

PHOTOMETRIC TESTING & EVALUATION TO IES LM-79-19

Sample Tested

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

Prepared for:

Vista Professional Outdoor Lighting

1625 Surveyor Ave
Simi Valley, CA 93063

Technical Report Number

80239581-28

February 13, 2025

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Program Description

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

Executive Summary

Sample Tested = 1052YM-X-NS-RGBW-FL-MV-DMX-With Filter-WHITE 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 White light turned on. The color settings were adjusted using an ENTTEC DMX USB PRO DMX512 controller.

Luminous Efficacy (Lumens/Watt)	Luminous Flux (Lumens)	Input Power (Watts)	Power Factor	ATHD (%)
65.96	3160.00	47.91	0.9898	11.13

CCT(K)	CRI	R9	Rcs,h1	Rf / Rg
3159	90.4	44	-7	90 / 97

* 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-WHITE 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-WHITE Output	
	Integrating Sphere	Goniophotometer
Luminous Efficacy (Lumens/Watt)	65.96	67.25
Total Luminous Flux (Lumens)	3160.00	3245.64
Total Radiant Flux (Watts)	10.20	
Correlated Color Temperature (CCT)	3159	
Color Rendering Index (CRI)(Ra)	90.4	
R9 Value	44	
IES Rf / IES Rg	90 / 97	
Local Chroma Shift Rcs,h1	-7	
Chromaticity (Chroma x/Chroma y)	0.4282 / 0.4049	
Chromaticity (Chroma u/Chroma v)	0.2446 / 0.3469	
Chromaticity (Chroma u'/Chroma v')	0.2446 / 0.5204	
Duv Value	0.0016	
Stabilization Time (Light and Power)	60 minutes	
Total Run Time (Integrating Sphere)	65 minutes	
Scotopic/Photopic ratio $\Phi(v')/\Phi(v)$	1.47	

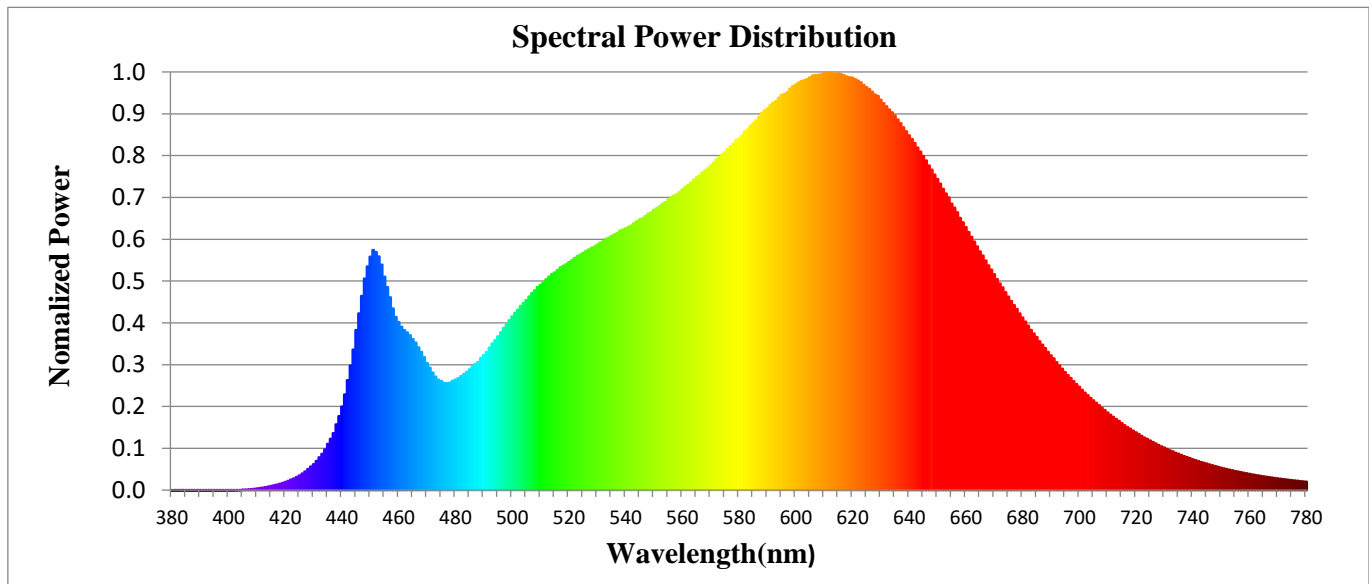
Electrical Input Results:	Sample Reference
	1052YM-X-NS-RGBW-FL-MV-DMX-With Filter-WHITE Output
Input Power (Watts)	47.91
Input Voltage (Volts AC)	120.09
Input Current (Amps)	0.40
Input Frequency (Hertz)	60.0
Power Factor	0.9898
Total Harmonic Distortion (THD V,A)%	0.11, 11.13

Additional Information	Sample Reference
	1052YM-X-NS-RGBW-FL-MV-DMX-With Filter-WHITE Output
Ambient Temperature	25°C
Integrating Sphere Detector	CDS 2600 Spectroradiometer
Absorption Correction Used?	Yes
Date Tested	2/10/2025

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Spectral Flux

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

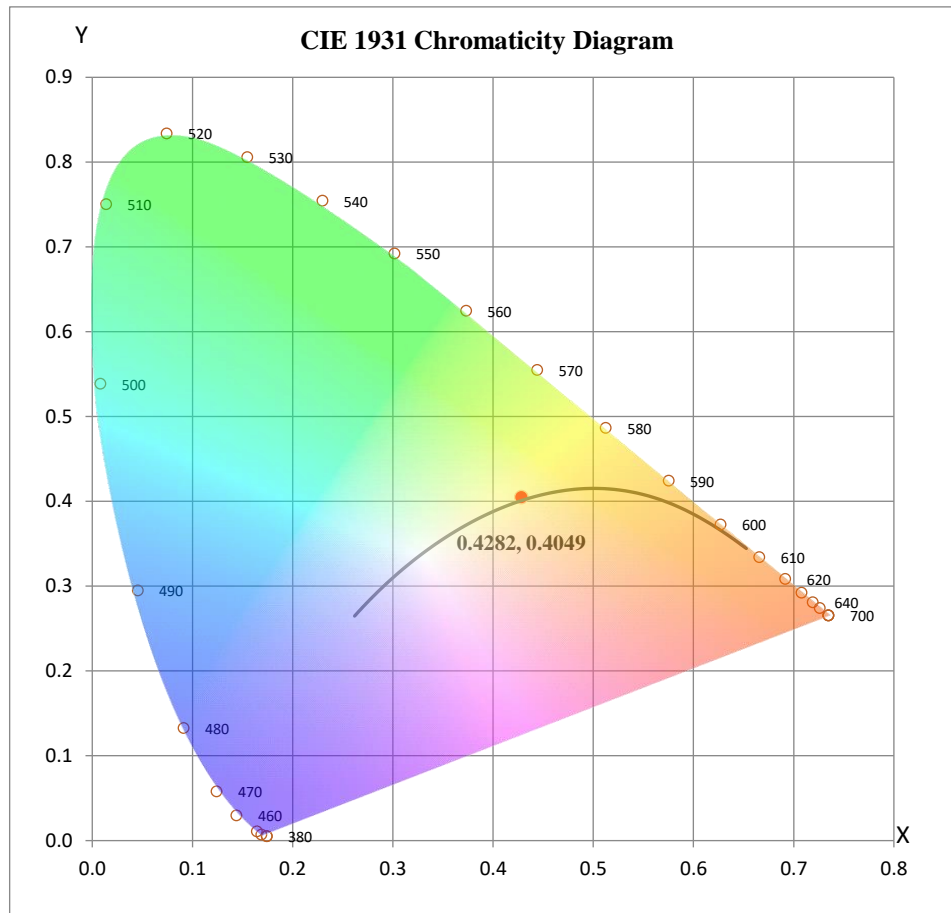


Spectral response of the Radiant Flux
 (380nm to 780nm - calibrated range of the Spectroradiometer)

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Chromaticity Diagram

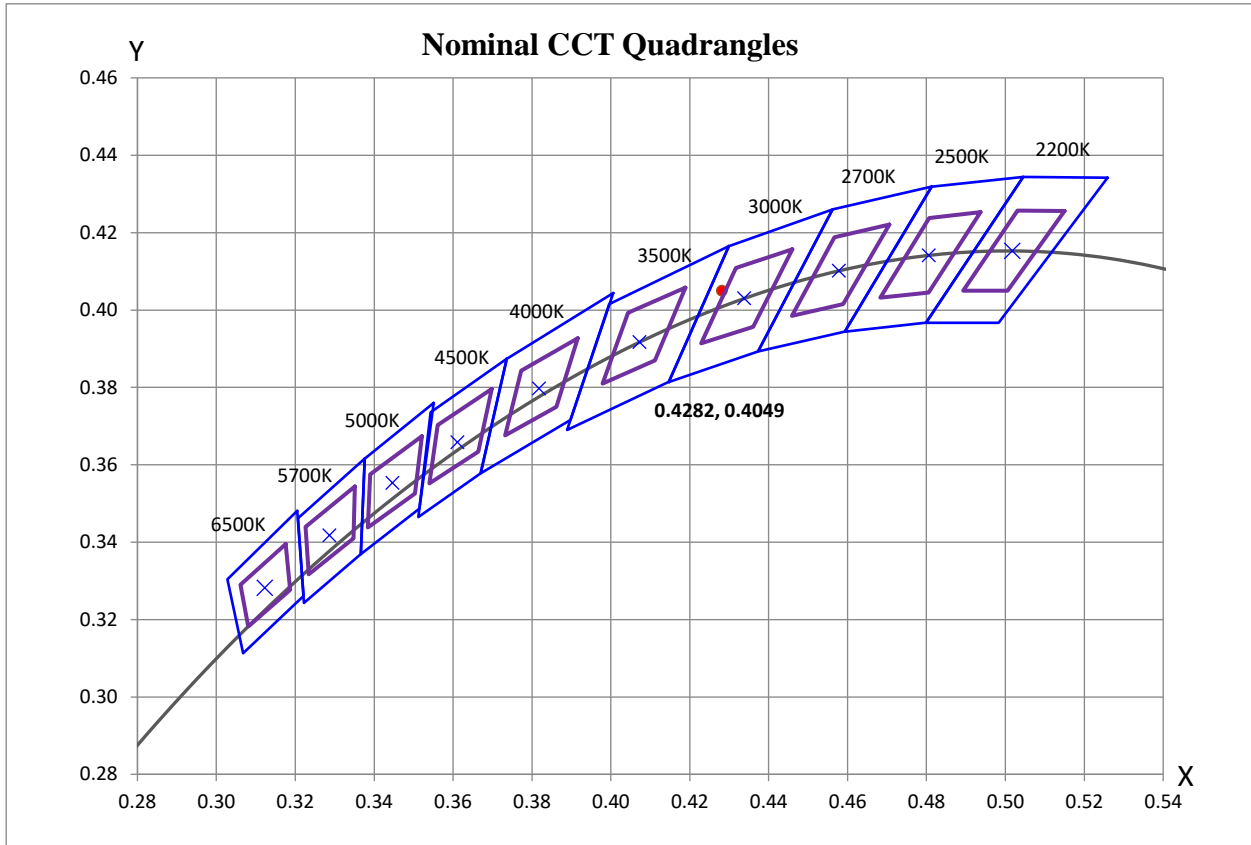
The following image shows the chromaticity diagram for the sample:



$x = 0.4282$ $y = 0.4049$

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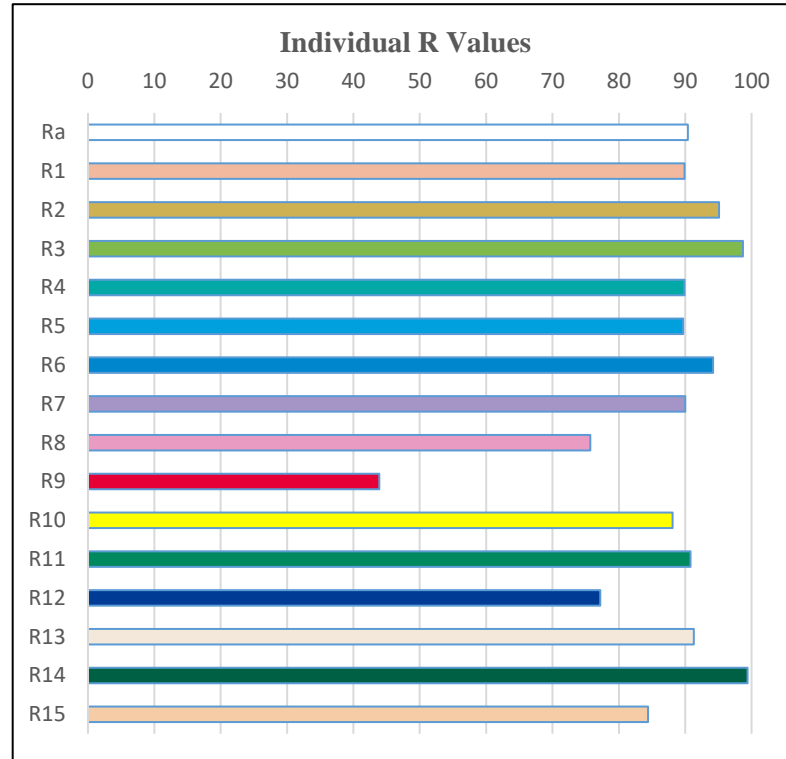
Nominal CCT Quadrangles



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Color Rendering Index

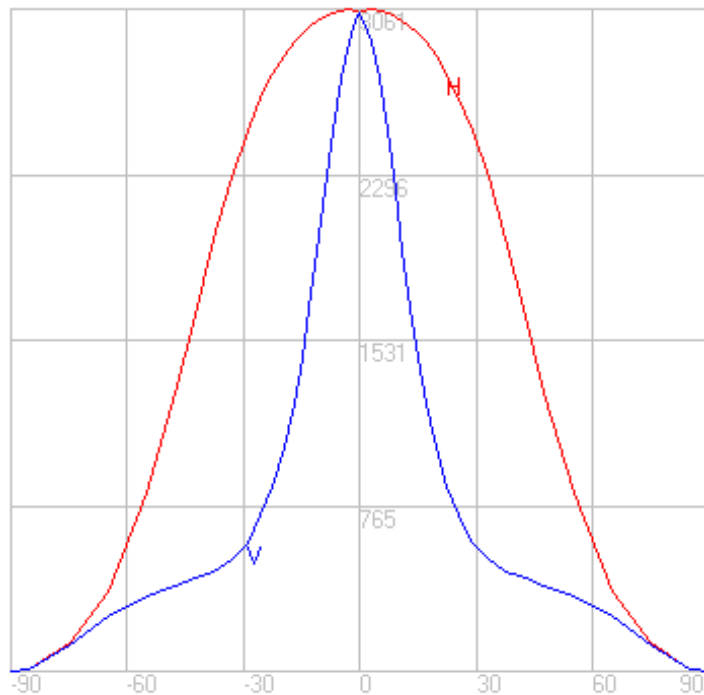
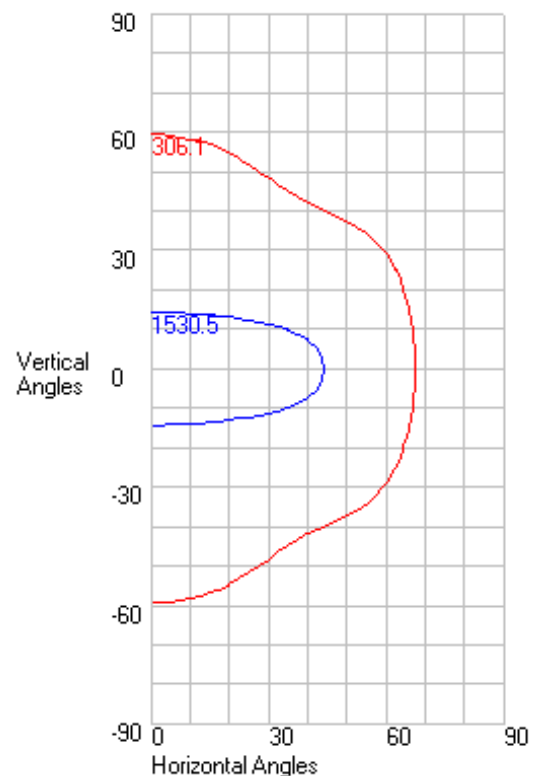
Ra	90.4
R1	90
R2	95
R3	99
R4	90
R5	90
R6	94
R7	90
R8	76
R9	44
R10	88
R11	91
R12	77
R13	91
R14	99
R15	84



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Photometric Test Results

Characteristics	
NEMA Type	7 H x 6 V
Maximum Candela	3061.00
Maximum Candela Angle	-3 H 0 V
Horizontal Beam Angle (50%)	88.30
Vertical Beam Angle (50%)	28.40
Horizontal Field Angle (10%)	135.00
Vertical Field Angle (10%)	118.80
Beam Lumens	1288.00
Field Lumens	2835

Axial Candela Display

Isocandela Curves


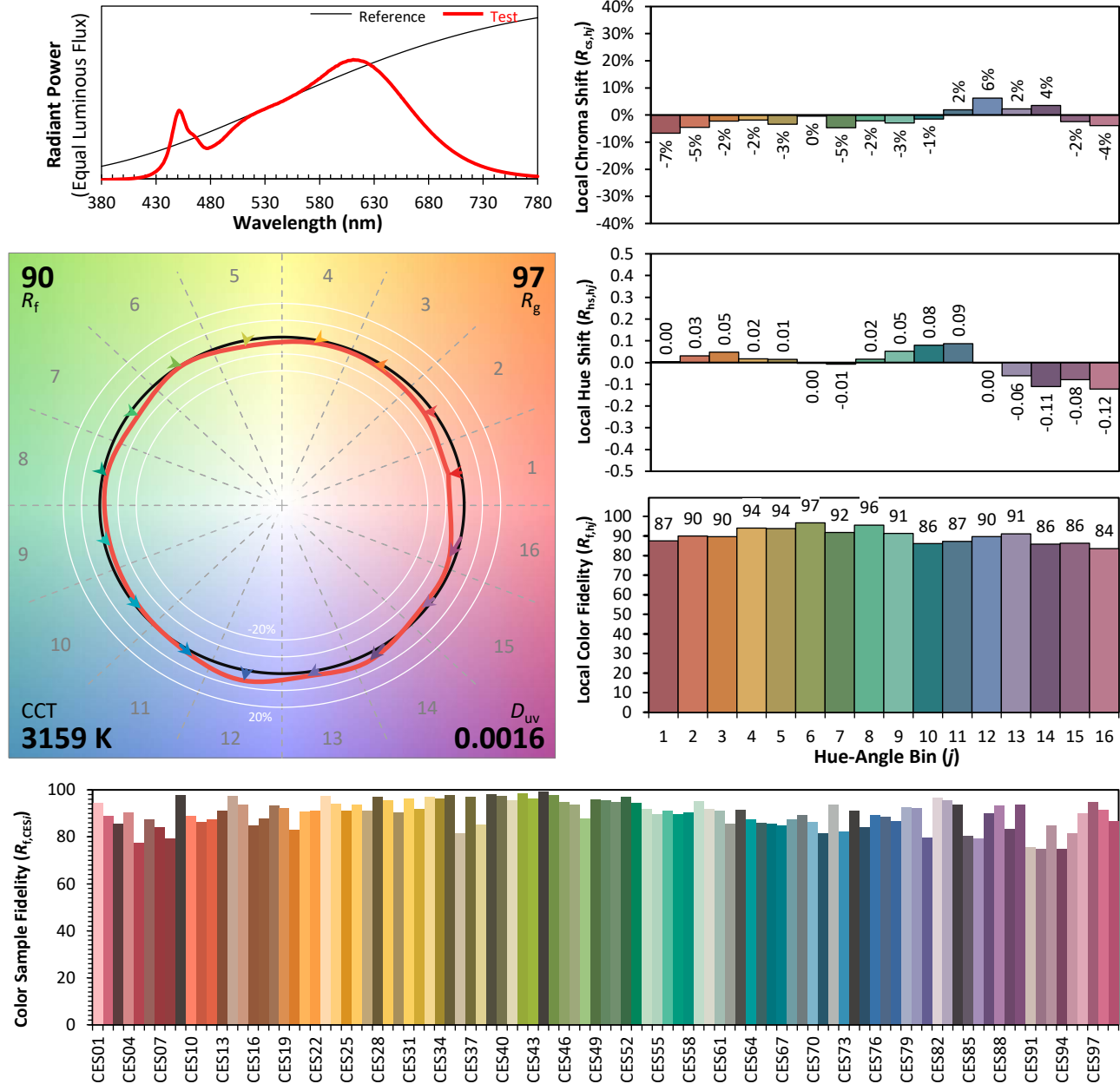
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Candela Tabulation

		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	3047	2960	2745	2440	2083	1741	1444	1194	996	852	746	651	560	519	488	464	444	428	414	399	384	368	349	328	306	280	251	220	188	154	119	87	56	28	9	2	0
	5	3047	2958	2748	2447	2090	1741	1443	1195	1000	855	749	651	562	520	488	464	445	428	413	399	384	367	349	328	305	279	251	220	187	153	119	86	56	29	9	1	0
	10	3047	2957	2750	2458	2105	1757	1457	1208	1010	863	756	656	566	522	490	464	444	427	411	396	381	364	345	324	301	275	247	217	184	151	117	85	55	29	9	2	0
	15	3047	2960	2759	2475	2127	1782	1484	1233	1032	884	770	673	573	527	492	465	443	425	408	392	376	359	340	319	295	270	242	212	180	147	114	83	54	28	8	2	0
	20	3047	2969	2783	2499	2162	1823	1519	1269	1066	909	789	696	604	536	497	467	442	422	404	387	370	352	332	311	288	262	235	206	174	142	111	80	52	27	9	1	0
	25	3047	2977	2805	2534	2211	1881	1572	1317	1111	946	818	719	618	547	504	470	444	421	400	382	363	344	324	302	279	254	227	198	168	136	105	76	49	26	10	1	0
	30	3047	2983	2818	2568	2263	1941	1640	1382	1166	994	858	753	662	572	516	478	447	421	398	377	356	336	315	293	270	245	218	190	160	130	101	73	47	26	9	2	0
	35	3047	2989	2838	2614	2326	2015	1723	1460	1234	1054	911	795	698	592	535	492	455	425	398	374	352	330	308	285	261	236	209	181	153	124	95	69	44	24	9	2	0
	40	3047	2998	2871	2661	2398	2107	1818	1555	1327	1134	977	851	750	662	568	511	470	434	403	376	350	326	302	278	253	228	201	174	146	118	90	64	42	23	9	2	0
	45	3047	3007	2895	2712	2477	2208	1930	1666	1432	1231	1064	925	811	720	627	544	493	452	416	383	354	327	300	274	248	222	195	168	140	113	86	61	40	22	9	2	0
	50	3047	3014	2916	2762	2557	2313	2055	1801	1563	1353	1174	1022	894	790	704	614	532	481	439	401	367	335	305	276	248	221	193	165	137	109	83	59	38	21	8	2	0
	55	3047	3023	2953	2818	2640	2429	2195	1951	1719	1505	1313	1148	1009	889	787	701	603	528	477	432	392	354	320	287	256	225	195	166	137	109	82	58	37	21	9	2	0
	60	3047	3033	2971	2869	2725	2547	2341	2120	1901	1686	1487	1311	1156	1022	905	805	718	632	544	484	434	390	349	310	274	239	205	173	141	111	84	59	37	20	9	2	0
	65	3047	3038	2994	2914	2802	2661	2492	2300	2097	1893	1695	1512	1347	1198	1066	950	847	757	666	566	502	448	397	350	306	265	226	188	153	120	89	62	39	21	9	2	0
	70	3047	3050	3019	2961	2878	2772	2639	2483	2309	2124	1937	1754	1582	1422	1276	1143	1024	916	818	730	638	544	471	411	356	306	258	213	171	133	98	68	42	23	10	3	0
75	3047	3058	3035	2995	2939	2863	2769	2652	2515	2360	2195	2027	1857	1693	1536	1387	1250	1123	1003	893	791	690	583	490	421	356	297	242	192	148	109	74	46	25	11	3	0	
80	3047	3059	3044	3019	2981	2930	2866	2784	2682	2565	2435	2291	2138	1981	1821	1661	1507	1358	1215	1080	952	832	717	595	486	405	333	270	212	162	118	80	50	27	12	3	0	
85	3047	3060	3050	3034	3010	2976	2929	2871	2798	2710	2608	2493	2364	2220	2066	1901	1732	1564	1397	1236	1080	936	801	675	539	438	358	287	225	171	124	85	53	29	13	3	0	
90	3047	3062	3055	3042	3021	2992	2954	2904	2839	2763	2674	2572	2453	2318	2170	2003	1827	1649	1470	1293	1130	974	830	699	560	451	366	293	230	175	127	86	54	30	13	3	0	

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ANSI/IES TM-30-18 Color Rendition Report



Notes: This is a recommended method for displaying ANSI/IES TM-30-18 information.

x 0.4282
 y 0.4048
 u' 0.2446
 v' 0.5204

CIE 13.3-1995
(CRI)
 R_a 90
 R_g 44

Colors are for visual orientation purposes only. Created with the ANSI/IES TM-30-18 Calculator Version 2.00.

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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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