	321	278	233	191	154	125	102	85	73	64	56	49	43	39	34	31	28	26	24	22	21	19	16	14	11	9	6	4	2	0	0
225	457	446	432	416	396	370	337	298	257	215	176	145	119	99	84	73	64	56	50	44	39	35	32	29	27	25	23	21	18	16	13	10	7	4	2	1	0
230	457	446	435	421	403	381	354	321	282	243	205	171	142	118	100	87	76	66	58	52	46	41	38	34	31	29	27	24	21	18	14	11	7	4	2	0	0
235	457	449	439	427	412	394	371	343	310	273	237	203	172	145	123	106	92	80	70	62	56	50	45	41	37	34	31	28	24	20	16	12	8	5	2	1	0
240	457	451	442	432	420	405	387	364	337	306	273	240	209	179	154	133	115	101	88	77	69	61	55	49	44	40	36	32	28	23	18	14	9	6	3	1	0
245	457	451	445	437	427	416	401	384	363	337	309	280	250	221	194	170	148	130	114	100	88	78	69	61	55	49	43	38	32	27	21	16	11	6	3	1	0
250	457	453	448	442	435	426	416	403	386	367	345	320	295	268	241	216	192	169	149	132	116	102	89	78	69	61	53	46	39	32	25	18	12	7	3	1	0
255	457	456	453	449	444	438	429	419	407	393	377	359	338	315	291	267	242	218	196	174	154	135	118	103	89	77	66	56	46	38	29	21	14	8	3	1	0
260	457	458	456	454	451	446	441	434	425	415	404	390	375	358	339	318	295	272	248	225	201	178	156	135	115	98	83	69	56	44	34	25	16	9	4	1	0
265	457	459	459	459	457	455	452	446	439	432	424	415	403	391	376	360	342	322	300	277	252	226	199	173	147	124	102	83	67	52	40	28	18	10	4	1	0
270	457	460	462	464	464	464	462	459	455	450	444	437	429	419	408	395	380	364	345	325	301	274	243	211	180	149	123	99	78	60	45	32	20	11	5	1	0
275	457	462	466	469	471	473	473	472	469	466	462	457	451	443	434	423	411	398	382	364	341	315	284	248	211	175	142	114	89	68	50	35	22	12	5	1	0
280	457	465	470	476	480	483	485	486	486	485	483	481	477	472	464	455	445	433	419	401	379	351	318	280	237	197	160	127	99	75	55	38	24	13	5	1	0
285	457	464	472	479	485	490	495	498	501	502	502	502	500	497	491	484	475	464	450	433	411	383	347	306	260	214	174	138	107	80	59	41	26	14	6	1	0
290	457	464	474	482	491	498	505	510	514	518	521	522	522	521	517	511	502	492	478	461	439	411	372	326	277	229	186	145	112	85	62	43	27	15	6	2	0
295	457	466	477	488	498	507	516	524	530	535	540	543	544	544	540	535	527	516	503	486	463	431	391	343	289	238	191	150	116	87	64	44	28	15	6	1	0
300	457	468	480	493	505	517	527	537	545	552	558	562	564	564	562	557	549	538	525	507	483	450	405	352	297	243	194	152	118	90	66	45	28	15	7	2	0
305	457	468	482	496	510	524	537	548	558	566	573	578	580	581	578	573	566	556	542	525	499	461	413	357	299	243	195	153	119	90	65	45	29	16	7	2	0
310	457	470	485	501	516	531	546	559	570	578	585	590	593	594	592	587	580	570	557	539	510	468	416	357	297	241	193	152	118	89	65	45	29	16	7	1	0
315	457	471	487	505	521	538	554	568	580	589	596	601	604	605	603	599	592	583	570	549	516	471	416	355	295	239	191	150	116	88	64	45	29	16	7	1	0
320	457	473	491	509	527	545	562	577	590	600	607	612	615	615	614	610	604	594	580	559	523	472	413	350	289	233	186	147	114	87	63	45	29	16	7	1	0
325	457	473	493	512	532	550	568	583	596	607	615	620	622	622	621	617	612	603	587	562	524	473	409	344	283	229	181	142	111	85	63	44	28	16	7	2	0
330	457	475	495	515	535	555	573	588	602	612	619	624	627	627	626	622	616	607	592	566	522	466	403	337	275	221	177	139	109	83	61	43	28	16	6	1	0
335	457	475	495	516	537	557	575	591	604	615	622	627	630	630	629	627	621	611	592	562	519	461	395	330	270	216	172	135	106	81	60	42	27	15	6	1	0
340	457	475	497	518	539	560	579	595	607	617	625	630	633	634	632	629	624	614	594	561	514	455	389	323	263	211	168	133	103	80	59	42	27	15	6	1	0
345	457	476	498	520	541	562	580	595	608	618	625	630	633	634	634	631	625	613	591	558	511	449	381	316	257	205	162	129	102	78	58	41	26	14	6	1	0
350	457	476	498	520	541	562	580	596	607	617	624	628	631	633	632	629	623	611	590	555	504	442	375	309	249	201	160	127	100	77	58	41	26	14	6	1	0
355	457	478	499	521	542	563	580	595	607	616	622	626	629	630	629	626	619	606	583	549	499	435	368	303	245	196	157	125	98	75	56	39	25	14	6	1	0
360	457	480	501	523	544	563	580	594	605	613	619	622	624	625	624	621	614	598	573	535	482	417	349	287	231	184	146	115	91	70	51	35	21	11	4	1	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