



Report of Test

LLIA000773-001A

Catalog Number: MLS3-D-HO-K40-4-X-LOH-X-XXX-X
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, 0.2423A, 29.00W, 0.997PF, 6.1%THD(i)



Performance Summary

Total Light Output	2904 lm
Luminaire Power	29.0 W
Luminous Efficacy	100.1 lm/W

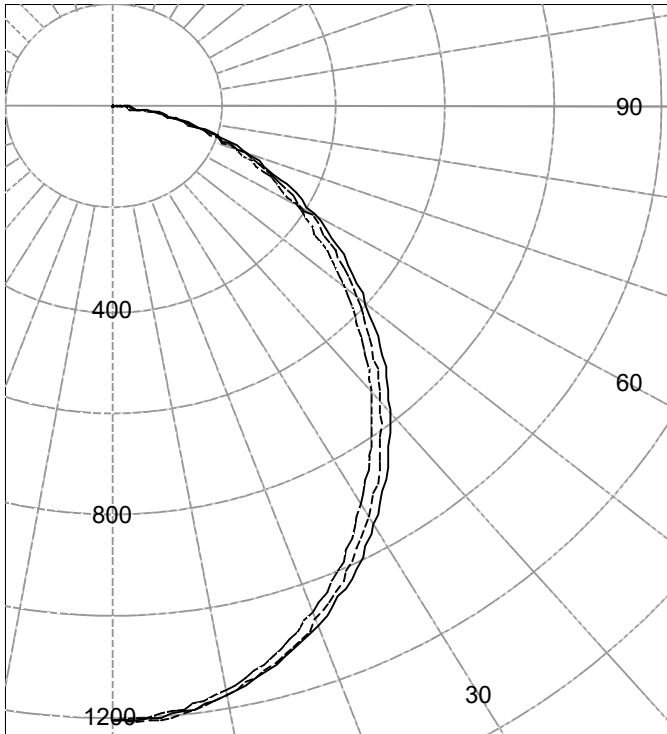
PREPARED FOR : Precision Architectural Lighting, 4830 Timber Creek Drive, Houston, TX 77017



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



(Two plane symmetry) C0-C90

AVERAGE LUMINANCE (cd / m²)

Gamma	C0	C45	C90
45.0	11198	10793	10310
55.0	10174	9763	9230
65.0	9081	8632	8148
75.0	7687	7321	6911
85.0	6248	5785	5291

INTENSITY SUMMARY (cd)

Gamma	C-Plane					Flux (lm)
	C0	C22.5	C45	C67.5	C90	
0.0	1205	1205	1205	1205	1205	
5.0	1197	1192	1201	1198	1192	113
10.0	1173	1168	1175	1170	1163	
15.0	1135	1129	1132	1124	1117	317
20.0	1084	1076	1075	1063	1056	
25.0	1024	1013	1005	991	982	461
30.0	948	936	927	909	901	
35.0	867	854	843	822	814	525
40.0	781	768	754	733	725	
45.0	690	679	665	643	635	511
50.0	599	591	576	555	547	
55.0	509	503	488	468	461	435
60.0	421	417	402	384	379	
65.0	335	333	318	305	300	315
70.0	251	250	239	229	225	
75.0	173	173	165	159	156	176
80.0	105	104	100	96	94	
85.0	47	46	44	41	40	50
90.0	0	0	0	0	0	

ZONAL FLUX AND PERCENTAGES

Zone	Flux (lm)	% Lamp	% Luminaire
0-30	892	N / A	30.7
0-40	1417	N / A	48.8
0-60	2363	N / A	81.4
0-90	2904	N / A	100.0
40-90	1487	N / A	51.2
60-90	541	N / A	18.6
90-180	0	N / A	0.0
0-180	2904	N / A	100.0

Total Light Output = 2,904 lm

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

Signed:

Michael L. Grather
Authorized Signatory

Date of test 3-May-2017
Date of report 5-May-2017



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Intensity data (cd)

Gamma	C-Plane				
	C0	C22.5	C45	C67.5	C90
0.0	1205	1205	1205	1205	1205
2.5	1203	1198	1208	1205	1199
5.0	1197	1192	1201	1198	1192
7.5	1187	1182	1190	1186	1180
10.0	1173	1168	1175	1170	1163
12.5	1156	1150	1155	1149	1142
15.0	1135	1129	1132	1124	1117
17.5	1111	1104	1105	1095	1088
20.0	1084	1076	1075	1063	1056
22.5	1054	1045	1041	1028	1020
25.0	1024	1013	1005	991	982
27.5	985	976	967	951	943
30.0	948	936	927	909	901
32.5	908	896	888	866	858
35.0	867	854	843	822	814
37.5	825	812	799	778	769
40.0	781	768	754	733	725
42.5	736	724	710	688	680
45.0	690	679	665	643	635
47.5	644	635	621	598	591
50.0	599	591	576	555	547
52.5	554	547	532	512	504
55.0	509	503	488	468	461
57.5	465	460	445	426	420
60.0	421	417	402	384	379
62.5	377	375	359	344	339
65.0	335	333	318	305	300
67.5	292	291	278	266	262
70.0	251	250	239	229	225
72.5	211	211	201	193	190
75.0	173	173	165	159	156
77.5	138	137	131	126	124
80.0	105	104	100	96	94
82.5	75	74	71	68	66
85.0	47	46	44	41	40
87.5	23	22	19	18	17
90.0	0	0	0	0	0



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Coefficients Of Utilization - Zonal Cavity Method

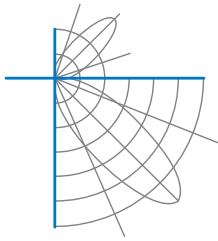
Effective Floor Cavity Reflectance 0.20

RC	80				70				50			30			10			0
	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	109	105	100	97	106	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	76	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	54	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	48	43	54	48	43	53	47	42	40
7	66	53	45	39	65	52	44	39	51	44	38	49	43	38	48	42	38	36
8	62	49	40	35	60	48	40	35	47	40	34	45	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	54	41	34	29	53	41	34	28	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.

Circle of Light Plot

Height(ft)	Illuminance at Nadir (fc)	Beam Width (across 50% Nadir Illum)	
		0-180	90-270
6.0	33.5	7.06	6.76
8.0	18.8	9.41	9.01
10.0	12.1	11.76	11.26
12.0	8.4	14.11	13.52
14.0	6.1	16.46	15.77
16.0	4.7	18.82	18.02



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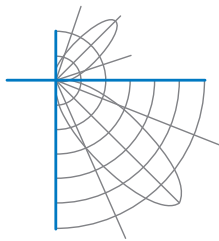
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Test Distance 9.5 m
Test Temperature 24.7 °C

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

LLIA000773-001B

Integrating Sphere Report

Catalog Number: MLS3-D-HO-K40-4-X-LOH-X-XXX-X

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Performance Summary

Voltage	120.0 Vac
Current	0.2422 A
Power	28.98 W
Frequency	60.00 Hz
Power Factor	0.997
Current THD	6.1 %

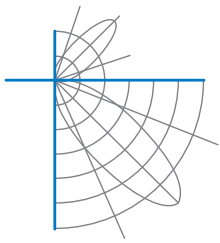
Total Luminous Flux	3013.6 lm
Efficacy	104.0 lm/W
Chromaticity (x,y)	(0.3808, 0.3786)
(u',v')	(0.2247, 0.5024)
Duv	0.0007
CCT	4002 K
CRI (Ra)	83
R9	14

Prepared For:

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

Test date: 05/02/2017

Report date: 05/05/2017



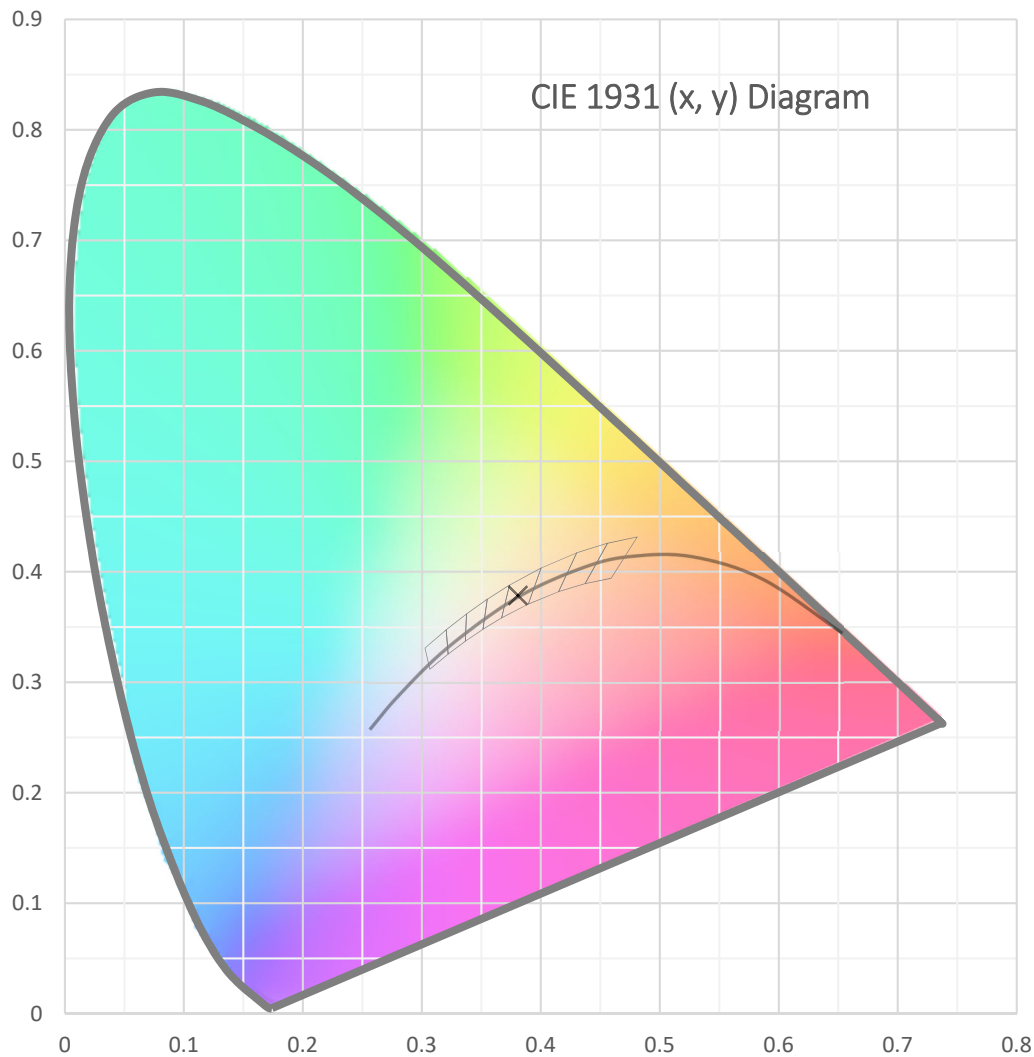
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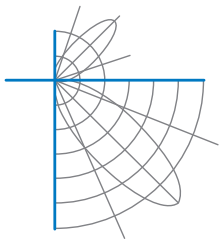
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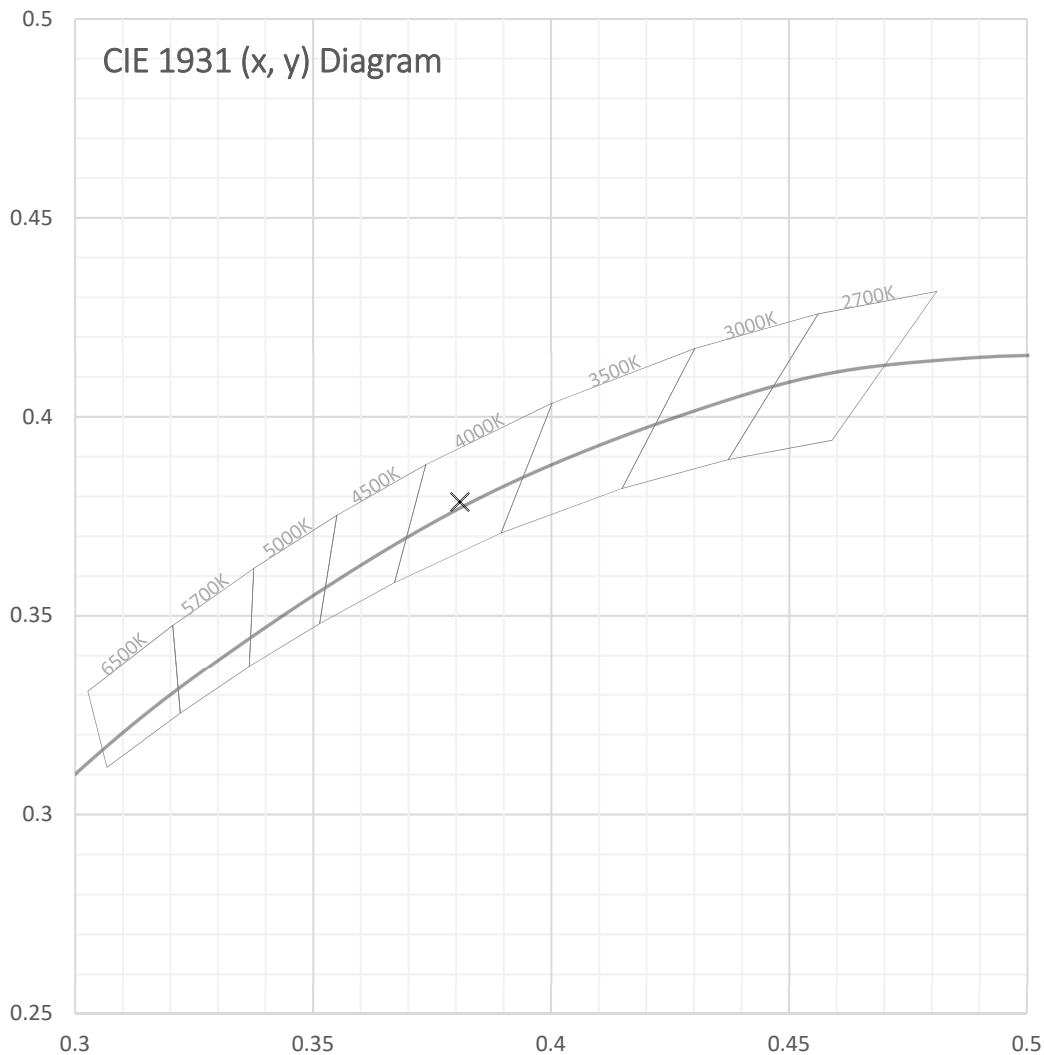
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Spectral Data

Total Radiant Flux	9.338 W
Total Luminous Flux	3013.6 Lm
Chromaticity CIE 1931 (x, y)	(0.3808, 0.3786)
Chromaticity CIE 1976 (u', v')	(0.2247, 0.5024)
Correlated Color Temperature (CCT)	4002 K
Color Rendering Index (Ra)	83
R1	82
R2	88
R3	93
R4	82
R5	81
R6	83
R7	87
R8	67
R9	14
R10	72
R11	80
R12	59
R13	83
R14	96
Distance from Planckian Locus (Duv)	0.0007
Scotopic/Photopic Ratio *	1.671

Electrical Data

Voltage	120.0 Vac
Current	0.2422 A
Power	28.98 W
Frequency	60.00 Hz
Power Factor	0.997
Current THD	6.1 %



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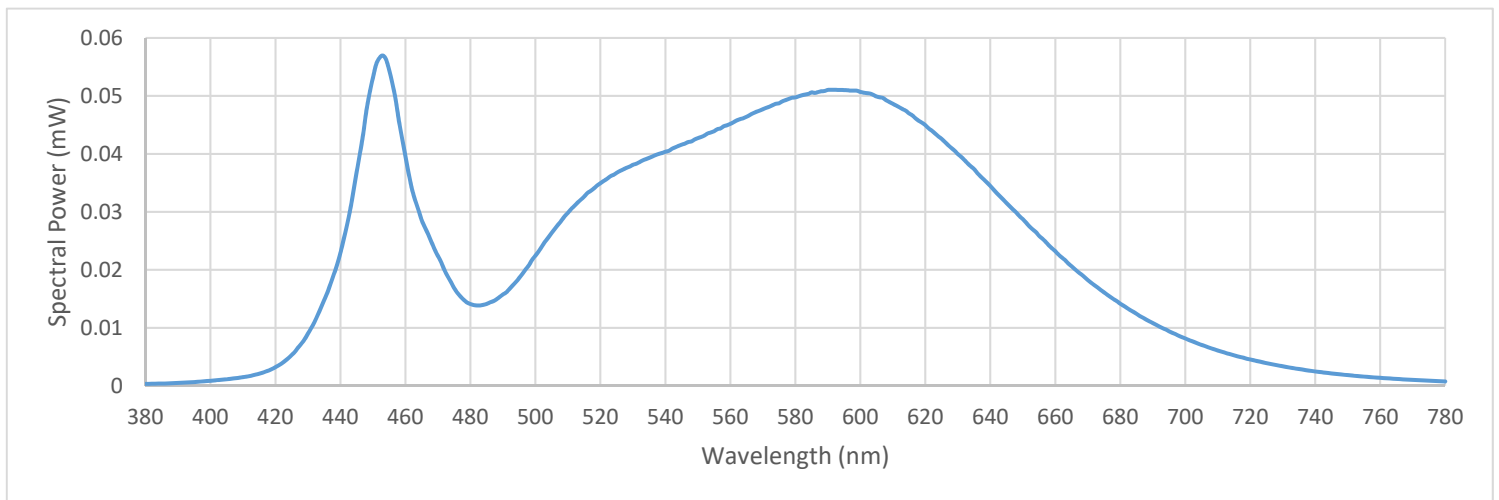
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Summary Spectral Power Distribution (wavelength - nm, spectral power - mW)

380	0.000339	480	0.014091	580	0.049740	680	0.014150
385	0.000378	485	0.014122	585	0.050606	685	0.012420
390	0.000492	490	0.015740	590	0.051040	690	0.010821
395	0.000646	495	0.018589	595	0.050998	695	0.009395
400	0.000862	500	0.022446	600	0.050690	700	0.008169
405	0.001115	505	0.026342	605	0.049886	705	0.007050
410	0.001494	510	0.029840	610	0.048628	710	0.006084
415	0.002076	515	0.032626	615	0.046980	715	0.005267
420	0.003206	520	0.034935	620	0.044957	720	0.004535
425	0.005306	525	0.036727	625	0.042594	725	0.003903
430	0.008993	530	0.038111	630	0.039970	730	0.003367
435	0.014772	535	0.039314	635	0.037383	735	0.002889
440	0.022916	540	0.040362	640	0.034472	740	0.002469
445	0.036857	545	0.041592	645	0.031524	745	0.002133
450	0.053125	550	0.042720	650	0.028738	750	0.001837
455	0.054453	555	0.043916	655	0.025870	755	0.001585
460	0.039592	560	0.045182	660	0.023213	760	0.001367
465	0.028574	565	0.046403	665	0.020617	765	0.001176
470	0.022395	570	0.047701	670	0.018244	770	0.001015
475	0.016852	575	0.048735	675	0.016119	775	0.000875
						780	0.000757





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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:	25.0 °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.