



Report of Test

LLIA000817-014A

Catalog Number: MLS2-I/D-MO/MO-K40-80-4-XX-AL/AL-XXX-UNV
 Pendant mounted, extruded aluminum housing, formed white enamel
 aluminum reflectors, translucent white plastic enclosures.
 92 white upper LEDs, 92 white lower LEDs
 Two Osram Optotronic OT30W/PRG1050C/UNV/DIM/L LED drivers
 120.0Vac, 60.00Hz, 0.3096A, 36.94W, 0.995PF, 5.2%THD(i)



Performance Summary

Total Light Output	4251 lm
Luminaire Power	36.9 W
Luminous Efficacy	115.2 lm/W

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



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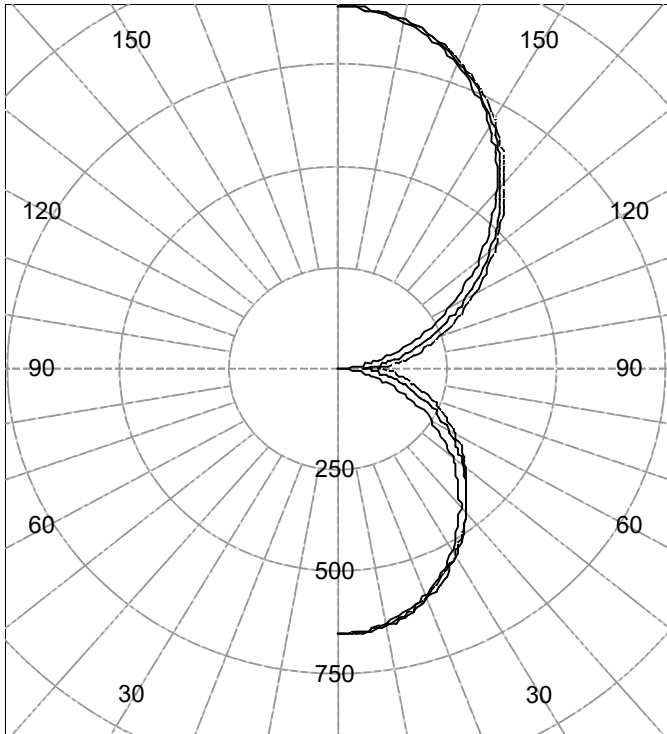
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Legend: C0-Solid, C45-Dashed, C90-Grey (cd)



(Two plane symmetry) C0-C90

INTENSITY SUMMARY (cd)

Gamma	C-Plane					Flux (lm)
	C0	C22.5	C45	C67.5	C90	
0.0	651	651	651	651	651	
5.0	647	645	652	651	646	62
10.0	634	633	642	642	637	
15.0	615	615	625	625	619	175
20.0	588	592	601	601	594	
25.0	555	558	572	570	563	260
30.0	519	523	535	536	530	
35.0	476	483	498	500	494	307
40.0	432	441	456	462	457	
45.0	385	397	415	422	419	316
50.0	338	352	372	382	381	
55.0	289	307	329	342	342	289
60.0	240	261	286	301	304	
65.0	191	216	243	261	266	235
70.0	143	170	200	222	229	
75.0	97	125	159	184	193	162
80.0	54	84	122	150	160	
85.0	21	52	91	121	132	93
90.0	1	26	58	84	92	

AVERAGE LUMINANCE (cd / m²)

Gamma	C0	C45	C90
45.0	8008	7420	7090
55.0	7395	6859	6615
65.0	6655	6275	6209
75.0	5485	5627	5912
85.0	3491	5389	6168

ZONAL FLUX AND PERCENTAGES

Zone	Flux (lm)	% Lamp	% Luminaire
0-30	497	N / A	11.7
0-40	804	N / A	18.9
0-60	1409	N / A	33.1
0-90	1899	N / A	44.7
40-90	1095	N / A	25.8
60-90	490	N / A	11.5
90-180	2352	N / A	55.3
0-180	4251	N / A	100.0

Total Light Output = 4,251 lm

Signed:

Authorized Signatory

Date of test

19-Jul-2017

Date of report

19-Jul-2017



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Intensity data (cd)

Gamma	C-Plane				
	C0	C22.5	C45	C67.5	C90
0.0	651	651	651	651	651
2.5	650	647	654	653	648
5.0	647	645	652	651	646
7.5	642	640	648	648	642
10.0	634	633	642	642	637
12.5	626	625	634	635	629
15.0	615	615	625	625	619
17.5	603	603	614	614	607
20.0	588	592	601	601	594
22.5	572	575	586	586	579
25.0	555	558	572	570	563
27.5	537	542	553	554	547
30.0	519	523	535	536	530
32.5	497	504	516	518	512
35.0	476	483	498	500	494
37.5	454	462	477	481	475
40.0	432	441	456	462	457
42.5	409	420	436	442	438
45.0	385	397	415	422	419
47.5	362	375	394	402	400
50.0	338	352	372	382	381
52.5	313	330	351	362	362
55.0	289	307	329	342	342
57.5	264	284	308	322	323
60.0	240	261	286	301	304
62.5	216	239	265	281	285
65.0	191	216	243	261	266
67.5	167	193	221	241	247
70.0	143	170	200	222	229
72.5	120	147	179	203	210
75.0	97	125	159	184	193
77.5	75	104	140	167	176
80.0	54	84	122	150	160
82.5	36	67	105	135	145
85.0	21	52	91	121	132
87.5	9	39	77	108	118
90.0	1	26	58	84	92



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Intensity data (cd)

Gamma	C-Plane				
	C0	C22.5	C45	C67.5	C90
90.0	1	26	58	84	92
92.5	11	40	68	85	92
95.0	28	57	94	126	137
97.5	46	75	113	143	154
100.0	67	96	132	162	172
102.5	89	117	153	181	191
105.0	114	141	175	202	211
107.5	140	166	198	224	233
110.0	167	192	223	246	255
112.5	196	219	248	270	278
115.0	226	248	275	295	303
117.5	257	278	303	321	328
120.0	288	308	332	348	354
122.5	320	339	361	375	381
125.0	353	371	391	403	409
127.5	386	403	422	432	438
130.0	420	436	454	461	468
132.5	455	468	485	491	498
135.0	489	502	517	522	528
137.5	525	535	548	553	559
140.0	559	568	580	583	590
142.5	594	600	611	614	621
145.0	627	632	642	644	651
147.5	659	663	673	674	681
150.0	690	693	702	703	710
152.5	719	721	730	731	737
155.0	746	748	757	758	763
157.5	772	772	781	782	787
160.0	795	795	804	805	809
162.5	816	815	825	825	828
165.0	835	833	842	843	845
167.5	851	848	858	858	859
170.0	864	861	870	870	870
172.5	874	870	880	879	878
175.0	882	877	886	885	883
177.5	886	881	890	888	885
180.0	887	887	887	887	887



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Coefficients Of Utilization - Zonal Cavity Method

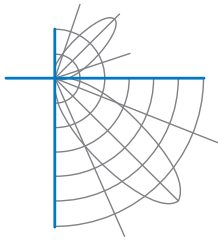
Effective Floor Cavity Reflectance 0.20

RC	80				70				50			30			10			0
	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
0	106	106	106	106	97	97	97	97	80	80	80	65	65	65	51	51	51	45
1	96	91	87	83	88	84	80	77	69	67	64	56	54	53	44	43	42	36
2	87	79	73	67	79	73	67	62	60	56	53	49	46	43	38	36	35	30
3	79	69	62	56	72	64	57	52	53	48	44	43	39	36	34	31	29	25
4	72	61	53	47	66	56	49	44	47	42	37	38	34	31	30	27	25	21
5	66	54	46	40	60	50	43	37	42	36	32	34	30	27	27	24	22	18
6	61	49	41	35	56	45	38	32	38	32	28	31	27	23	24	21	19	16
7	56	44	36	30	51	41	33	28	34	28	24	28	24	21	22	19	17	14
8	52	40	32	27	48	37	30	25	31	26	22	26	21	18	20	17	15	13
9	49	36	29	24	44	34	27	22	28	23	19	24	19	16	19	16	14	11
10	45	33	26	21	41	31	24	20	26	21	17	22	18	15	18	14	12	10

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	18.1	7.13	7.28
8.0	10.2	9.51	9.71
10.0	6.5	11.89	12.13
12.0	4.5	14.27	14.56
14.0	3.3	16.64	16.98
16.0	2.5	19.02	19.41



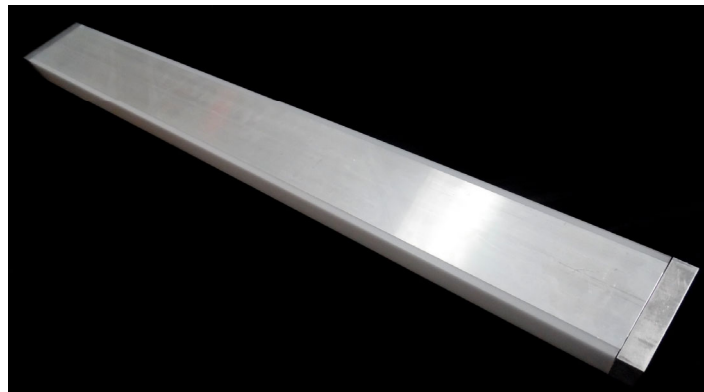
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Test Distance 9.5 m
Test Temperature 25.0 °C

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

LLIA000817-014B

Integrating Sphere Report

Catalog Number: MLS2-I/D-MO/MO-K40-80-4-XX-AL/AL-XXX-UNV

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Performance Summary

Voltage	120.0 Vac
Current	0.3093 A
Power	36.92 W
Frequency	60.00 Hz
Power Factor	0.995
Current THD	5.2 %

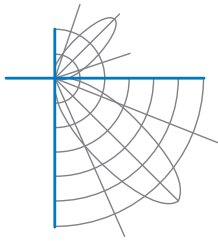
Total Luminous Flux	4286.5 lm
Efficacy	116.1 lm/W
Chromaticity (x,y)	(0.3806, 0.3779)
(u',v')	(0.2248, 0.5021)
Duv	0.0005
CCT	4005 K
CRI (Ra)	84
R9	18

Prepared For:

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

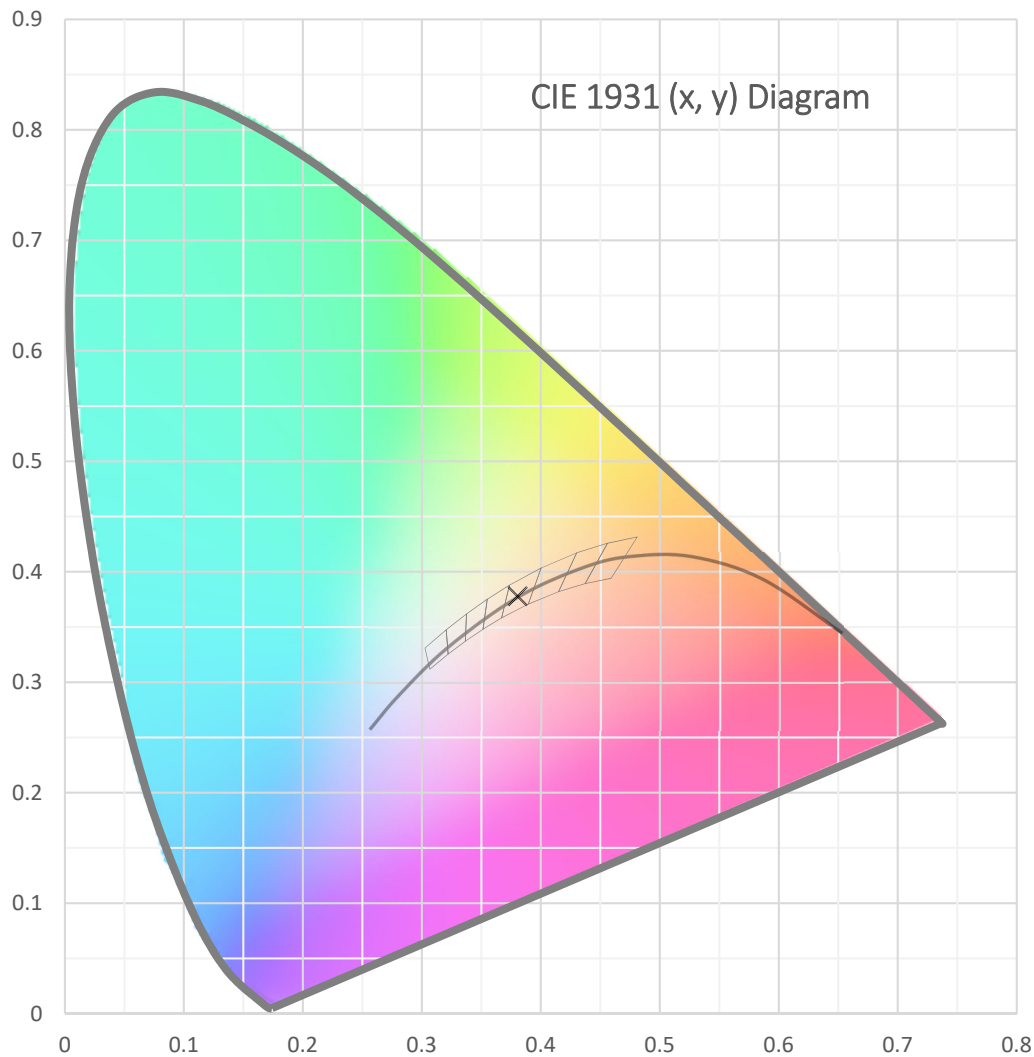
Test date: 07/19/2017

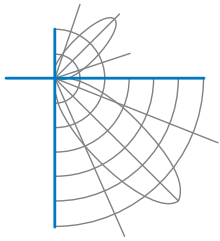
Report date: 07/19/2017



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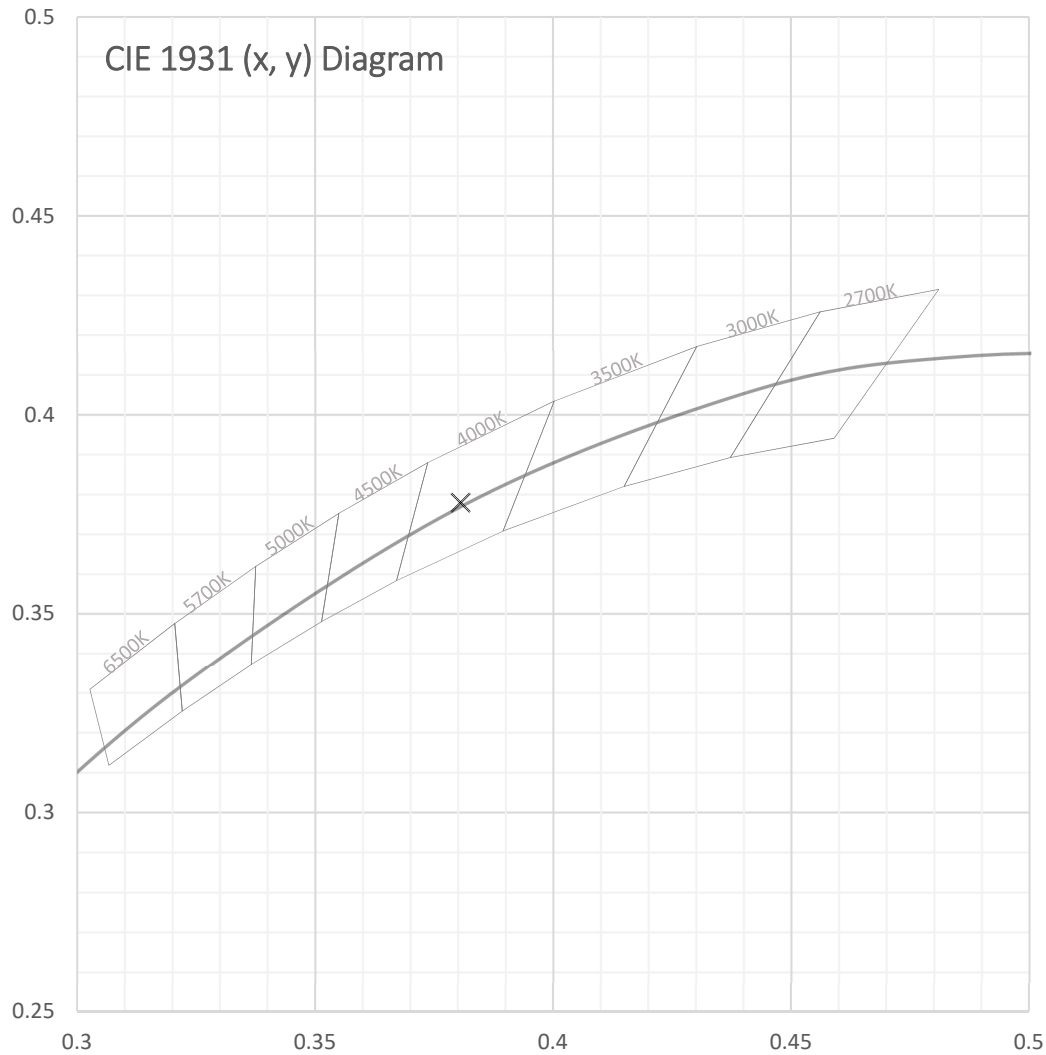
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Spectral Data	Total Radiant Flux	13.34 W
	Total Luminous Flux	4286.5 Lm
	Chromaticity CIE 1931 (x, y)	(0.3806, 0.3779)
	Chromaticity CIE 1976 (u', v')	(0.2248, 0.5021)
	Correlated Color Temperature (CCT)	4005 K
	Color Rendering Index (Ra)	84
	R1	83
	R2	91
	R3	96
	R4	82
	R5	83
	R6	87
	R7	87
	R8	68
	R9	18
	R10	78
	R11	80
	R12	61
	R13	85
	R14	98
	Distance from Planckian Locus (Duv)	0.0005
	Scotopic/Photopic Ratio *	1.716

Electrical Data

Voltage	120.0 Vac
Current	0.3093 A
Power	36.92 W
Frequency	60.00 Hz
Power Factor	0.995
Current THD	5.2 %



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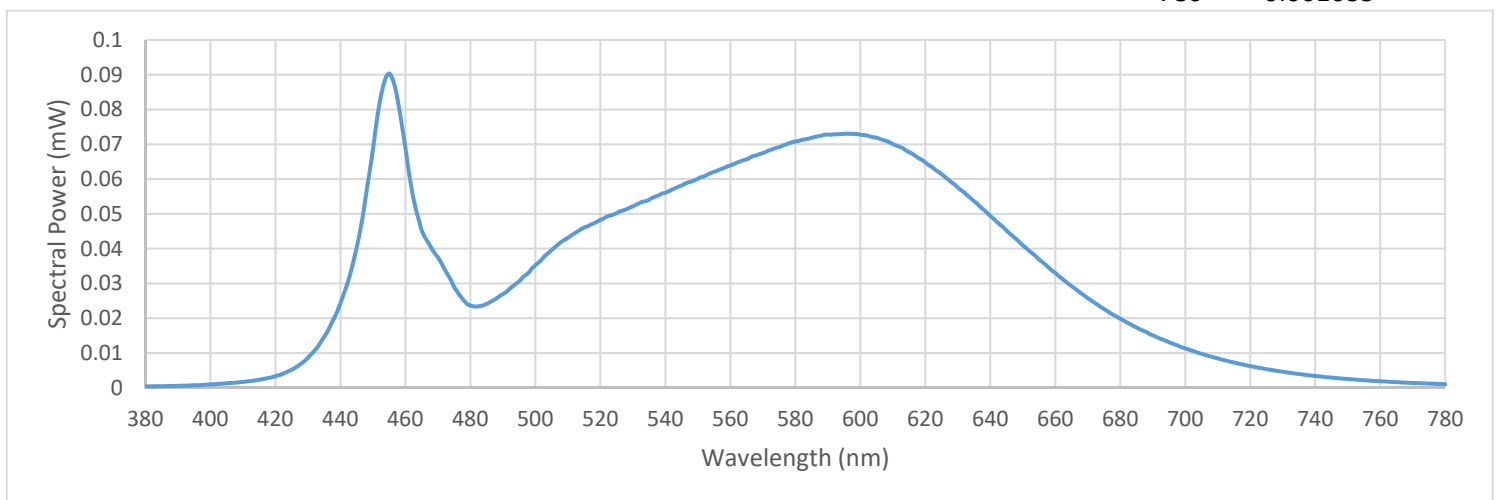
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Summary Spectral Power Distribution (wavelength - nm, spectral power - mW)

380	0.000411	480	0.023663	580	0.070782	680	0.019838
385	0.000446	485	0.024114	585	0.071896	685	0.017354
390	0.000554	490	0.026940	590	0.072797	690	0.015095
395	0.000712	495	0.030612	595	0.072999	695	0.013079
400	0.000955	500	0.035227	600	0.072752	700	0.011334
405	0.001277	505	0.039630	605	0.071882	705	0.009775
410	0.001707	510	0.043082	610	0.070066	710	0.008418
415	0.002301	515	0.046071	615	0.067731	715	0.007264
420	0.003329	520	0.048254	620	0.064770	720	0.006238
425	0.005200	525	0.050186	625	0.061423	725	0.005360
430	0.008642	530	0.052173	630	0.057584	730	0.004616
435	0.014641	535	0.054057	635	0.053658	735	0.003946
440	0.024355	540	0.056058	640	0.049426	740	0.003390
445	0.040338	545	0.058148	645	0.045175	745	0.002927
450	0.068511	550	0.060115	650	0.040980	750	0.002512
455	0.090318	555	0.062081	655	0.036868	755	0.002166
460	0.068947	560	0.063906	660	0.033024	760	0.001883
465	0.045338	565	0.065639	665	0.029207	765	0.001616
470	0.037469	570	0.067467	670	0.025753	770	0.001392
475	0.028969	575	0.069158	675	0.022647	775	0.001204
						780	0.001035





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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: 25.2 °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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Quantities marked with * are not covered.



Report of Test

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Electrical Test Report

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Performance Summary

Voltage	277.0 Vac
Current	0.1591 A
Power	39.97 W
Frequency	60.00 Hz
Power Factor	0.907
Current THD	17.7 %
Ambient Temperature:	25.0 °C

Prepared For:

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

Tested in accordance with the applicable sections of C82.77-10-2014. 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. 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.

Test date: 07/19/2017

Report date: 07/19/2017

Electrical Report Template V1-2