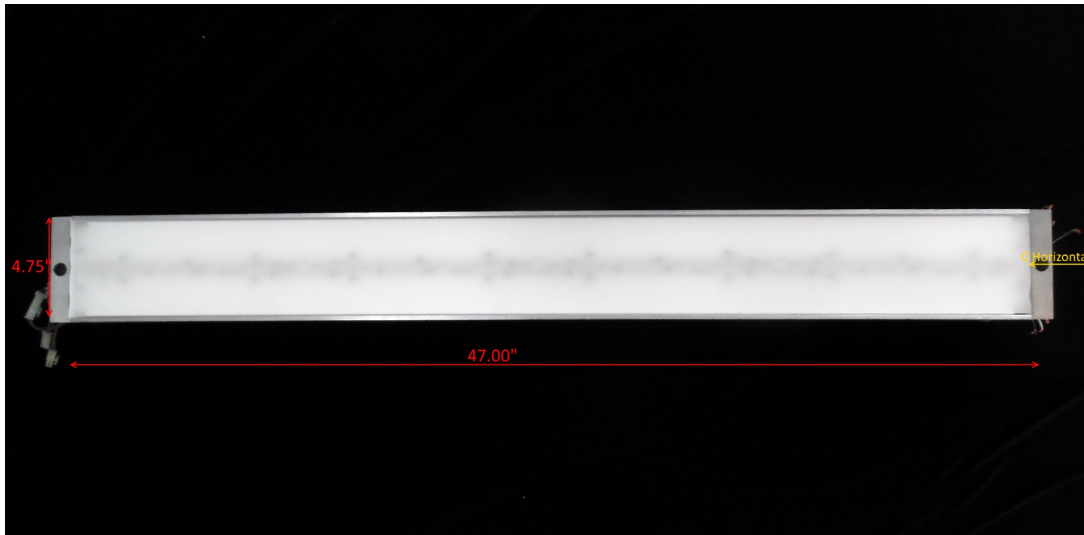


Report of Test

LLIA000844-013A-R03*

*This test report supersedes test report LLIA000844-013A-R02

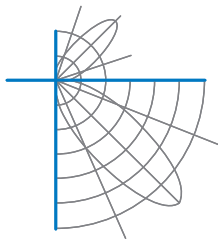
Catalog Number: MLS5-I-HO-K40-80-4-XX-FDC-XXXX-120
Pendant mounted, extruded aluminum housing with aluminum end caps, formed white enamel aluminum LED tray. 144 white LEDs, four Osram PrevaLED line LED boards with 36 LEDs each, frosted plastic enclosure.
One Osram Optotronic OTi 50/120-277/1A4 DIM L LED driver
120.0Vac, 60.00Hz, 0.2796A, 33.44W, 0.996PF, 7.6%THD(i)



Performance Summary

Total Light Output	4260 lm
Luminaire Power	33.4 W
Luminous Efficacy	127.5 lm/W

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



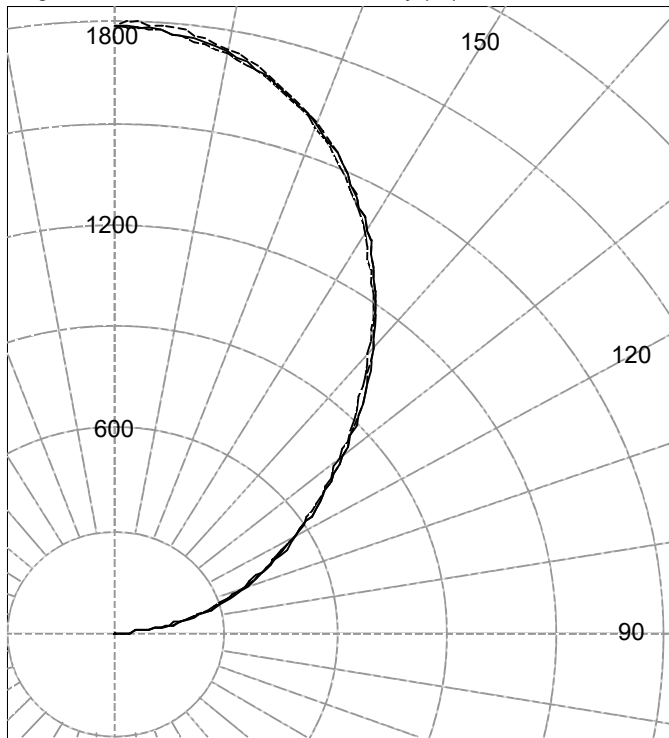
Test Report No. LLIA000844-013A-R03

Catalog Number: MLS5-I-HO-K40-80-4-XX-FDC-XXXX-120

Pendant mounted, extruded aluminum housing with aluminum end caps, formed white enamel aluminum LED tray. 144 white LEDs, four Osram PrevaLED line LED boards with 36 LEDs each, frosted plastic enclosure.

One Osram Optotronic OTi 50/120-277/1A4 DIM L LED driver
120.0Vac, 60.00Hz, 0.2796A, 33.44W, 0.996PF, 7.6%THD(i)

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



INTENSITY SUMMARY (cd)

Gamma	C-Plane					Flux (lm)
	C0	C22.5	C45	C67.5	C90	
90.0	1	1	2	2	2	
95.0	91	90	89	88	87	96
100.0	181	180	177	176	174	
105.0	271	270	266	264	262	282
110.0	365	366	359	355	353	
115.0	462	465	459	451	450	454
120.0	568	570	566	556	555	
125.0	684	683	682	672	670	608
130.0	812	807	810	799	796	
135.0	949	942	947	937	932	727
140.0	1092	1084	1090	1081	1075	
145.0	1234	1225	1233	1227	1218	767
150.0	1369	1359	1370	1365	1356	
155.0	1491	1482	1495	1490	1480	684
160.0	1596	1587	1602	1597	1587	
165.0	1679	1671	1687	1682	1673	473
170.0	1740	1732	1749	1744	1734	
175.0	1776	1769	1786	1781	1772	168
180.0	1789	1789	1789	1789	1789	

ZONAL FLUX AND PERCENTAGES

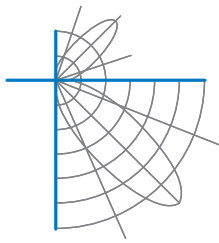
Zone	Flux (lm)	% Lamp	% Luminaire
180-150	1325	N / A	31.1
180-140	2092	N / A	49.1
180-120	3427	N / A	80.5
180-90	4260	N / A	100.0
140-90	2168	N / A	50.9
120-90	832	N / A	19.5
90-0	0	N / A	0.0
180-0	4260	N / A	100.0

Total Light Output = 4,260 lm

Signed:

Authorized Signatory

Date of test 16-Aug-2017
Date of report 24-Mar-2022



Test Report No. LLIA000844-013A-R03

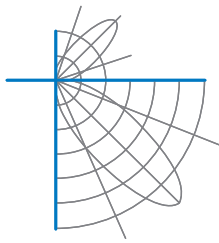
Catalog Number: MLS5-I-HO-K40-80-4-XX-FDC-XXXX-120

Pendant mounted, extruded aluminum housing with aluminum end caps, formed white enamel aluminum LED tray. 144 white LEDs, four Osram PrevaLED line LED boards with 36 LEDs each, frosted plastic enclosure.

One Osram Optotronic OTi 50/120-277/1A4 DIM L LED driver
120.0Vac, 60.00Hz, 0.2796A, 33.44W, 0.996PF, 7.6%THD(i)

Intensity data (cd)

Gamma	C-Plane				
	C0	C22.5	C45	C67.5	C90
90.0	1	1	2	2	2
92.5	45	44	44	43	43
95.0	91	90	89	88	87
97.5	136	135	133	132	131
100.0	181	180	177	176	174
102.5	225	225	221	220	218
105.0	271	270	266	264	262
107.5	317	317	312	309	307
110.0	365	366	359	355	353
112.5	413	415	408	402	401
115.0	462	465	459	451	450
117.5	514	517	511	503	501
120.0	568	570	566	556	555
122.5	624	625	623	613	611
125.0	684	683	682	672	670
127.5	746	743	745	734	732
130.0	812	807	810	799	796
132.5	880	874	878	867	863
135.0	949	942	947	937	932
137.5	1020	1013	1018	1009	1003
140.0	1092	1084	1090	1081	1075
142.5	1163	1154	1161	1154	1147
145.0	1234	1225	1233	1227	1218
147.5	1302	1293	1302	1297	1288
150.0	1369	1359	1370	1365	1356
152.5	1432	1423	1434	1429	1420
155.0	1491	1482	1495	1490	1480
157.5	1546	1537	1551	1546	1536
160.0	1596	1587	1602	1597	1587
162.5	1640	1632	1647	1642	1633
165.0	1679	1671	1687	1682	1673
167.5	1712	1705	1721	1716	1706
170.0	1740	1732	1749	1744	1734
172.5	1761	1754	1770	1765	1756
175.0	1776	1769	1786	1781	1772
177.5	1785	1779	1795	1790	1782
180.0	1789	1789	1789	1789	1789



Test Number: LLIA000844-013A-R03

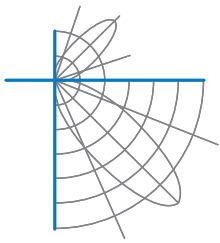
Catalog Number: MLS5-I-HO-K40-80-4-XX-FDC-XXXX-120

Pendant mounted, extruded aluminum housing with aluminum end caps, formed white enamel aluminum LED tray. 144 white LEDs, four Osram PrevaLED line LED boards with 36 LEDs each, frosted plastic enclosure.

One Osram Optotronic OTi 50/120-277/1A4 DIM L LED driver
120.0Vac, 60.00Hz, 0.2796A, 33.44W, 0.996PF, 7.6%THD(i)

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	95	95	95	95	81	81	81	81	56	56	56	32	32	32	10	10	10	0
1	87	83	79	76	74	71	68	65	48	47	45	28	27	26	9	9	8	0
2	79	72	66	62	67	62	57	53	42	40	37	24	23	22	8	7	7	0
3	72	63	57	51	61	54	49	44	37	34	31	21	20	18	7	6	6	0
4	65	56	48	43	56	48	42	37	33	29	26	19	17	16	6	6	5	0
5	60	49	42	36	51	42	36	32	29	25	22	17	15	13	5	5	4	0
6	55	44	36	31	47	38	32	27	26	22	19	15	13	11	5	4	4	0
7	50	39	32	27	43	34	28	23	23	19	17	14	11	10	4	4	3	0
8	47	35	28	23	40	30	24	20	21	17	14	12	10	9	4	3	3	0
9	43	32	25	20	37	27	22	18	19	15	13	11	9	8	4	3	3	0
10	40	29	22	18	34	25	19	16	17	14	11	10	8	7	3	3	2	0

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.



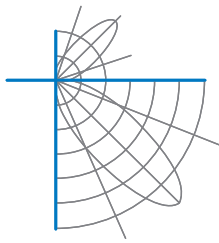
Test Report No. LLIA000844-013A-R03

Catalog Number: MLS5-I-HO-K40-80-4-XX-FDC-XXXX-120

Pendant mounted, extruded aluminum housing with aluminum end caps, formed white enamel aluminum LED tray. 144 white LEDs, four Osram PrevaLED line LED boards with 36 LEDs each, frosted plastic enclosure.

One Osram Optotronic OTi 50/120-277/1A4 DIM L LED driver
120.0Vac, 60.00Hz, 0.2796A, 33.44W, 0.996PF, 7.6%THD(i)





Test Report No. LLIA000844-013A-R03

Catalog Number: MLS5-I-HO-K40-80-4-XX-FDC-XXXX-120

Pendant mounted, extruded aluminum housing with aluminum end caps, formed white enamel aluminum LED tray. 144 white LEDs, four Osram PrevaLED line LED boards with 36 LEDs each, frosted plastic enclosure.

One Osram Optotronic OTi 50/120-277/1A4 DIM L LED driver
120.0Vac, 60.00Hz, 0.2796A, 33.44W, 0.996PF, 7.6%THD(i)

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.

Revision History

- R01 - 12/14/2017 - Changed catalog number
- R02 - 01/03/2019 - Added -80 to catalog number for 80 CRI chips
- R03 - 03/24/2022 - Revised to keep in series with 013B



Report of Test

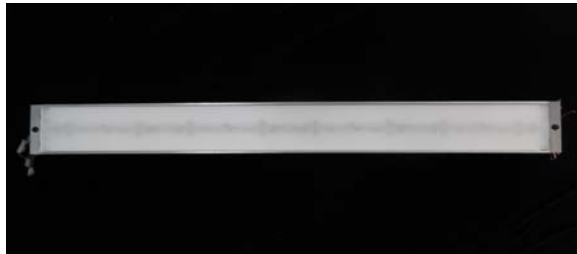
LLIA000844-013B-R03*

Integrating Sphere Report

Catalog Number: MLS5-I-HO-K40-80-4-XX-FDC-XXXX-120

Pendant mounted, extruded aluminum housing with aluminum end caps, formed white enamel aluminum LED tray. 144 white LEDs, four Osram PrevaLED line LED boards with 36 LEDs each, frosted plastic enclosure.

One Osram Optotronic OTi 50/120-277/1A4 DIM L LED driver



Performance Summary

Voltage	120.0 Vac
Current	0.2798 A
Power	33.45 W
Frequency	59.97 Hz
Power Factor	0.996
Current THD	7.6 %

Total Luminous Flux	4471.1 lm
Efficacy	133.7 lm/W
Chromaticity (x,y)	(0.3833, 0.3822)
(u',v')	(0.2249, 0.5044)
Duv	0.0017
CCT	3962 K
CRI (Ra)	81
R9	8

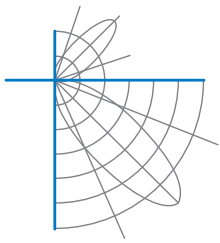
Prepared For:

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

*This test report supersedes test report LLIA000844-013B-R02

Test date: 08/11/2017

Report date: 03/24/2022

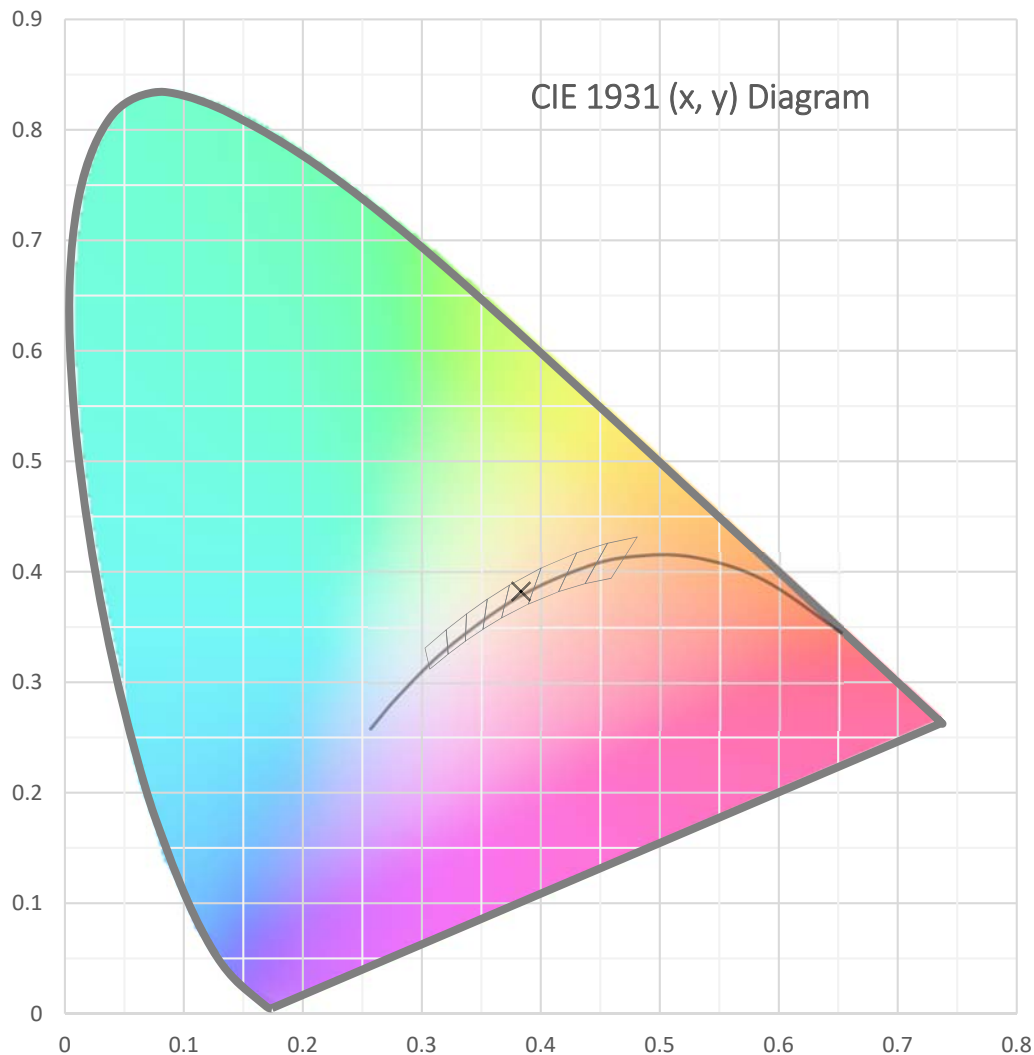


Test Report Number: LLIA000844-013B-R03

Catalog Number: MLS5-I-HO-K40-80-4-XX-FDC-XXXX-120

Pendant mounted, extruded aluminum housing with aluminum end caps,
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One Osram Optotronic OTi 50/120-277/1A4 DIM L LED driver



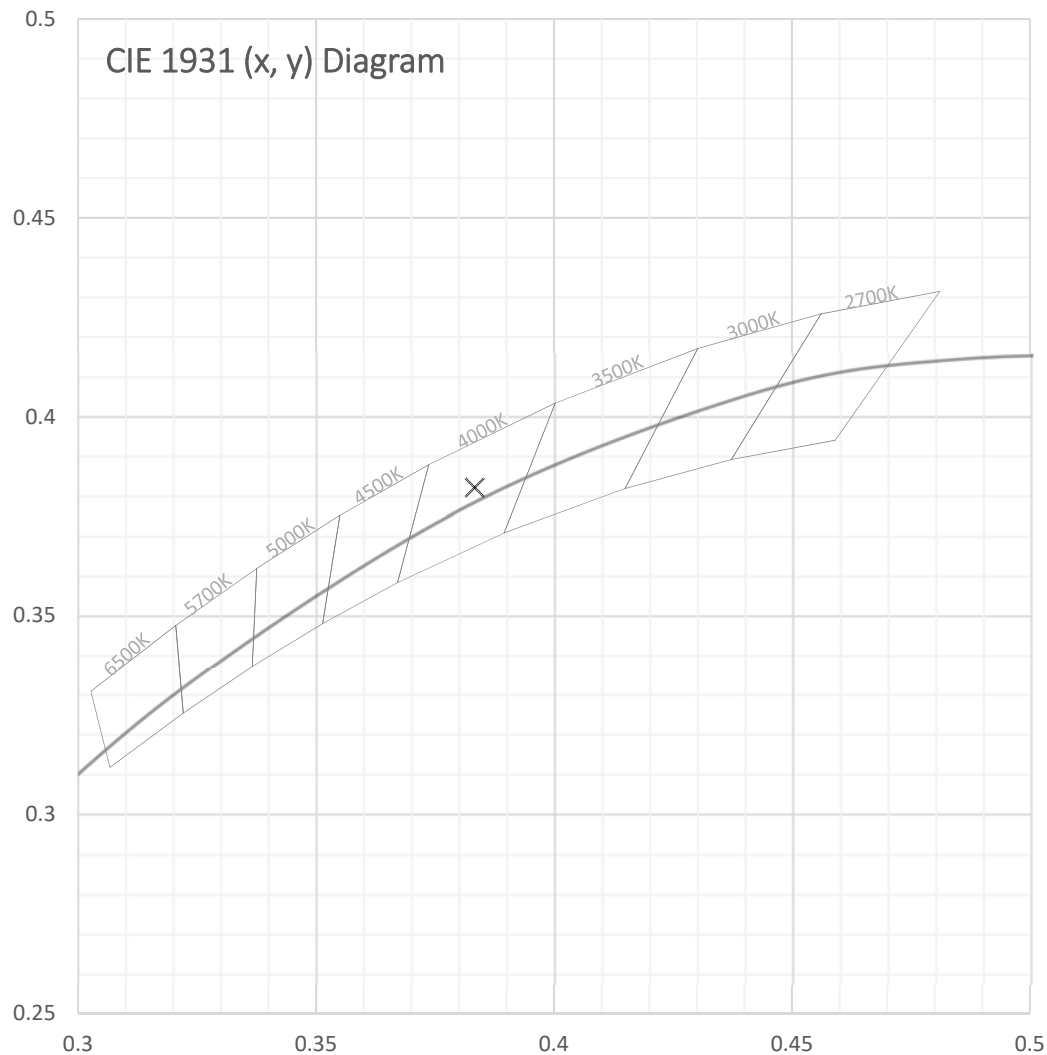


Test Report Number: LLIA000844-013B-R03

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Test Report Number: LLIA000844-013B-R03

Catalog Number: MLS5-I-HO-K40-80-4-XX-FDC-XXXX-120

Pendant mounted, extruded aluminum housing with aluminum end caps,
formed white enamel aluminum LED tray. 144 white LEDs, four Osram
PrevaLED line LED boards with 36 LEDs each, frosted plastic enclosure.
One Osram Optotronic OTi 50/120-277/1A4 DIM L LED driver

Spectral Data	Total Radiant Flux	13.65 W
	Total Luminous Flux	4471.1 Lm
	Chromaticity CIE 1931 (x, y)	(0.3833, 0.3822)
	Chromaticity CIE 1976 (u', v')	(0.2249, 0.5044)
	Correlated Color Temperature (CCT)	3962 K
	Color Rendering Index (Ra)	81
	R1	80
	R2	87
	R3	93
	R4	80
	R5	79
	R6	82
	R7	87
	R8	65
	R9	8
	R10	69
	R11	78
	R12	55
	R13	81
	R14	96
	Distance from Planckian Locus (Duv)	0.0017
	Scotopic/Photopic Ratio *	1.638

Electrical Data

Voltage	120.0 Vac
Current	0.2798 A
Power	33.45 W
Frequency	59.97 Hz
Power Factor	0.996
Current THD	7.6 %



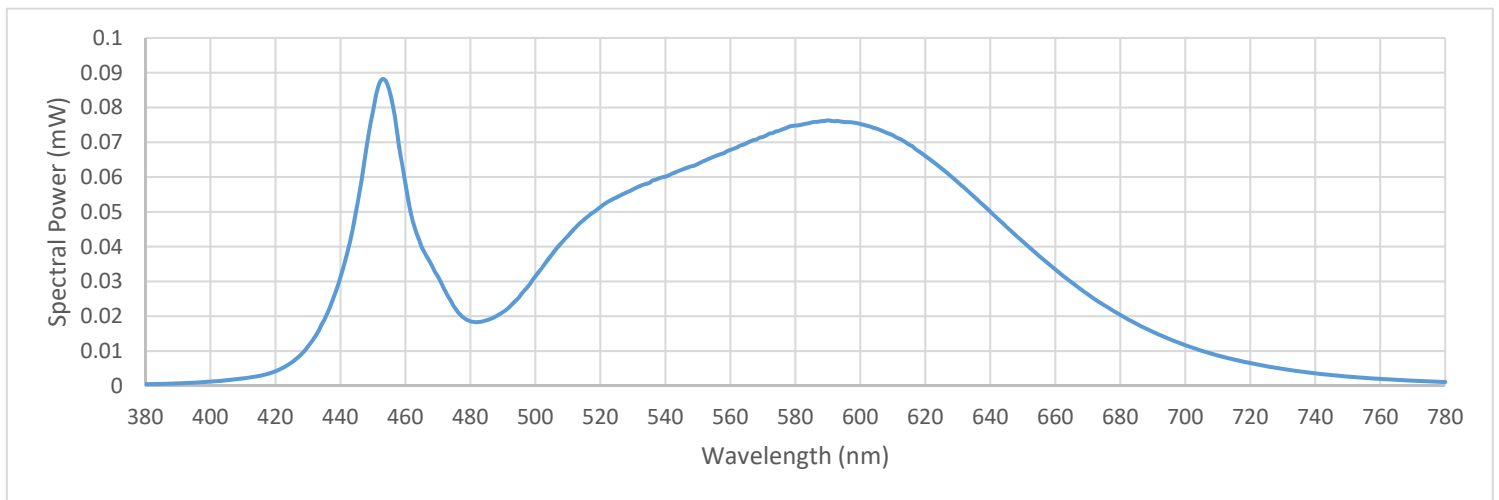
Test Report Number: LLIA000844-013B-R03

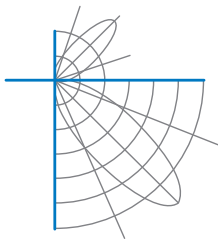
Catalog Number: MLS5-I-HO-K40-80-4-XX-FDC-XXXX-120

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One Osram Optotronic OTi 50/120-277/1A4 DIM L LED driver

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

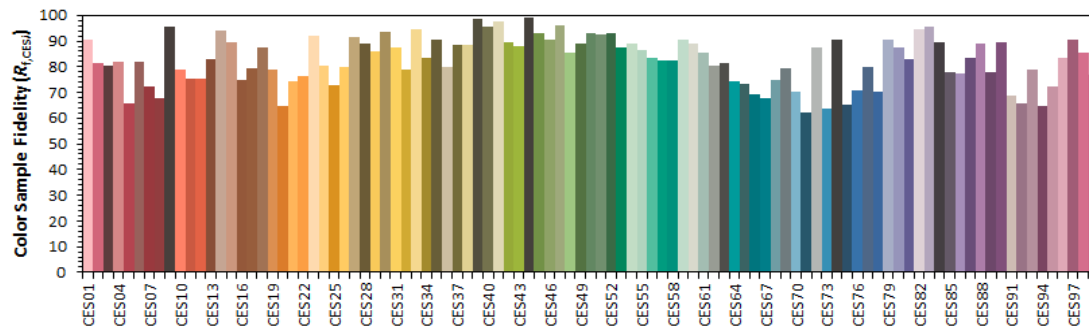
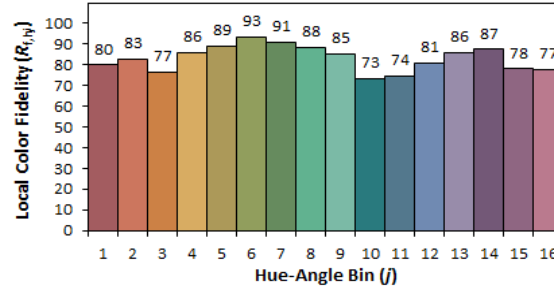
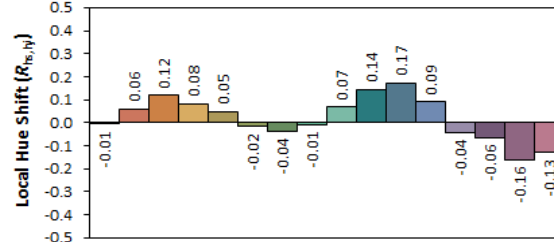
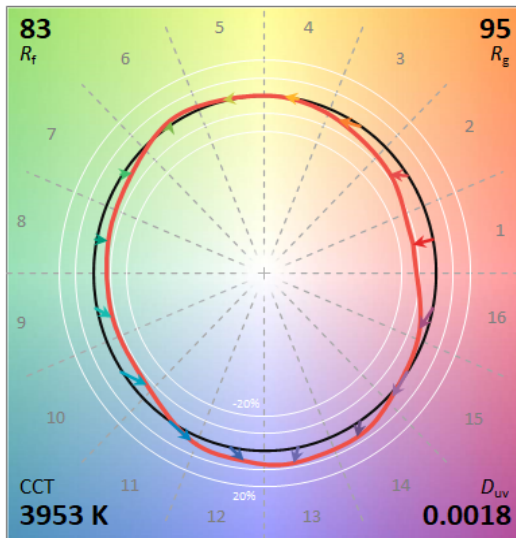
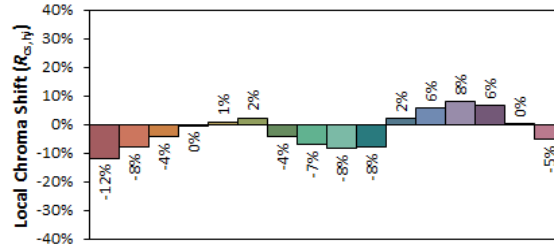
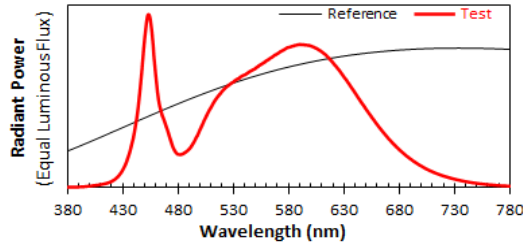
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385	0.000529	485	0.018843	585	0.075733	685	0.017815
390	0.000687	490	0.021191	590	0.076295	690	0.015516
395	0.000885	495	0.025477	595	0.075820	695	0.013472
400	0.001197	500	0.031497	600	0.075263	700	0.011693
405	0.001577	505	0.037604	605	0.073975	705	0.010101
410	0.002096	510	0.043004	610	0.072022	710	0.008682
415	0.002804	515	0.047854	615	0.069327	715	0.007541
420	0.004174	520	0.051390	620	0.066080	720	0.006519
425	0.006701	525	0.054177	625	0.062558	725	0.005618
430	0.011282	530	0.056403	630	0.058451	730	0.004849
435	0.018972	535	0.058286	635	0.054385	735	0.004161
440	0.031132	540	0.060111	640	0.050053	740	0.003567
445	0.051078	545	0.062096	645	0.045672	745	0.003069
450	0.078927	550	0.063830	650	0.041388	750	0.002647
455	0.085159	555	0.065839	655	0.037303	755	0.002286
460	0.058198	560	0.067791	660	0.033463	760	0.001979
465	0.039891	565	0.069704	665	0.029704	765	0.001706
470	0.031411	570	0.071537	670	0.026274	770	0.001469
475	0.022613	575	0.073305	675	0.023190	775	0.001269
						780	0.001093





Test Report Number: LLIA000844-013B-R03

IES TM-30 Details



Notes:

x **0.3838**
y **0.3827**
u' **0.2250**
v' **0.5047**

CIE 13.3-1995
(CRI)
R_a 82
R_g 9



Test Report Number: LLIA000844-013B-R03

Catalog Number: MLS5-I-HO-K40-80-4-XX-FDC-XXXX-120

Pendant mounted, extruded aluminum housing with aluminum end caps,
formed white enamel aluminum LED tray. 144 white LEDs, four Osram
PrevaLED line LED boards with 36 LEDs each, frosted plastic enclosure.
One Osram Optotronic OTi 50/120-277/1A4 DIM L LED driver

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.

This report is free of erasures and corrections

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

Revision History: R01 - 12/14/2017 - Changed catalog number
R02 - 01/03/2019 - Added -80 to catalog number for 80 CRI chips
R03 - 03/24/2022 - Added TM-30 metrics page to report