



## Report of Test

# LLIA000773-002A-R01\*

\*This test report supersedes test report LLIA000773-002A

Catalog Number: MLS3-D-MO-K40-4-XX-LOH-XXXX-120  
Pendant mounted, extruded aluminum housing, formed white aluminum reflector tray, frosted plastic lower enclosure.  
144 white LEDs, four lower PrevaLED Bar boards with 36 LEDs each.  
One Osram Optotronic OTi 30/120-277/1A0 DIM L LED driver.  
120.0Vac, 60.00Hz, 0.1470A, 17.53W, 0.994PF, 5.2%THD(i)



### Performance Summary

Total Light Output	1842 lm
Luminaire Power	17.5 W
Luminous Efficacy	105.3 lm/W

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



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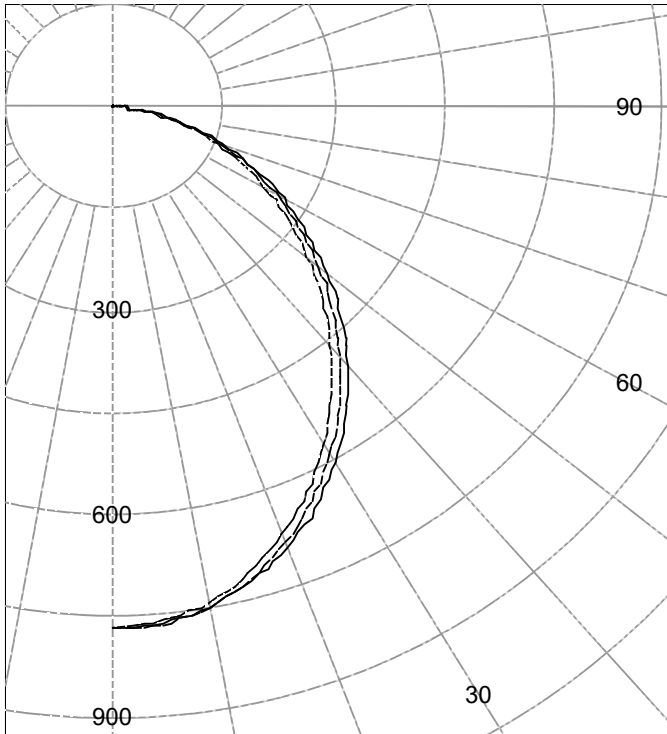
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Legend: C0-Solid, C45-Dashed, C90-Grey (cd)



(Two plane symmetry) C0-C90

**AVERAGE LUMINANCE (cd / m<sup>2</sup>)**

Gamma	C0	C45	C90
45.0	7117	6845	6525
55.0	6456	6178	5829
65.0	5748	5449	5132
75.0	4855	4612	4344
85.0	3923	3623	3319

**INTENSITY SUMMARY (cd)**

Gamma	C-Plane					Flux (lm)
	C0	C22.5	C45	C67.5	C90	
0.0	768	768	768	768	768	
5.0	763	760	766	764	760	72
10.0	748	745	749	745	741	
15.0	724	720	721	716	711	202
20.0	691	686	685	677	672	
25.0	653	646	640	630	625	294
30.0	604	596	590	578	572	
35.0	552	544	536	522	516	334
40.0	497	488	479	465	459	
45.0	439	431	422	407	402	324
50.0	380	375	365	351	346	
55.0	323	319	309	295	291	275
60.0	267	264	254	242	239	
65.0	212	211	201	192	189	199
70.0	159	158	150	144	142	
75.0	110	109	104	100	98	111
80.0	66	66	63	60	59	
85.0	30	29	28	26	25	31
90.0	0	0	0	0	0	

**ZONAL FLUX AND PERCENTAGES**

Zone	Flux (lm)	% Lamp	% Luminaire
0-30	568	N / A	30.8
0-40	902	N / A	49.0
0-60	1501	N / A	81.5
0-90	1842	N / A	100.0
40-90	940	N / A	51.0
60-90	341	N / A	18.5
90-180	0	N / A	0.0
0-180	1842	N / A	100.0

Total Light Output = 1,842 lm

Signed:

Michael L. Grather  
Authorized Signatory

Spacing Criterion: 0-180 1.2  
Spacing Criterion: 90-270 1.1

Date of test 4-May-2017  
Date of report 15-Dec-2017



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**Intensity data (cd)**

Gamma	C-Plane				
	C0	C22.5	C45	C67.5	C90
0.0	768	768	768	768	768
2.5	767	764	770	768	764
5.0	763	760	766	764	760
7.5	757	754	758	756	752
10.0	748	745	749	745	741
12.5	737	733	736	732	728
15.0	724	720	721	716	711
17.5	708	704	704	697	693
20.0	691	686	685	677	672
22.5	671	666	663	654	649
25.0	653	646	640	630	625
27.5	628	622	616	605	599
30.0	604	596	590	578	572
32.5	578	570	565	550	544
35.0	552	544	536	522	516
37.5	525	516	507	493	488
40.0	497	488	479	465	459
42.5	468	460	451	436	431
45.0	439	431	422	407	402
47.5	409	403	393	379	374
50.0	380	375	365	351	346
52.5	351	347	337	323	318
55.0	323	319	309	295	291
57.5	294	292	281	269	265
60.0	267	264	254	242	239
62.5	239	237	227	217	214
65.0	212	211	201	192	189
67.5	185	184	175	168	165
70.0	159	158	150	144	142
72.5	134	133	127	122	119
75.0	110	109	104	100	98
77.5	87	87	83	79	78
80.0	66	66	63	60	59
82.5	47	47	44	42	41
85.0	30	29	28	26	25
87.5	14	14	12	11	11
90.0	0	0	0	0	0



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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	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	109	105	101	97	107	102	99	95	98	95	92	94	92	89	91	89	87	85
2	100	92	85	80	97	90	84	79	86	81	77	83	79	75	80	77	73	71
3	91	81	73	67	89	79	72	66	77	70	65	74	68	64	71	67	63	61
4	84	72	64	57	82	71	63	57	68	61	56	66	60	55	64	59	55	52
5	77	65	56	50	75	64	55	49	62	54	49	60	53	48	58	52	48	46
6	72	59	50	44	70	58	49	43	56	49	43	54	48	43	53	47	42	40
7	67	53	45	39	65	53	44	39	51	44	38	50	43	38	48	42	38	36
8	62	49	40	35	60	48	40	35	47	40	34	46	39	34	44	38	34	32
9	58	45	37	31	57	44	37	31	43	36	31	42	36	31	41	35	31	29
10	55	42	34	29	53	41	34	29	40	33	28	39	33	28	38	32	28	26

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.

Height(ft)	Illuminance at Nadir (fc)	Beam Width (across 50% Nadir Illum)	
		0-180	90-270
6.0	21.3	7.05	6.74
8.0	12.0	9.40	8.98
10.0	7.7	11.75	11.23
12.0	5.3	14.10	13.48
14.0	3.9	16.45	15.72
16.0	3.0	18.80	17.97



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**Test Distance** 9.5 m  
**Test Temperature** 24.6 °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

**LLIA000773-002B-R01\***

Integrating Sphere Report

Catalog Number: MLS3-D-MO-K40-4-XX-LOH-XXXX-120

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144 white LEDs, four lower PrevaLED Bar boards with 36 LEDs each.

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### Performance Summary

Voltage	120.0 Vac
Current	0.1475 A
Power	17.58 W
Frequency	60.00 Hz
Power Factor	0.994
Current THD	5.2 %

Total Luminous Flux	1912.9 lm
Efficacy	108.8 lm/W
Chromaticity (x,y)	(0.3815, 0.3794)
(u',v')	(0.2248, 0.5029)
Duv	0.0009
CCT	3990 K
CRI (Ra)	83
R9	15

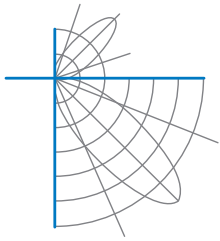
Prepared For:

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

\*This test report supersedes test report LLIA000773-002B

Test date: 05/02/2017

Report date: 12/15/2017



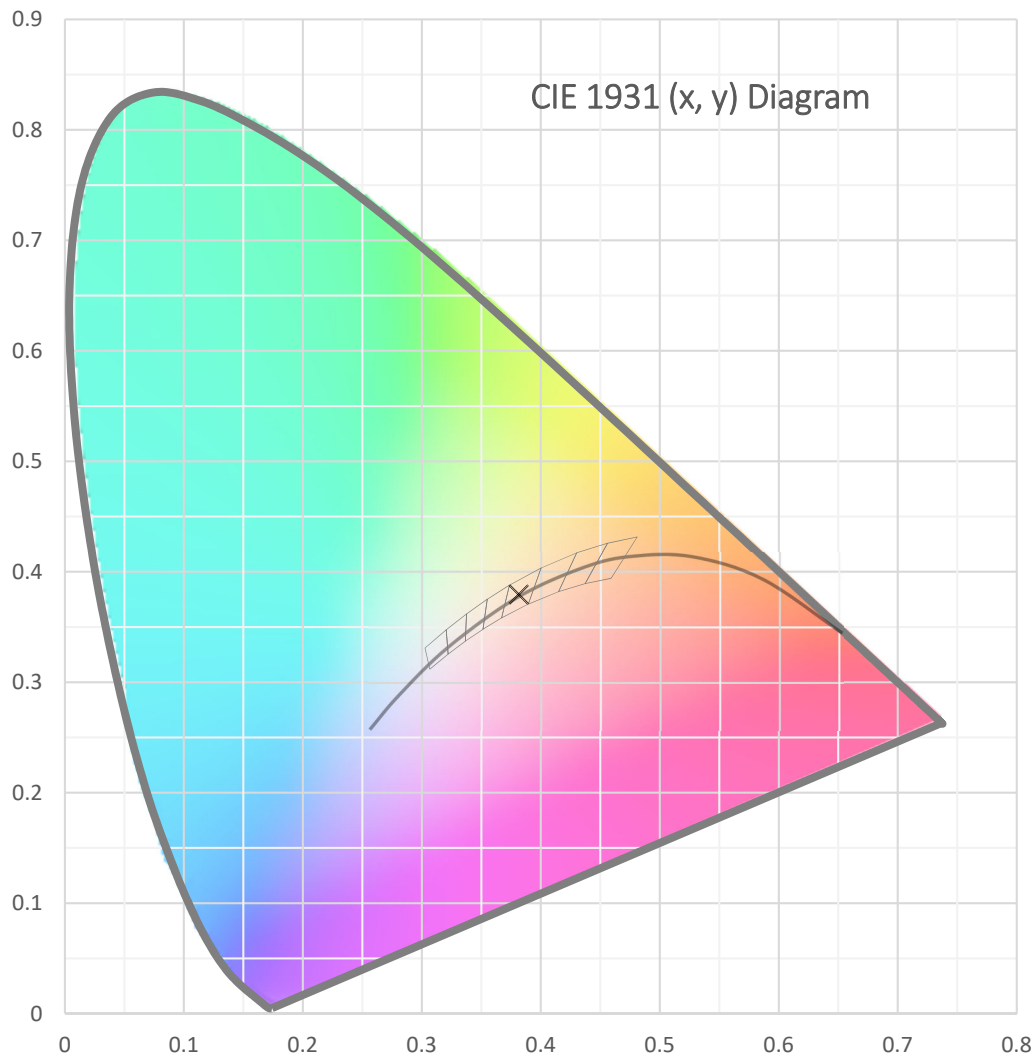
**Test Report Number: LLIA000773-002B-R01**

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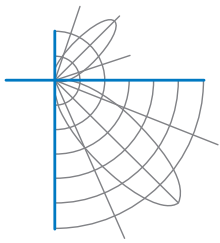
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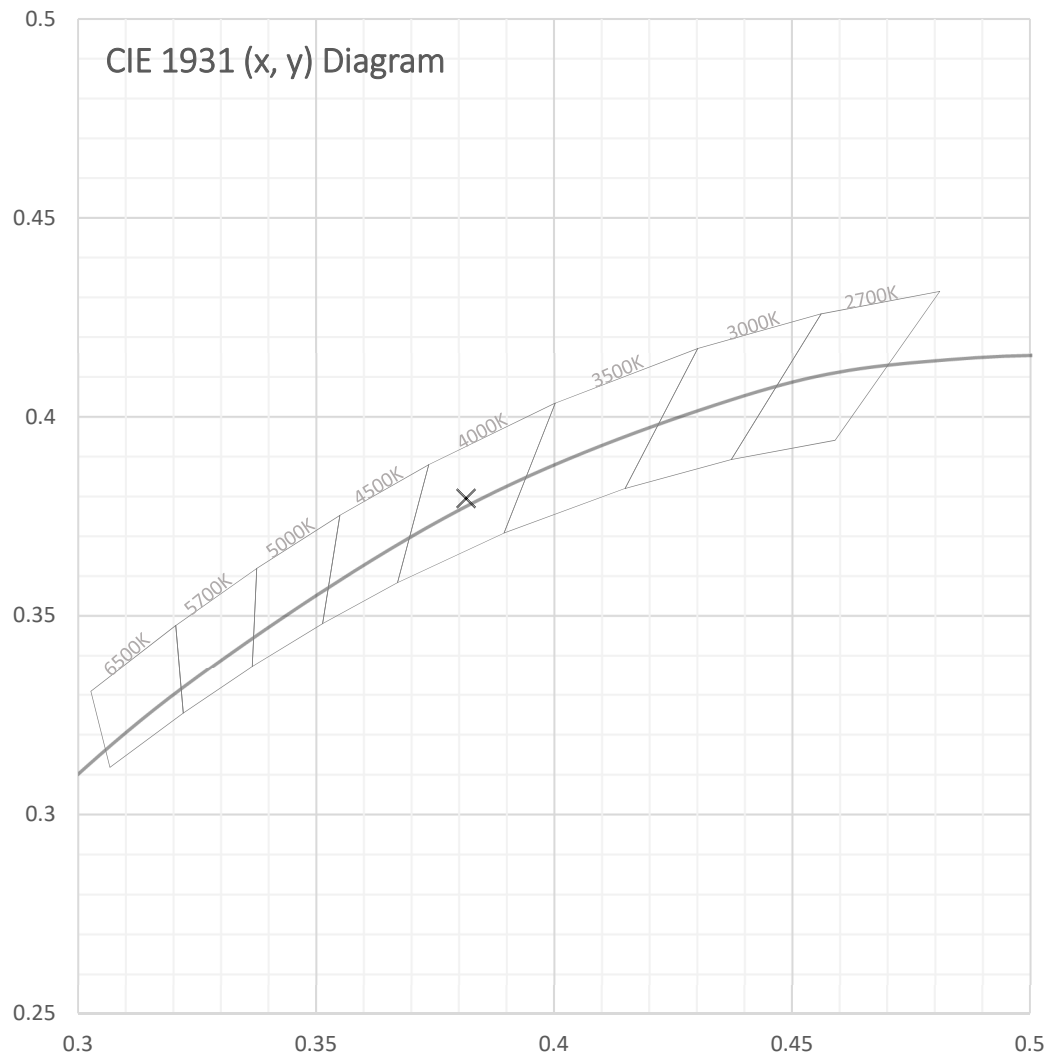
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**Spectral Data**

Total Radiant Flux	5.916 W
Total Luminous Flux	1912.9 Lm
Chromaticity CIE 1931 (x, y)	(0.3815, 0.3794)
Chromaticity CIE 1976 (u', v')	(0.2248, 0.5029)
Correlated Color Temperature (CCT)	3990 K
Color Rendering Index (Ra)	83
R1	82
R2	89
R3	93
R4	82
R5	81
R6	84
R7	88
R8	67
R9	15
R10	72
R11	80
R12	59
R13	83
R14	96
Distance from Planckian Locus (Duv)	0.0009
Scotopic/Photopic Ratio *	1.670

**Electrical Data**

Voltage	120.0 Vac
Current	0.1475 A
Power	17.58 W
Frequency	60.00 Hz
Power Factor	0.994
Current THD	5.2 %



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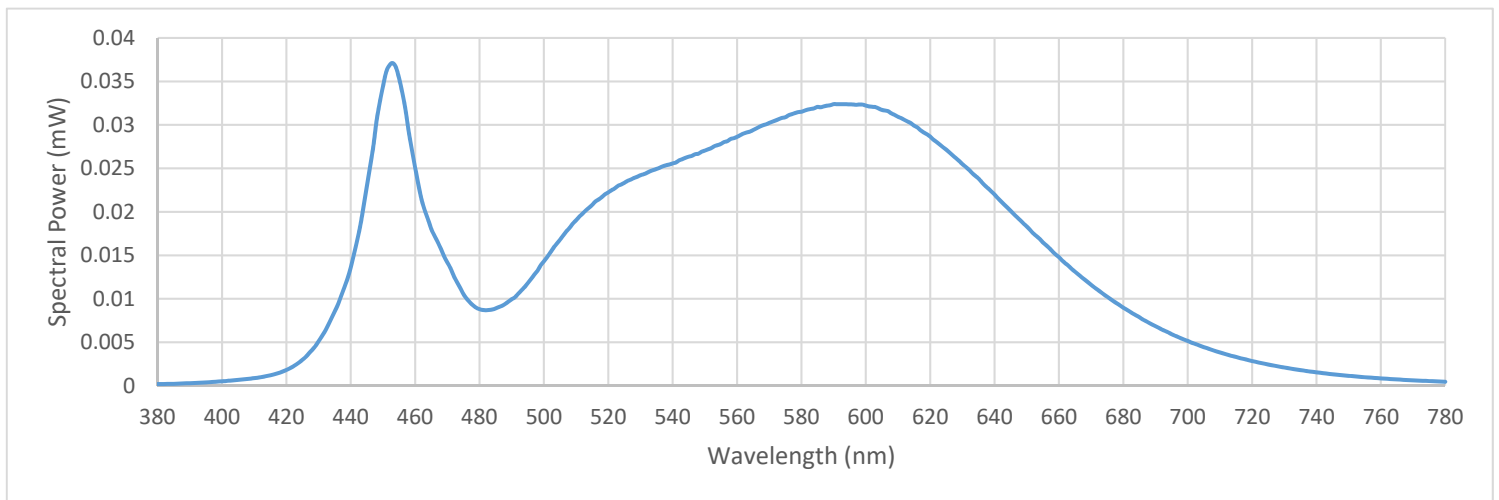
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**Summary Spectral Power Distribution (wavelength - nm, spectral power - mW)**

380	0.000201	480	0.008808	580	0.031511	680	0.008974
385	0.000227	485	0.008895	585	0.032073	685	0.007886
390	0.000295	490	0.009954	590	0.032383	690	0.006849
395	0.000385	495	0.011810	595	0.032358	695	0.005935
400	0.000515	500	0.014311	600	0.032217	700	0.005157
405	0.000677	505	0.016799	605	0.031723	705	0.004443
410	0.000886	510	0.019034	610	0.030929	710	0.003839
415	0.001208	515	0.020795	615	0.029914	715	0.003315
420	0.001816	520	0.022238	620	0.028648	720	0.002842
425	0.002992	525	0.023343	625	0.027144	725	0.002448
430	0.005112	530	0.024215	630	0.025489	730	0.002105
435	0.008542	535	0.024932	635	0.023836	735	0.001807
440	0.013625	540	0.025571	640	0.021992	740	0.001544
445	0.022955	545	0.026347	645	0.020115	745	0.001331
450	0.034413	550	0.027045	650	0.018321	750	0.001144
455	0.035362	555	0.027809	655	0.016493	755	0.000982
460	0.025088	560	0.028628	660	0.014791	760	0.000853
465	0.018030	565	0.029403	665	0.013122	765	0.000734
470	0.014187	570	0.030218	670	0.011609	770	0.000628
475	0.010546	575	0.030877	675	0.010234	775	0.000542
						780	0.000468





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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 $\pi$ geometry
Test Temperature:	24.5 °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.