



Report of Test

LLIA000849-003A-R03*

*This test report supersedes test report LLIA000849-003A-R02

Catalog Number: MLS3-I/D-HO/HO-K40/K40-XX-4-XX-FDC/LOH-XXXX-XXX
Pendant mounted, extruded aluminum housing, formed white aluminum upper and lower reflector trays, frosted plastic top and bottom enclosures. 288 White LEDs, four upper PrevaLED Line boards with 36 LEDs each and four lower PrevaLED Bars with 36 LEDs each.
Two Osram Optotronic OTi 30/120-277/1A0 DIM L LED drivers.
120.0Vac, 60.00Hz, 0.4767A, 57.04W, 0.997PF, 6.0%THD(i)



Performance Summary

Total Light Output	6496 lm
Luminaire Power	57.0 W
Luminous Efficacy	114.0 lm/W

PREPARED FOR : Precision Architectural Lighting, 4830 Timber Creek Drive, Houston, TX 77017



Test Report No. LLIA000849-003A-R03

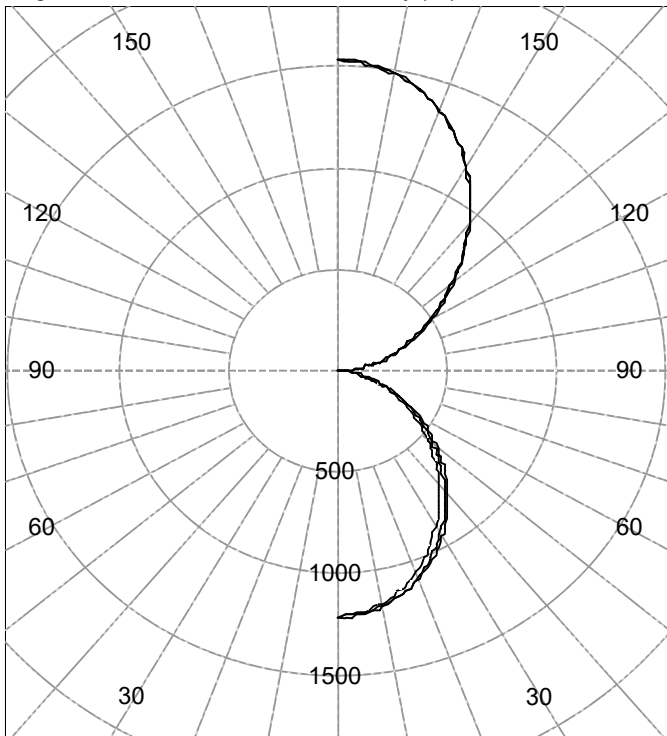
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Legend: C0-Solid, C45-Dashed, C90-Grey (cd)



(Two plane symmetry) C0-C90

INTENSITY SUMMARY (cd)

Gamma	C-Plane					Flux (lm)
	C0	C22.5	C45	C67.5	C90	
0.0	1208	1208	1208	1208	1208	
5.0	1198	1195	1205	1201	1192	114
10.0	1175	1170	1178	1172	1160	
15.0	1136	1130	1135	1126	1111	318
20.0	1084	1076	1078	1065	1048	
25.0	1021	1011	1008	992	973	461
30.0	946	935	929	910	889	
35.0	864	852	843	822	802	524
40.0	778	765	753	732	712	
45.0	687	676	662	641	623	508
50.0	595	585	571	552	536	
55.0	503	496	483	464	450	429
60.0	413	409	397	380	369	
65.0	327	326	314	299	291	309
70.0	245	245	234	223	217	
75.0	168	168	160	154	150	171
80.0	99	100	96	92	91	
85.0	42	43	42	40	39	47
90.0	1	3	4	6	6	

AVERAGE LUMINANCE (cd / m²)

Gamma	C0	C45	C90
45.0	10714	10310	9717
55.0	9666	9281	8653
65.0	8536	8178	7590
75.0	7162	6824	6404
85.0	5343	5259	4990

ZONAL FLUX AND PERCENTAGES

Zone	Flux (lm)	% Lamp	% Luminaire
0-30	892	N / A	13.7
0-40	1416	N / A	21.8
0-60	2353	N / A	36.2
0-90	2880	N / A	44.3
40-90	1464	N / A	22.5
60-90	527	N / A	8.1
90-180	3616	N / A	55.7
0-180	6496	N / A	100.0

Total Light Output = 6,496 lm

Signed:

Authorized Signatory

Date of test 27-Aug-2017
Date of report 12-Apr-2018



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Intensity data (cd)

Gamma	C-Plane				
	C0	C22.5	C45	C67.5	C90
0.0	1208	1208	1208	1208	1208
2.5	1204	1201	1211	1208	1200
5.0	1198	1195	1205	1201	1192
7.5	1188	1184	1194	1189	1178
10.0	1175	1170	1178	1172	1160
12.5	1157	1152	1159	1151	1138
15.0	1136	1130	1135	1126	1111
17.5	1112	1105	1108	1097	1081
20.0	1084	1076	1078	1065	1048
22.5	1054	1044	1045	1030	1012
25.0	1021	1011	1008	992	973
27.5	984	974	969	952	932
30.0	946	935	929	910	889
32.5	906	894	888	866	846
35.0	864	852	843	822	802
37.5	822	809	798	777	757
40.0	778	765	753	732	712
42.5	733	721	707	687	668
45.0	687	676	662	641	623
47.5	642	631	616	596	579
50.0	595	585	571	552	536
52.5	549	540	527	508	493
55.0	503	496	483	464	450
57.5	458	452	440	421	409
60.0	413	409	397	380	369
62.5	370	367	355	339	329
65.0	327	326	314	299	291
67.5	286	285	273	260	253
70.0	245	245	234	223	217
72.5	206	206	196	187	183
75.0	168	168	160	154	150
77.5	132	132	127	122	120
80.0	99	100	96	92	91
82.5	69	69	67	65	64
85.0	42	43	42	40	39
87.5	18	18	18	17	17
90.0	1	3	4	6	6



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Intensity data (cd)

Gamma	C-Plane				
	C0	C22.5	C45	C67.5	C90
90.0	1	3	4	6	6
92.5	35	36	37	38	38
95.0	74	74	74	74	74
97.5	112	111	111	111	110
100.0	149	149	148	147	147
102.5	187	186	185	184	183
105.0	225	224	223	221	220
107.5	264	263	261	259	259
110.0	305	304	301	299	298
112.5	348	345	343	339	338
115.0	390	388	386	381	381
117.5	436	435	430	425	425
120.0	484	482	476	471	472
122.5	534	531	526	519	521
125.0	585	581	578	569	572
127.5	637	633	632	622	626
130.0	692	688	687	678	682
132.5	750	745	744	735	741
135.0	810	804	803	794	801
137.5	872	864	864	855	862
140.0	933	924	924	916	924
142.5	994	985	985	978	987
145.0	1054	1045	1045	1039	1048
147.5	1113	1103	1104	1099	1108
150.0	1169	1160	1161	1157	1166
152.5	1222	1213	1216	1212	1221
155.0	1272	1263	1267	1264	1272
157.5	1319	1310	1315	1313	1319
160.0	1361	1354	1359	1357	1362
162.5	1399	1391	1399	1396	1400
165.0	1432	1425	1433	1431	1433
167.5	1460	1454	1463	1460	1461
170.0	1483	1477	1488	1484	1484
172.5	1502	1495	1507	1504	1502
175.0	1515	1508	1521	1518	1514
177.5	1522	1516	1529	1526	1521
180.0	1525	1525	1525	1525	1525



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Coefficients Of Utilization - Zonal Cavity Method

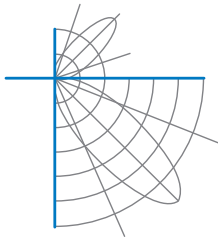
Effective Floor Cavity Reflectance 0.20

RC	80				70				50			30			10			0
	RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
0	106	106	106	106	97	97	97	97	80	80	80	65	65	65	51	51	51	44
1	97	92	89	85	88	85	82	79	70	68	66	57	56	54	45	44	43	38
2	88	81	75	70	80	74	69	65	62	58	55	50	48	46	40	38	37	32
3	80	71	64	58	73	65	59	54	55	50	46	45	41	39	35	33	31	27
4	74	63	55	49	67	58	51	46	49	44	40	40	36	33	32	29	27	23
5	68	56	48	42	62	52	45	40	44	38	34	36	32	29	29	26	24	20
6	62	50	42	37	57	47	40	34	39	34	30	32	28	25	26	23	21	18
7	58	46	38	32	53	42	35	30	36	30	26	30	25	22	24	21	19	16
8	53	41	34	28	49	38	31	27	32	27	23	27	23	20	22	19	17	14
9	50	38	30	25	46	35	28	24	30	25	21	25	21	18	20	17	15	13
10	46	35	27	23	43	32	26	21	27	22	19	23	19	16	19	16	14	12

For absolute test reports, CUs are expressed as a percentage of total lumen output. Calculations were based on published IES procedures, and are based on the zonal cavity method. Basic assumptions: 1) Room surfaces are lambertian reflectors. 2) Incident flux on each surface is uniformly distributed. 3) The room is spectrally neutral. When luminaires are not evenly distributed throughout the room, or do not exhibit lateral symmetry, CU values may differ from actual performance.

Circle of Light Plot

Height(ft)	Illuminance at Nadir (fc)	Beam Width (across 50% Nadir Illum)	
		0-180	90-270
6.0	33.6	7.03	6.68
8.0	18.9	9.38	8.90
10.0	12.1	11.72	11.13
12.0	8.4	14.06	13.35
14.0	6.2	16.41	15.58
16.0	4.7	18.75	17.80

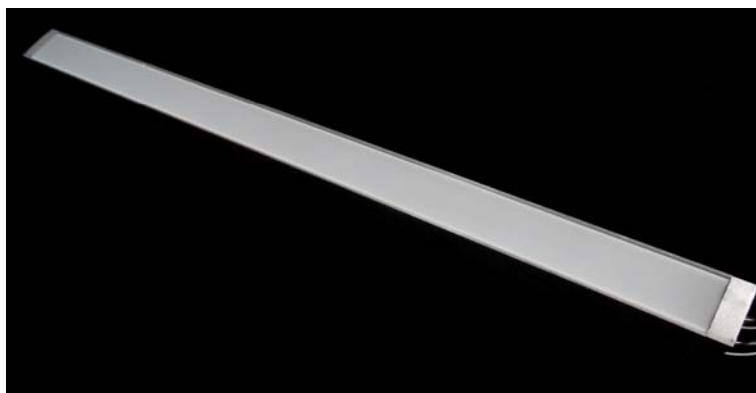
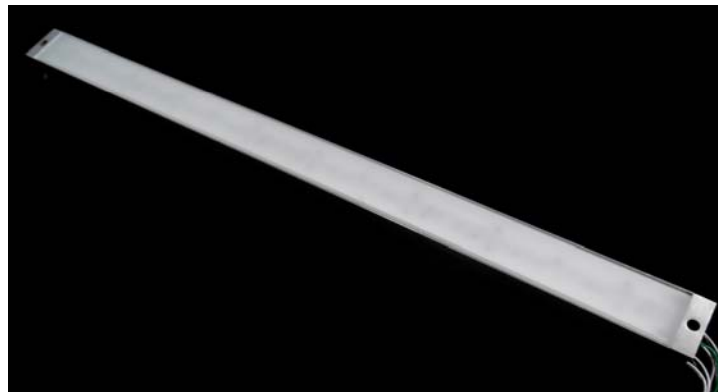


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Test Distance 9.5 m
Test Temperature 24.8 °C

Notes

The laboratory has not participated in the selection of samples to be tested. All testing is performed on the understanding that the significance of the report is limited to the extent that the test sample is representative of production units.

Tested in accordance with the applicable sections of publications: IES LM-79-08 (Sec. 12), IES LM-16-93, IES LM-58-13, CIE 13.3:1995, CIE 15:2004, ANSI C78.377:2015, ANSI C82.77-10:2014.

The luminous intensity values, and other derived quantities, contained in this report are based on the absolute data, as measured.

Prorating the performance of the sample for the use of other component combinations (such as lamp / LED / Ballast / driver), or for use in different environmental conditions than that tested, may produce erroneous results.

This report is free of erasures and corrections.

Photometric intensity values are reported using the CIE Gamma coordinate system as defined in CIE publication number 121.

This report may contain data that are not covered by the NVLAP accreditation. Quantities marked with * are not covered.

This report must not be used by the customer to claim product certification, approval or endorsement by NVLAP, NIST, or any agency of the Federal Government.



Report of Test

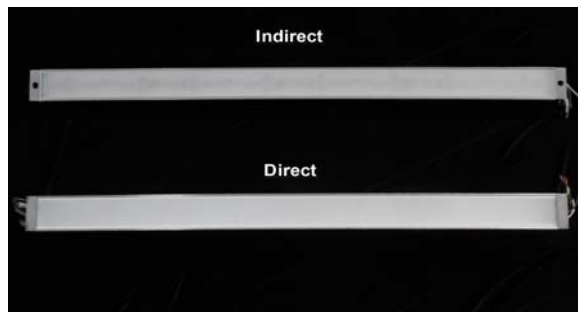
LLIA000849-003B-R02*

Integrating Sphere Report

Catalog Number: MLS3-I/D-HO/HO-K40/K40-XX-4-XX-FDC/LOH-XXXX-XXX

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Two Osram Optotronic OTi 30/120-277/1A0 DIM L LED drivers.



Performance Summary

Voltage	120.0 Vac
Current	0.4769 A
Power	57.04 W
Frequency	60.00 Hz
Power Factor	0.997
Current THD	6.0 %

Total Luminous Flux	6528.1 lm
Efficacy	114.4 lm/W
Chromaticity (x,y)	(0.3814, 0.3788)
(u',v')	(0.2249, 0.5026)
Duv	0.0007
CCT	3989 K
CRI (Ra)	83
R9	14

Prepared For:

Precision Architectural Lighting
4830 Timber Creek Drive
Houston, TX 77017, USA

*This test report supersedes test report LLIA000849-003B-R01

Test date: 08/25/2017

Report date: 04/12/2018

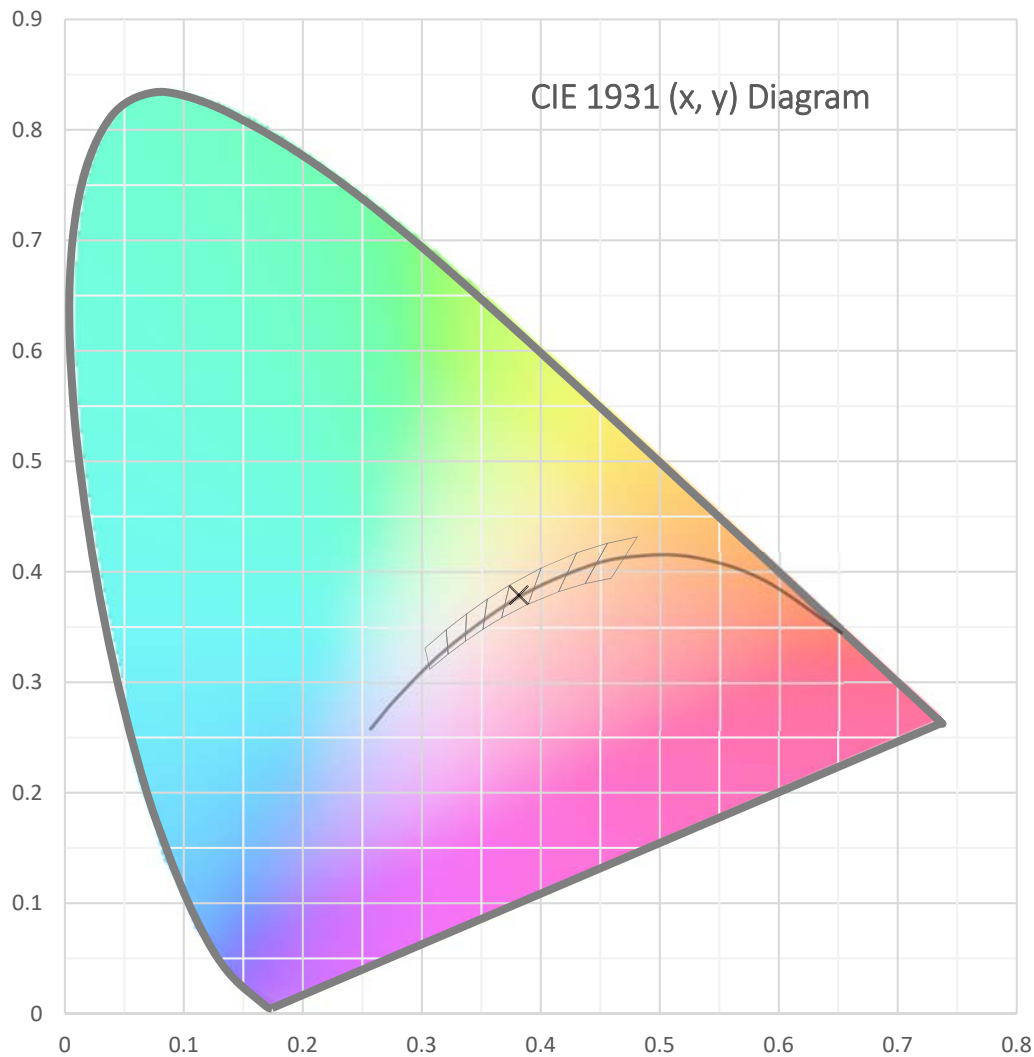


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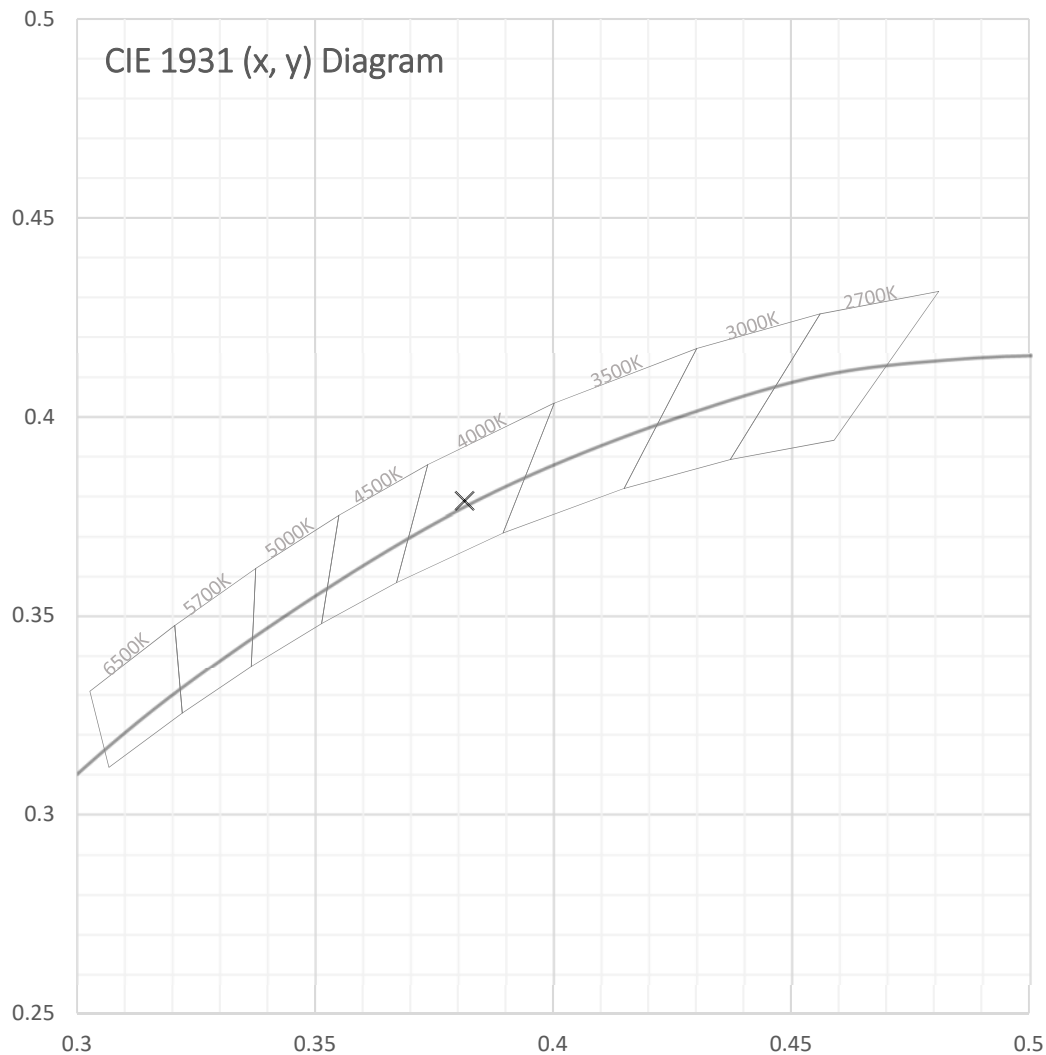


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Spectral Data	Total Radiant Flux	20.22 W
	Total Luminous Flux	6528.1 Lm
	Chromaticity CIE 1931 (x, y)	(0.3814, 0.3788)
	Chromaticity CIE 1976 (u', v')	(0.2249, 0.5026)
	Correlated Color Temperature (CCT)	3989 K
	Color Rendering Index (Ra)	83
	R1	81
	R2	89
	R3	94
	R4	81
	R5	81
	R6	84
	R7	87
	R8	67
	R9	14
	R10	73
	R11	79
	R12	58
	R13	83
	R14	97
	Distance from Planckian Locus (Duv)	0.0007
	Scotopic/Photopic Ratio *	1.673

Electrical Data

Voltage	120.0 Vac
Current	0.4769 A
Power	57.04 W
Frequency	60.00 Hz
Power Factor	0.997
Current THD	6.0 %



Test Report Number: LLIA000849-003B-R02

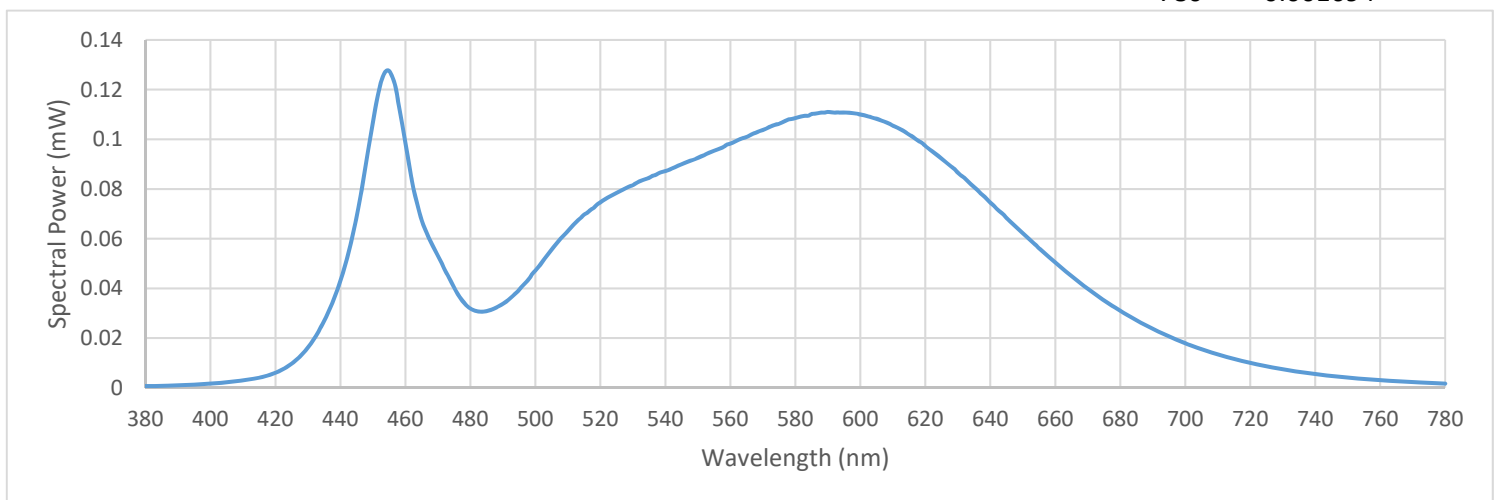
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Summary Spectral Power Distribution (wavelength - nm, spectral power - mW)

380	0.000690	480	0.031890	580	0.108589	680	0.030978
385	0.000768	485	0.030886	585	0.110170	685	0.027186
390	0.000971	490	0.033807	590	0.111011	690	0.023713
395	0.001264	495	0.039388	595	0.110729	695	0.020643
400	0.001681	500	0.047223	600	0.109921	700	0.017919
405	0.002212	505	0.055565	605	0.108304	705	0.015506
410	0.002953	510	0.063070	610	0.105485	710	0.013374
415	0.004021	515	0.069707	615	0.101856	715	0.011622
420	0.006041	520	0.074608	620	0.097314	720	0.010022
425	0.009719	525	0.078492	625	0.092213	725	0.008630
430	0.016271	530	0.081534	630	0.086579	730	0.007477
435	0.026939	535	0.084510	635	0.080801	735	0.006418
440	0.043001	540	0.087204	640	0.074559	740	0.005503
445	0.069067	545	0.089971	645	0.068329	745	0.004752
450	0.106998	550	0.092551	650	0.062157	750	0.004087
455	0.127490	555	0.095330	655	0.056137	755	0.003517
460	0.098665	560	0.098209	660	0.050485	760	0.003061
465	0.067359	565	0.100908	665	0.044891	765	0.002638
470	0.053172	570	0.103735	670	0.039822	770	0.002271
475	0.040144	575	0.106223	675	0.035194	775	0.001963
						780	0.001694





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Test Equipment Configuration: LightLab International Allentown 2m Integrating Sphere
Measurements acquired using a Labsphere CDS 2600 spectroradiometer
Testing was performed using 4 π geometry

Test Temperature: 25.5 °C

Test Procedure: Tested in accordance with the applicable sections of:
LM-79-08, LM-78-07, LM-58-13, ANSI_ANSLG C78.377-2015, ANSI C82-77-10:2014

Significance: The laboratory has not participated in the selection of samples to be tested.
All testing is performed on the understanding that the significance of the report is limited to the extent that the test sample is representative of production units.

Notes: The measurements and other derived quantities contained in this report are based on the absolute data as measured.

Prorating the performance of the sample for the use of other component combinations (such as lamp / LED / Ballast / driver), or for use in different environmental conditions than that tested, may produce erroneous results.

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