

Report of Test

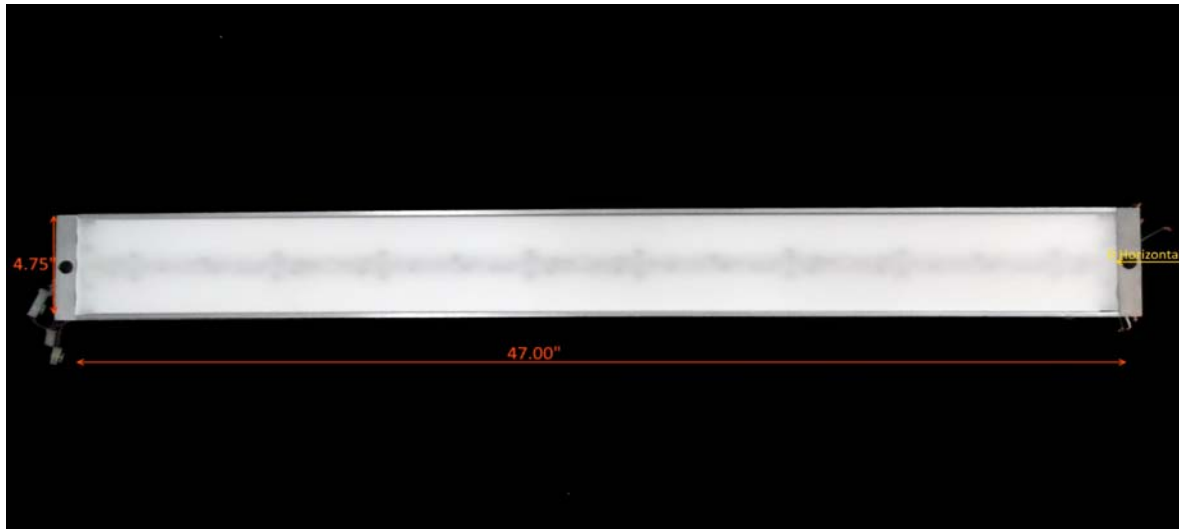
LLIA000844-014A-R03*

*This test report supersedes test report LLIA000844-001A-R02

Catalog Number: MLS5-I-MO-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

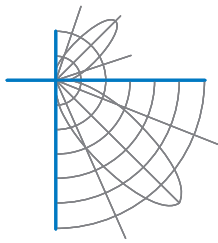
Osram Optotronic OTi 30/120-277/1A0 DIM L LED driver
120.0Vac, 60.00Hz, 0.1569A, 18.72W, 0.994PF, 5.4%THD(i)



Performance Summary

Total Light Output	2543 lm
Luminaire Power	18.7 W
Luminous Efficacy	136.0 lm/W

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



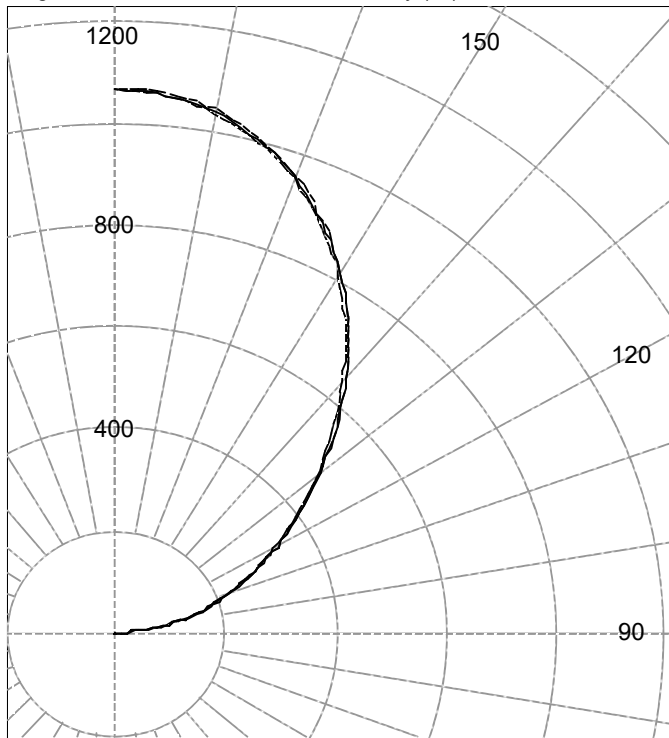
Test Report No. LLIA000844-014A-R03

Catalog Number: MLS5-I-MO-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 30/120-277/1A0 DIM L LED driver
120.0Vac, 60.00Hz, 0.1569A, 18.72W, 0.994PF, 5.4%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	0	1	1	1	1	
95.0	54	54	53	52	52	57
100.0	108	107	106	105	104	
105.0	162	162	159	157	157	168
110.0	218	219	215	212	211	
115.0	276	278	274	269	269	271
120.0	339	340	338	332	331	
125.0	408	408	407	401	400	363
130.0	484	482	484	477	475	
135.0	566	563	565	559	557	434
140.0	651	647	650	646	641	
145.0	736	731	736	732	727	458
150.0	817	811	817	815	809	
155.0	890	884	892	889	883	408
160.0	952	947	956	953	947	
165.0	1002	998	1007	1004	998	282
170.0	1038	1034	1044	1041	1035	
175.0	1060	1056	1066	1063	1058	101
180.0	1068	1068	1068	1068	1068	

ZONAL FLUX AND PERCENTAGES

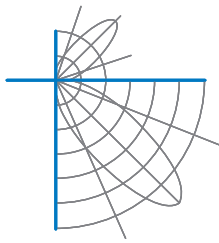
Zone	Flux (lm)	% Lamp	% Luminaire
180-150	791	N / A	31.1
180-140	1248	N / A	49.1
180-120	2045	N / A	80.5
180-90	2542	N / A	100.0
140-90	1294	N / A	50.9
120-90	497	N / A	19.5
90-0	0	N / A	0.0
180-0	2542	N / A	100.0

Total Light Output = 2,543 lm

Signed:

Authorized Signatory

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



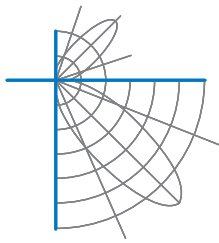
Test Report No. LLIA000844-014A-R03

Catalog Number: MLS5-I-MO-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 30/120-277/1A0 DIM L LED driver
120.0Vac, 60.00Hz, 0.1569A, 18.72W, 0.994PF, 5.4%THD(i)

Intensity data (cd)

Gamma	C-Plane				
	C0	C22.5	C45	C67.5	C90
90.0	0	1	1	1	1
92.5	27	26	26	26	26
95.0	54	54	53	52	52
97.5	81	81	79	79	78
100.0	108	107	106	105	104
102.5	135	134	132	131	130
105.0	162	162	159	157	157
107.5	190	190	186	184	183
110.0	218	219	215	212	211
112.5	246	248	243	240	239
115.0	276	278	274	269	269
117.5	307	308	305	300	299
120.0	339	340	338	332	331
122.5	373	373	372	366	365
125.0	408	408	407	401	400
127.5	445	444	445	438	437
130.0	484	482	484	477	475
132.5	525	522	524	517	515
135.0	566	563	565	559	557
137.5	609	604	608	602	599
140.0	651	647	650	646	641
142.5	694	689	693	689	685
145.0	736	731	736	732	727
147.5	777	772	777	774	769
150.0	817	811	817	815	809
152.5	854	849	856	853	848
155.0	890	884	892	889	883
157.5	922	917	926	922	917
160.0	952	947	956	953	947
162.5	978	974	983	980	974
165.0	1002	998	1007	1004	998
167.5	1022	1017	1027	1024	1018
170.0	1038	1034	1044	1041	1035
172.5	1051	1047	1057	1054	1048
175.0	1060	1056	1066	1063	1058
177.5	1065	1061	1071	1068	1063
180.0	1068	1068	1068	1068	1068



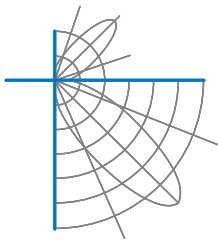
Test Number: LLIA000844-014A-R03

Catalog Number: MLS5-I-MO-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 30/120-277/1A0 DIM L LED driver 120.0Vac, 60.00Hz, 0.1569A, 18.72W, 0.994PF, 5.4%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.

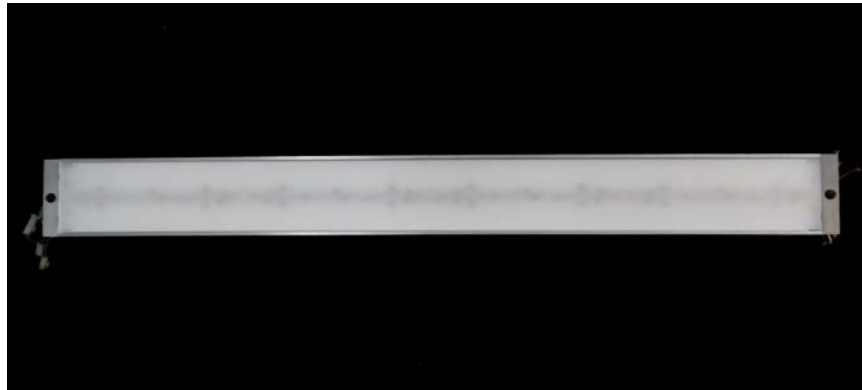


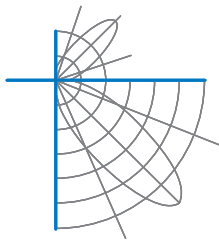
Test Report No. LLIA000844-014A-R03

Catalog Number: MLS5-I-MO-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 30/120-277/1A0 DIM L LED driver
120.0Vac, 60.00Hz, 0.1569A, 18.72W, 0.994PF, 5.4%THD(i)





Test Report No. LLIA000844-014A-R03

Catalog Number: MLS5-I-MO-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 30/120-277/1A0 DIM L LED driver 120.0Vac, 60.00Hz, 0.1569A, 18.72W, 0.994PF, 5.4%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 014B



Report of Test

LLIA000844-014B-R03*

Integrating Sphere Report

Catalog Number: MLS5-I-MO-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 30/120-277/1A0 DIM L LED driver



Performance Summary

Voltage	120.0 Vac
Current	0.1568 A
Power	18.71 W
Frequency	59.97 Hz
Power Factor	0.994
Current THD	5.4 %

Total Luminous Flux	2670.2 lm
Efficacy	142.7 lm/W
Chromaticity (x,y)	(0.3839, 0.3828)
(u',v')	(0.2250, 0.5047)
Duv	0.0018
CCT	3953 K
CRI (Ra)	82
R9	9

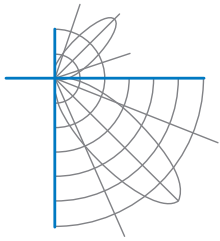
Prepared For:

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

*This test reports supersedes test report LLIA000844-014B-R02

Test date: 08/11/2017

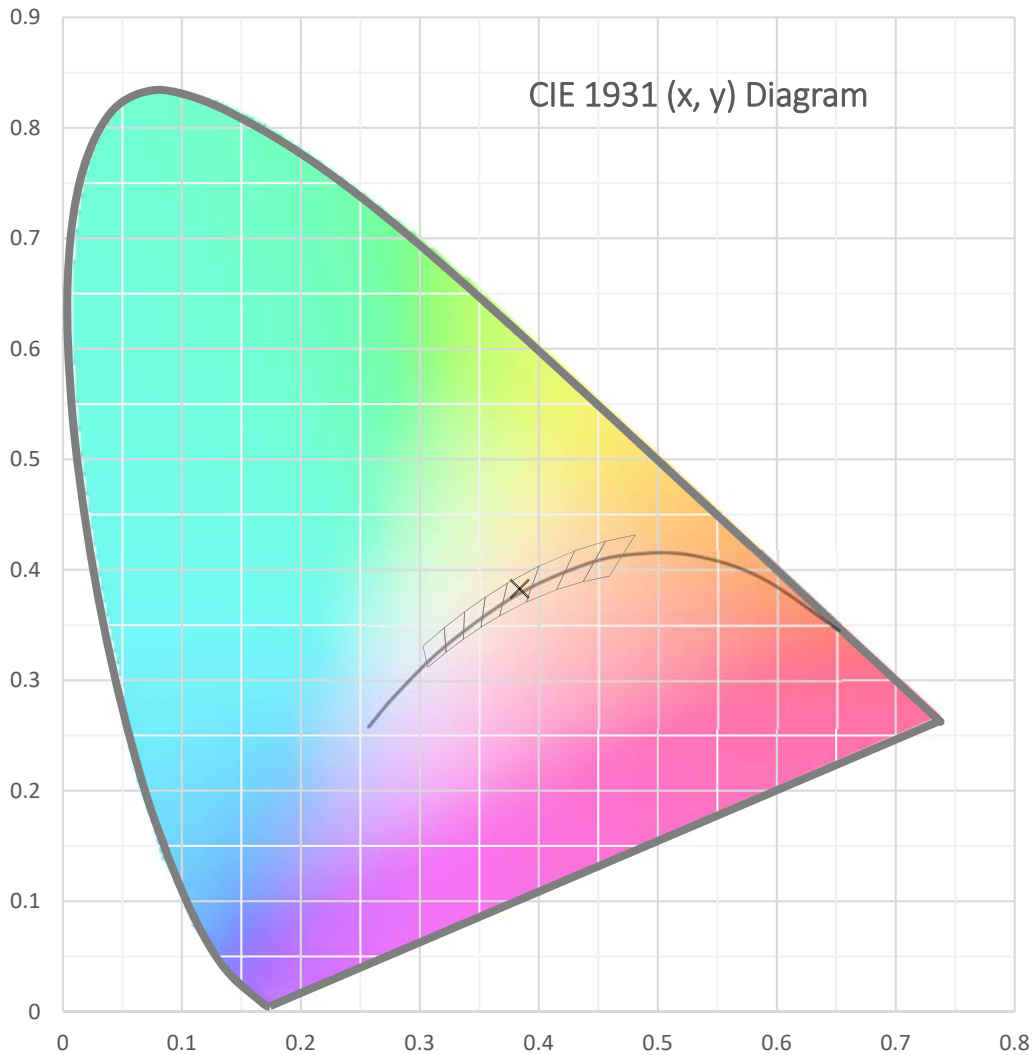
Report date: 03/24/2022

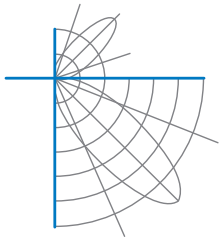


Test Report Number: LLIA000844-014B-R03

Catalog Number: MLS5-I-MO-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 30/120-277/1A0 DIM L LED driver



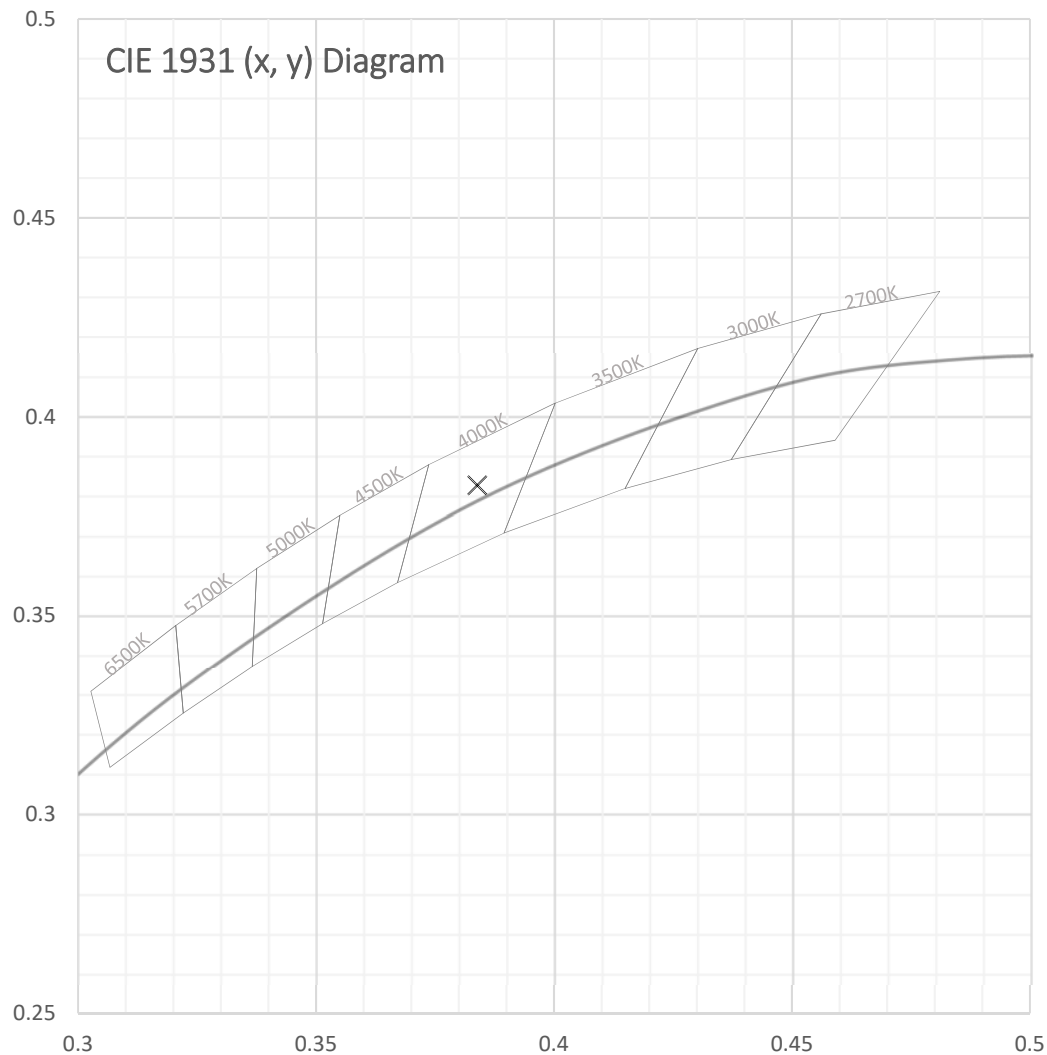


Test Report Number: LLIA000844-014B-R03

Catalog Number: MLS5-I-MO-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 30/120-277/1A0 DIM L LED driver





Test Report Number: LLIA000844-014B-R03

Catalog Number: MLS5-I-MO-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 30/120-277/1A0 DIM L LED driver

Spectral Data	Total Radiant Flux	8.139 W
	Total Luminous Flux	2670.2 Lm
	Chromaticity CIE 1931 (x, y)	(0.3839, 0.3828)
	Chromaticity CIE 1976 (u', v')	(0.2250, 0.5047)
	Correlated Color Temperature (CCT)	3953 K
	Color Rendering Index (Ra)	82
	R1	80
	R2	87
	R3	93
	R4	80
	R5	79
	R6	82
	R7	87
	R8	65
	R9	9
	R10	69
	R11	78
	R12	54
	R13	81
	R14	96
	Distance from Planckian Locus (Duv)	0.0018
	Scotopic/Photopic Ratio *	1.636

Electrical Data

Voltage	120.0 Vac
Current	0.1568 A
Power	18.71 W
Frequency	59.97 Hz
Power Factor	0.994
Current THD	5.4 %



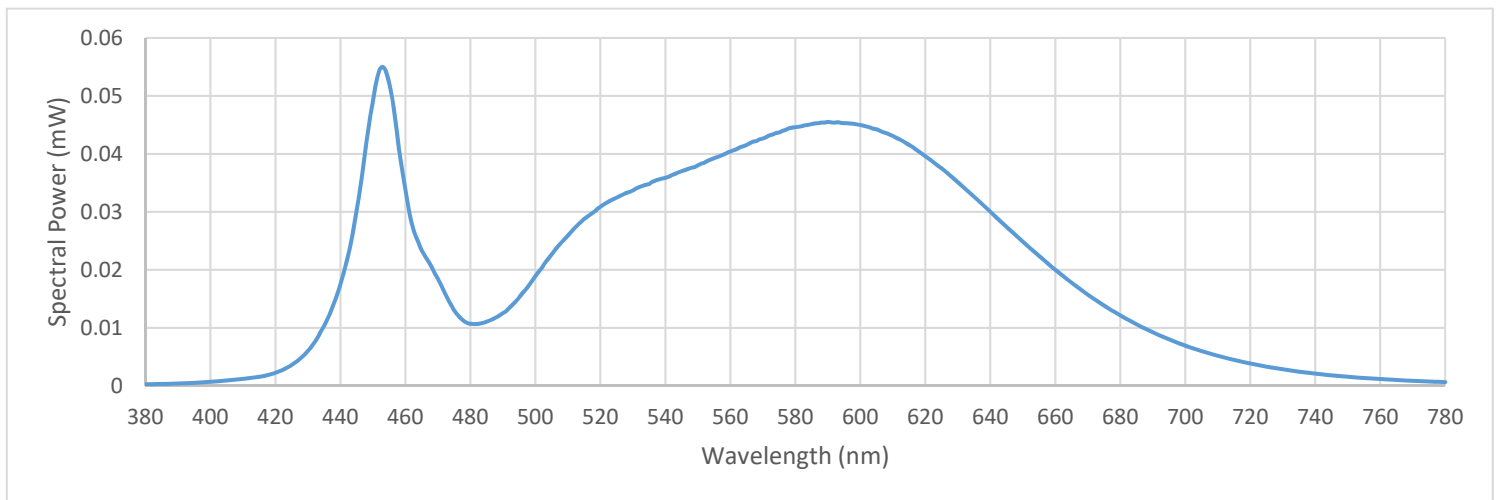
Test Report Number: LLIA000844-014B-R03

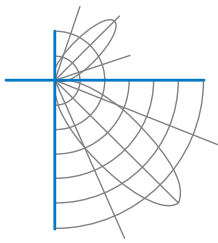
Catalog Number: MLS5-I-MO-K40-80-4-XX-FDC-XXXX-120

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 30/120-277/1A0 DIM L LED driver

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

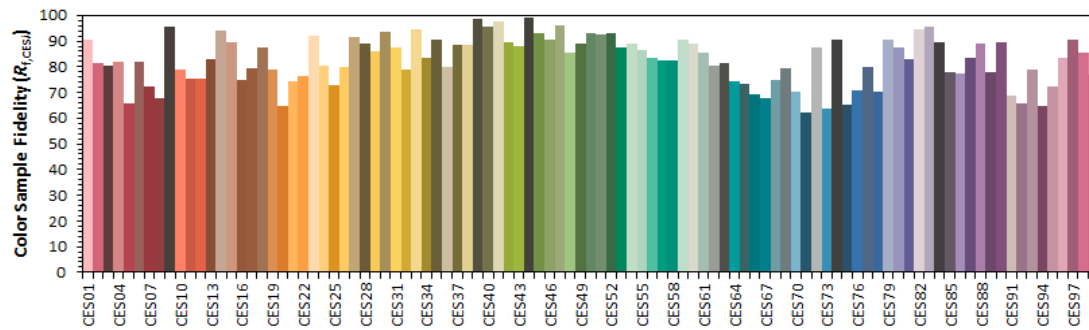
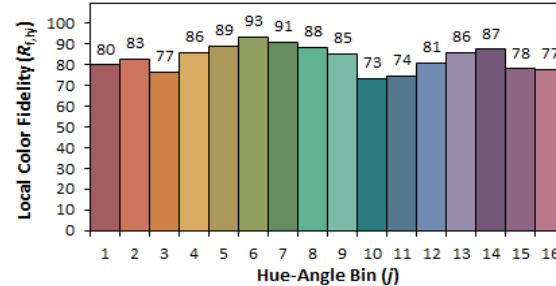
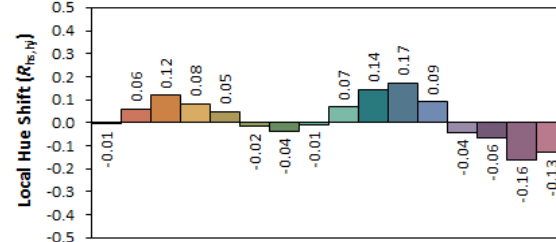
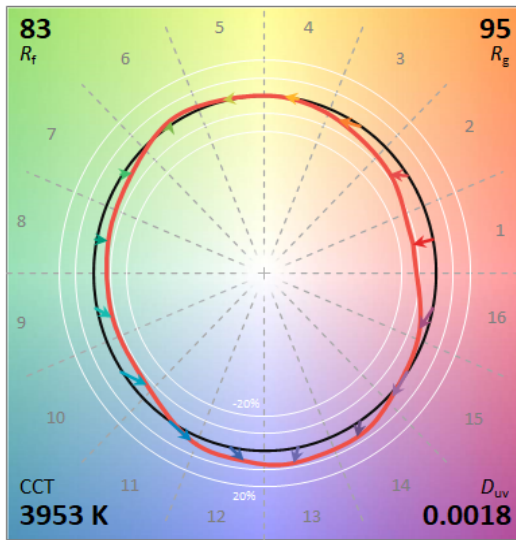
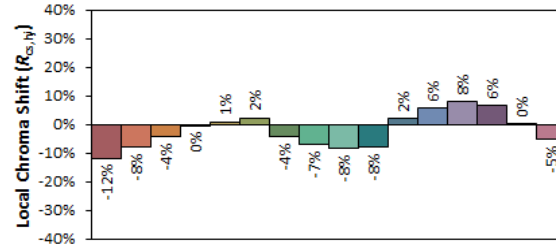
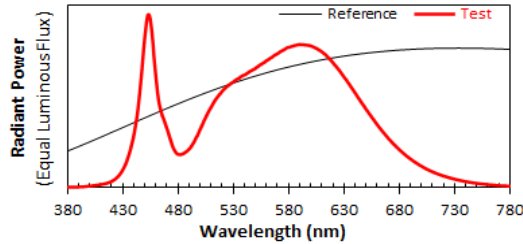
380	0.000278	480	0.010701	580	0.044599	680	0.012130
385	0.000301	485	0.011062	585	0.045153	685	0.010615
390	0.000388	490	0.012526	590	0.045501	690	0.009233
395	0.000504	495	0.015197	595	0.045277	695	0.007999
400	0.000693	500	0.018906	600	0.044968	700	0.006939
405	0.000902	505	0.022636	605	0.044243	705	0.005979
410	0.001192	510	0.025874	610	0.043099	710	0.005137
415	0.001551	515	0.028775	615	0.041517	715	0.004453
420	0.002252	520	0.030853	620	0.039611	720	0.003836
425	0.003577	525	0.032440	625	0.037517	725	0.003311
430	0.006058	530	0.033676	630	0.035071	730	0.002855
435	0.010370	535	0.034803	635	0.032640	735	0.002442
440	0.017492	540	0.035853	640	0.030018	740	0.002089
445	0.030268	545	0.037023	645	0.027377	745	0.001796
450	0.049166	550	0.038039	650	0.024817	750	0.001549
455	0.052262	555	0.039226	655	0.022369	755	0.001333
460	0.033840	560	0.040406	660	0.020036	760	0.001153
465	0.023341	565	0.041547	665	0.017776	765	0.000992
470	0.018469	570	0.042646	670	0.015699	770	0.000853
475	0.012985	575	0.043692	675	0.013846	775	0.000737
						780	0.000638



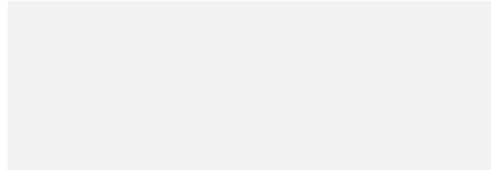


Test Report Number: LLIA000844-014B-R03

IES TM-30 Details



Notes:



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

CIE 13.3-1995
(CRI)
Ra 82
R9 9



Test Report Number: LLIA000844-014B-R03

Catalog Number: MLS5-I-MO-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 30/120-277/1A0 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:	24.8 °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