



Report No.: 80239581-36 R1
Project No.: 80239581
Client: Vista Professional Outdoor Lighting

PHOTOMETRIC TESTING & EVALUATION TO IES LM-79-19

Sample Tested

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

Prepared for:

Vista Professional Outdoor Lighting

1625 Surveyor Ave
Simi Valley, CA 93063

Technical Report Number
80239581-36 R1

January 27, 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-WF-RGBW-FL-MV-DMX-With Filter-WHITE Output Type C LED Luminaire to IES LM-79-19.

Executive Summary

Sample Tested = 1052YM-X-WF-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 (%)
69.17	3418.12	49.42	0.9905	11.24

CCT(K)	CRI	R9	Rcs,h1	Rf / Rg
3220	90.5	45	-7	89 / 96

* 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
Nominal CCT Quadrangles.....	8
Color Rendering Index.....	9
Photometric Test Results.....	10
Candela Tabulation.....	11
ANSI/IES TM-30-18 Color Rendition Report.....	12
Photometric Testing Information.....	14
Equipment List.....	15

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-WF-RGBW-FL-MV-DMX-With Filter-WHITE 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-WF-RGBW-FL-MV-DMX-With Filter-WHITE Output	
	Integrating Sphere	Goniophotometer
Luminous Efficacy (Lumens/Watt)	69.17	67.13
Total Luminous Flux (Lumens)	3418.12	3312.19
Total Radiant Flux (Watts)	10.96	
Correlated Color Temperature (CCT)	3220	
Color Rendering Index (CRI)(Ra)	90.5	
R9 Value	45	
IES R _f / IES R _g	89 / 96	
Local Chroma Shift R _{cs,h1}	-7	
Chromaticity (Chroma x/Chroma y)	0.4244 / 0.4037	
Chromaticity (Chroma u/Chroma v)	0.2426 / 0.3463	
Chromaticity (Chroma u'/Chroma v')	0.2426 / 0.5194	
Duv Value	0.0018	
Stabilization Time (Light and Power)	45 minutes	
Total Run Time (Integrating Sphere)	50 minutes	
Scotopic/Photopic ratio $\Phi(v')/\Phi(v)$	1.51	

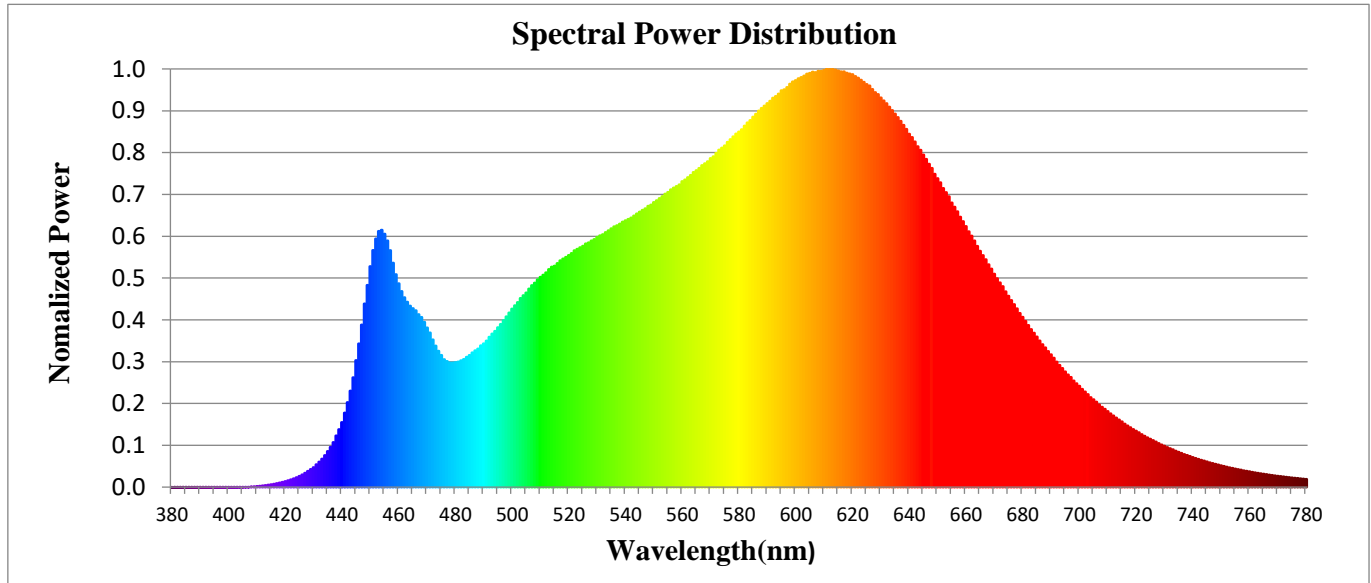
Electrical Input Results:	Sample Reference
	1052YM-X-WF-RGBW-FL-MV-DMX-With Filter-WHITE Output
Input Power (Watts)	49.42
Input Voltage (Volts AC)	120.06
Input Current (Amps)	0.42
Input Frequency (Hertz)	60.0
Power Factor	0.9905
Total Harmonic Distortion (THD V,A)%	0.13, 11.24

Additional Information	Sample Reference
	1052YM-X-WF-RGBW-FL-MV-DMX-With Filter-WHITE Output
Ambient Temperature	25°C
Integrating Sphere Detector	CDS 2600 Spectroradiometer
Absortion Correction Used?	Yes
Date Tested	1/15/2025

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:

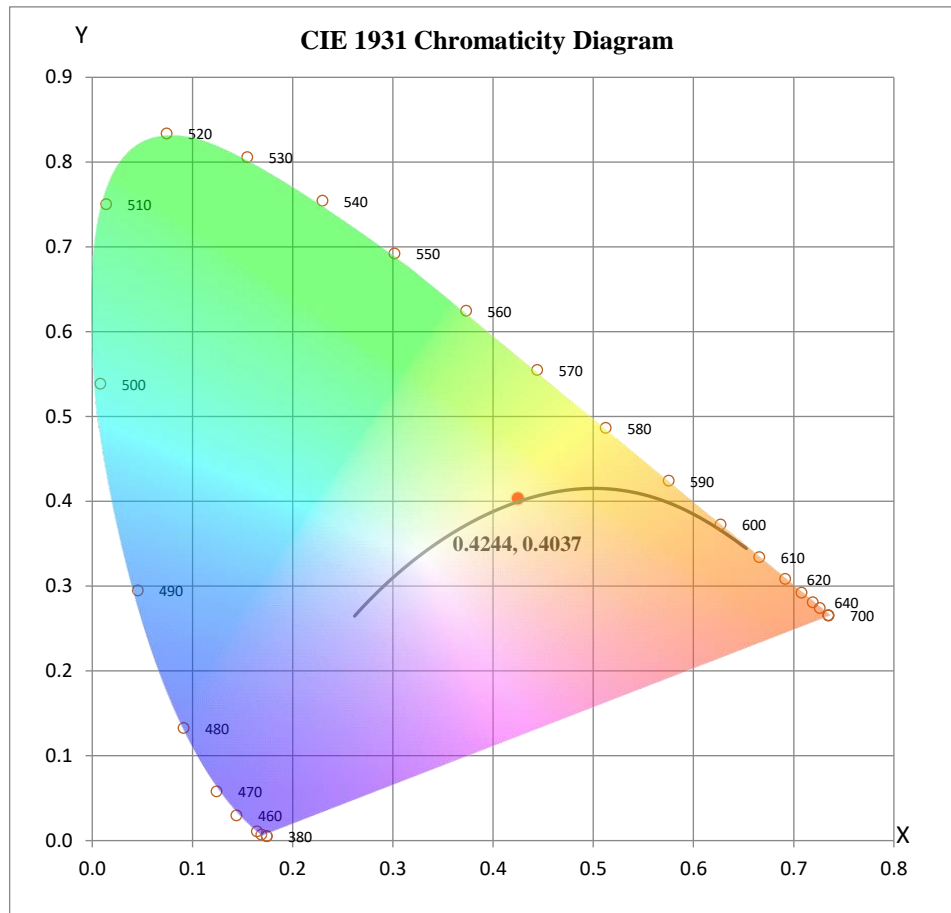


Spectral response of the Radiant Flux
 (380nm to 780nm - calibrated range of the Spectroradiometer)

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

Chromaticity Diagram

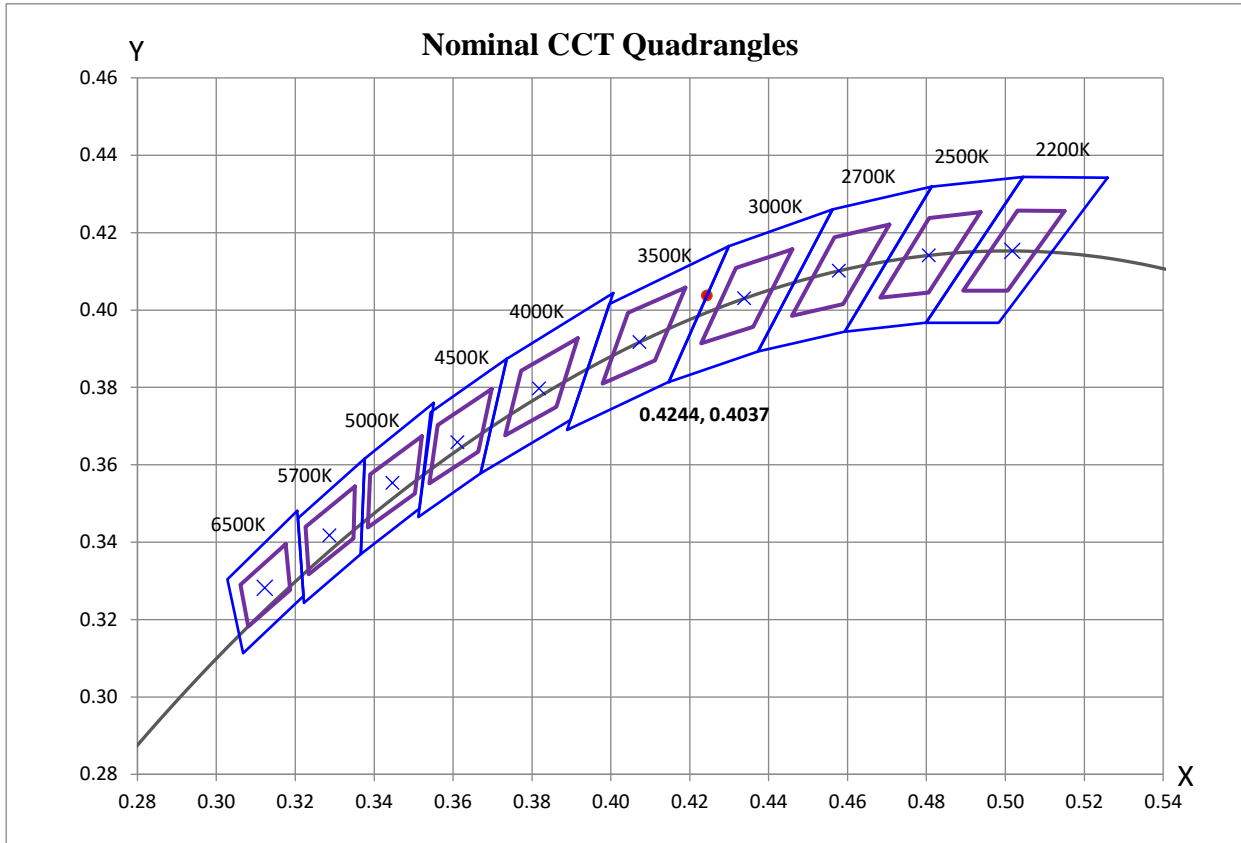
The following image shows the chromaticity diagram for the sample:



$x = 0.4244$ $y = 0.4037$

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

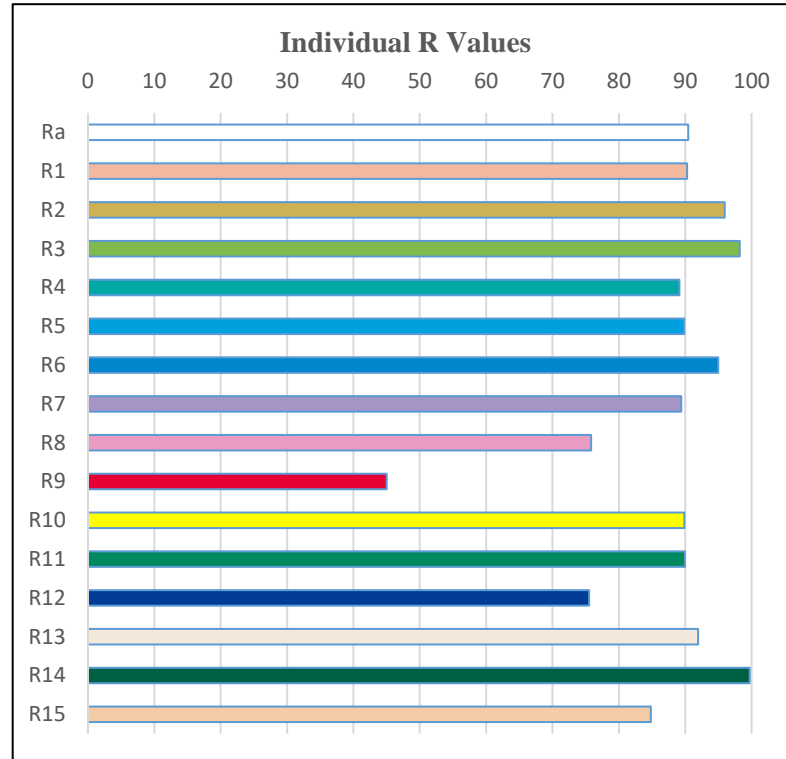
Nominal CCT Quadrangles



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

Color Rendering Index

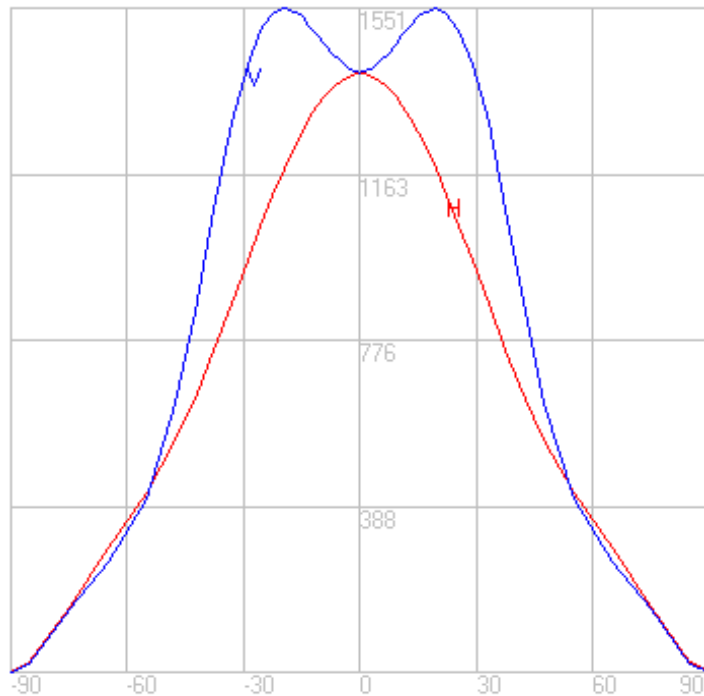
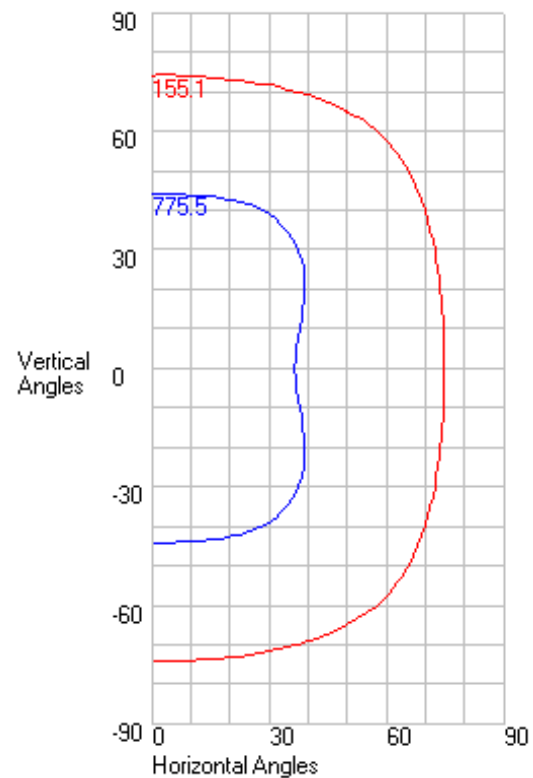
Ra	90.5
R1	90
R2	96
R3	98
R4	89
R5	90
R6	95
R7	89
R8	76
R9	45
R10	90
R11	90
R12	76
R13	92
R14	100
R15	85



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	1551.00
Maximum Candela Angle	-1 H -19.5 V
Horizontal Beam Angle (50%)	78.20
Vertical Beam Angle (50%)	88.20
Horizontal Field Angle (10%)	147.80
Vertical Field Angle (10%)	148.40
Beam Lumens	2077.00
Field Lumens	3216

Axial Candela Display

Isocandela Curves


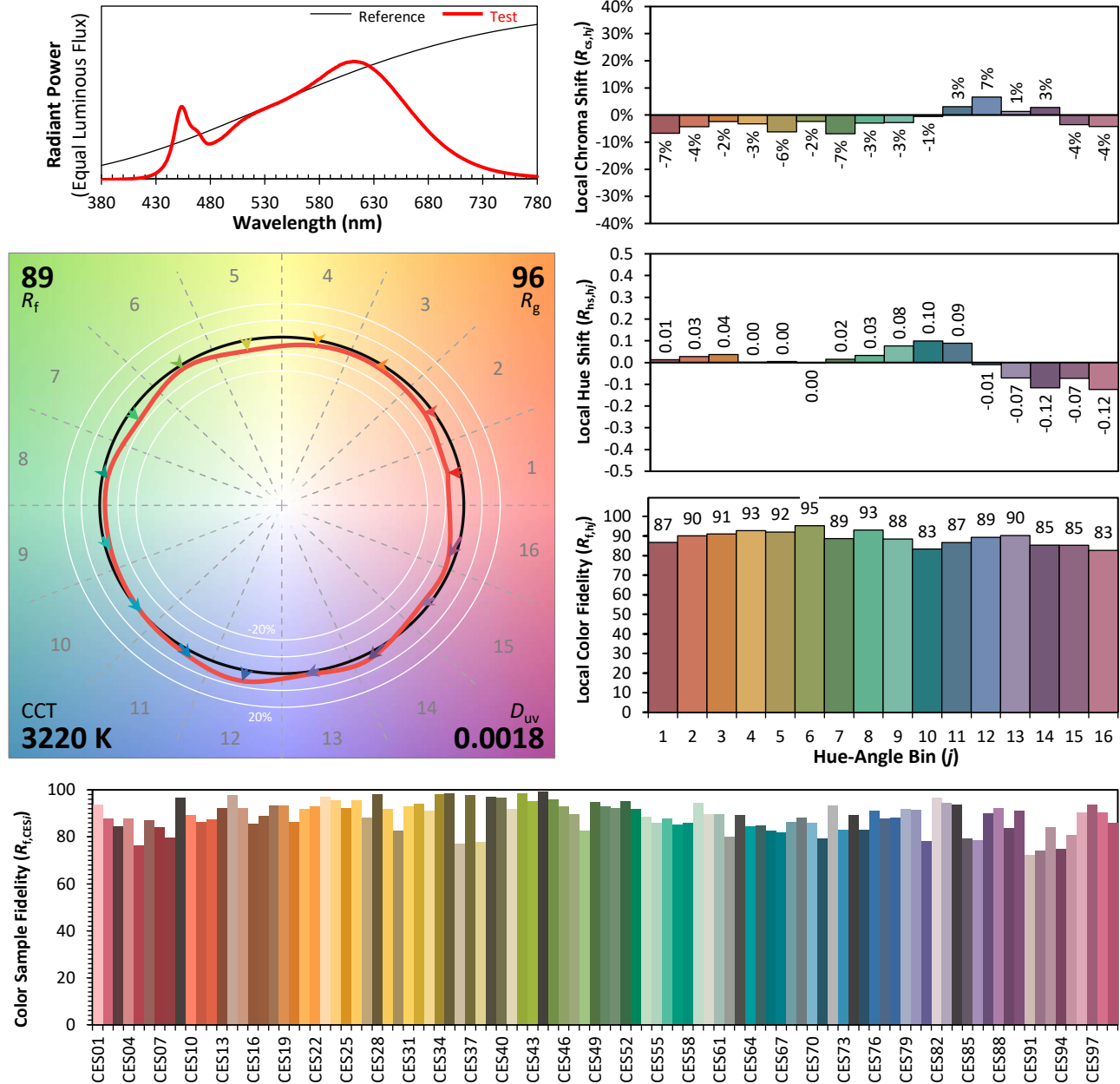
This report shall not be reproduced, except in full, without the approval of CSA Group

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	1402	1408	1428	1451	1480	1507	1534	1547	1552	1538	1511	1462	1393	1307	1199	1084	964	843	729	630	541	468	405	356	319	286	259	233	206	177	146	113	79	47	21	6	0
	5	1402	1411	1426	1452	1480	1509	1532	1551	1550	1540	1509	1460	1394	1303	1203	1087	967	848	735	631	546	468	410	358	320	288	260	234	207	178	147	113	80	47	21	1	0
	10	1402	1409	1426	1448	1476	1503	1527	1543	1548	1534	1507	1461	1394	1311	1208	1096	976	858	745	643	554	479	414	364	322	289	261	234	207	178	146	113	79	48	19	4	0
	15	1402	1408	1424	1446	1471	1497	1519	1535	1538	1527	1501	1458	1396	1315	1219	1109	992	875	761	658	565	488	423	369	327	292	263	235	208	178	147	113	79	47	20	5	0
	20	1402	1406	1421	1441	1466	1489	1510	1521	1525	1515	1493	1451	1393	1319	1226	1124	1012	897	784	681	587	507	436	380	332	297	265	237	208	179	146	113	79	48	19	5	0
	25	1402	1406	1420	1437	1458	1479	1499	1510	1515	1503	1482	1445	1390	1324	1237	1142	1033	922	811	706	608	527	452	393	343	303	269	239	210	179	147	113	79	48	19	6	0
	30	1402	1407	1417	1431	1448	1466	1481	1490	1492	1486	1464	1430	1384	1321	1245	1154	1054	947	838	734	635	547	472	407	354	311	274	242	211	179	146	112	78	47	20	6	0
	35	1402	1405	1412	1424	1438	1452	1462	1470	1471	1461	1441	1411	1368	1312	1242	1160	1067	967	862	758	659	569	491	424	367	319	279	244	211	179	146	111	78	46	21	4	0
	40	1402	1405	1409	1417	1426	1436	1444	1448	1443	1432	1413	1385	1346	1293	1232	1155	1072	978	878	778	682	590	510	438	378	327	284	247	212	178	143	109	76	47	21	5	0
	45	1402	1402	1405	1410	1415	1418	1419	1418	1412	1399	1379	1351	1314	1266	1209	1140	1063	977	883	788	693	604	524	450	387	334	288	249	213	177	142	108	76	46	22	6	0
	50	1402	1401	1400	1401	1400	1399	1395	1387	1376	1360	1337	1307	1270	1225	1170	1108	1036	956	870	781	692	608	529	457	394	339	293	252	214	179	143	109	75	46	22	6	0
	55	1402	1399	1396	1393	1389	1381	1370	1357	1340	1319	1292	1259	1220	1173	1122	1061	994	920	841	759	677	599	526	457	396	343	297	256	217	180	145	110	76	46	22	7	0
	60	1402	1399	1395	1387	1376	1363	1348	1327	1304	1276	1245	1208	1165	1117	1065	1005	941	872	798	725	651	581	513	451	395	345	300	259	221	183	147	110	77	47	23	7	0
	65	1402	1397	1392	1380	1365	1348	1325	1299	1267	1234	1196	1154	1108	1057	1003	942	880	815	750	682	618	556	497	440	391	344	301	262	223	185	148	112	78	46	23	6	0
	70	1402	1398	1391	1376	1357	1335	1306	1275	1237	1197	1152	1105	1054	999	942	882	822	760	699	639	583	527	476	426	382	340	301	262	225	188	150	113	78	47	24	5	0
	75	1402	1399	1388	1373	1352	1323	1291	1252	1211	1164	1115	1062	1008	950	891	830	771	712	654	601	550	501	455	413	373	335	299	262	226	189	151	114	79	47	23	8	0
80	1402	1398	1387	1370	1346	1314	1278	1236	1190	1140	1086	1029	971	911	850	790	731	674	620	571	523	479	438	401	365	330	296	262	226	189	152	116	79	48	22	8	0	
85	1402	1397	1386	1367	1342	1309	1270	1226	1178	1125	1068	1008	947	885	824	764	705	651	600	552	506	465	427	392	359	326	295	261	227	190	153	115	80	48	23	7	0	
90	1402	1395	1384	1363	1336	1304	1264	1220	1168	1114	1057	998	937	874	813	753	697	640	591	543	499	459	421	388	356	325	293	259	225	190	153	116	80	48	24	8	0	

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

ANSI/IES TM-30-18 Color Rendition Report



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

x 0.4244
 y 0.4037
 u' 0.2427
 v' 0.5194

CIE 13.3-1995
(CRI)
 R_a 90
 R_g 45

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

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.



Revision History

R1 - Candela values are rotated 90°

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