

Report of Test

LLIA001084-005A-R01*

*This test report supersedes test report LLIA001084-005A

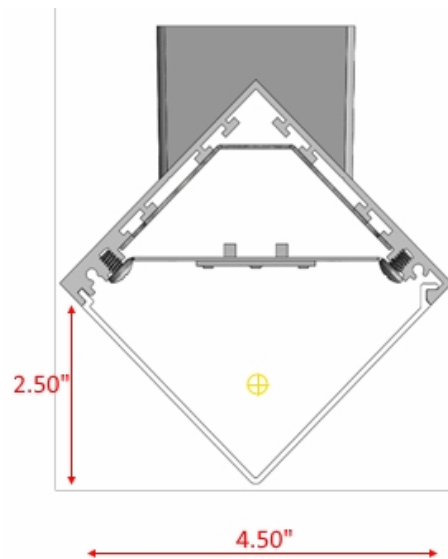
Catalog Number: AS350-MO-K40-80-4-DJ-LOH-FXXX-UNV-XXX

Surface ceiling mounted, extruded aluminum housing, formed white enamel aluminum LED tray, frosted plastic enclosure.

144 white LEDs, One Osram PrevaLED BAR with 144 LEDs

One Osram Optotronic OTi30/120-277/1A0 DIM-1 L LED driver.

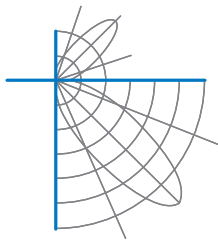
120.0Vac, 60.00Hz, 0.1419A, 16.91W, 0.993PF, 5.5%THD(i)



Performance Summary

Total Light Output	2086 lm
Luminaire Power	16.9 W
Luminous Efficacy	123.4 lm/W

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



Test Report No. LLIA001084-005A-R01

Catalog Number: AS350-MO-K40-80-4-DJ-LOH-FXXX-UNV-XXX

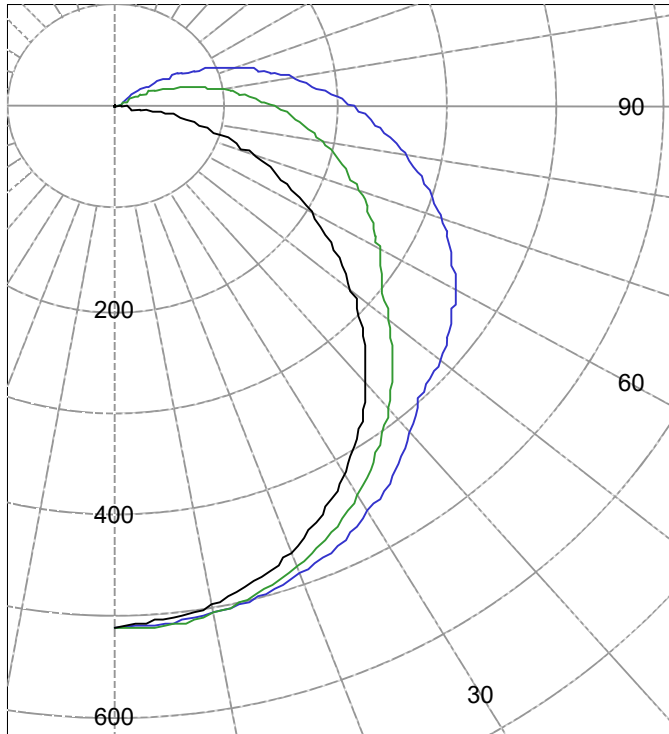
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120.0Vac, 60.00Hz, 0.1419A, 16.91W, 0.993PF, 5.5%THD(i)

Legend: C0-Black, C45-Green, C90-Blue (cd)



(Two plane symmetry) C0-C90

INTENSITY SUMMARY (cd)

Gamma	C-Plane					Flux (lm)
	C0	C22.5	C45	C67.5	C90	
0.0	512	512	512	512	512	
5.0	506	508	512	511	509	48
10.0	497	500	506	507	506	
15.0	484	487	495	499	499	139
20.0	465	470	481	487	489	
25.0	443	448	462	472	476	212
30.0	416	423	440	454	460	
35.0	386	394	414	432	440	259
40.0	354	362	386	407	417	
45.0	318	328	356	380	395	275
50.0	281	293	324	363	385	
55.0	243	257	294	350	372	271
60.0	204	222	276	333	355	
65.0	166	186	256	314	336	249
70.0	129	154	235	293	314	
75.0	93	132	213	271	291	213
80.0	59	111	191	247	267	
85.0	28	90	168	222	241	168
90.0	0	71	145	198	216	

AVERAGE LUMINANCE (cd / m²)

Gamma	C0	C45	C90
45.0	3239	2591	2573
55.0	3043	2352	2591
65.0	2827	2354	2595
75.0	2574	2386	2613
85.0	2292	2504	2688

ZONAL FLUX AND PERCENTAGES

Zone	Flux (lm)	% Lamp	% Luminaire
0-30	400	N / A	19.2
0-40	659	N / A	31.6
0-60	1205	N / A	57.7
0-90	1835	N / A	88.0
40-90	1176	N / A	56.4
60-90	631	N / A	30.2
90-180	251	N / A	12.0
0-180	2086	N / A	100.0

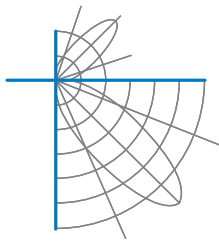
Total Light Output = 2,086 lm

Spacing Criterion: 0-180 1.2
Spacing Criterion: 90-270 1.3

Signed:

Authorized Signatory

Date of test 27-Feb-2019
Date of report 16-Mar-2022



Test Report No. LLIA001084-005A-R01

Catalog Number: AS350-MO-K40-80-4-DJ-LOH-FXXX-UNV-XXX

Surface ceiling mounted, extruded aluminum housing, formed white enamel aluminum LED tray, frosted plastic enclosure.

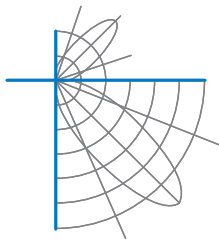
144 white LEDs, One Osram PrevaLED BAR with 144 LEDs

One Osram Optotronic OTi30/120-277/1A0 DIM-1 L LED driver.

120.0Vac, 60.00Hz, 0.1419A, 16.91W, 0.993PF, 5.5%THD(i)

Intensity data (cd)

Gamma	C-Plane				
	C0	C22.5	C45	C67.5	C90
0.0	512	512	512	512	512
2.5	508	510	513	513	510
5.0	506	508	512	511	509
7.5	502	505	509	510	508
10.0	497	500	506	507	506
12.5	491	494	501	503	503
15.0	484	487	495	499	499
17.5	475	479	489	494	494
20.0	465	470	481	487	489
22.5	454	460	472	480	483
25.0	443	448	462	472	476
27.5	430	436	452	464	468
30.0	416	423	440	454	460
32.5	402	409	427	443	450
35.0	386	394	414	432	440
37.5	370	379	401	420	429
40.0	354	362	386	407	417
42.5	336	345	371	394	405
45.0	318	328	356	380	395
47.5	300	311	340	369	390
50.0	281	293	324	363	385
52.5	262	275	307	357	379
55.0	243	257	294	350	372
57.5	224	240	285	341	364
60.0	204	222	276	333	355
62.5	185	204	266	323	346
65.0	166	186	256	314	336
67.5	147	168	246	303	325
70.0	129	154	235	293	314
72.5	110	144	224	282	303
75.0	93	132	213	271	291
77.5	75	122	202	259	279
80.0	59	111	191	247	267
82.5	43	101	179	235	254
85.0	28	90	168	222	241
87.5	13	80	157	210	229
90.0	0	71	145	198	216



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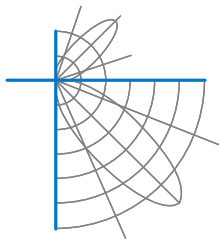
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One Osram Optotronic OTi30/120-277/1A0 DIM-1 L LED driver.

120.0Vac, 60.00Hz, 0.1419A, 16.91W, 0.993PF, 5.5%THD(i)

Intensity data (cd)

Gamma	C-Plane				
	C0	C22.5	C45	C67.5	C90
90.0	0	71	145	198	216
92.5	0	61	134	185	203
95.0	0	52	122	173	190
97.5	0	43	111	160	178
100.0	0	35	100	148	165
102.5	0	26	89	136	152
105.0	0	18	78	123	139
107.5	0	10	68	111	126
110.0	0	3	57	99	114
112.5	0	0	47	87	101
115.0	0	0	38	75	89
117.5	0	0	28	64	77
120.0	0	0	19	53	65
122.5	0	0	10	42	53
125.0	0	0	2	31	42
127.5	0	0	0	21	31
130.0	0	0	0	11	21
132.5	0	0	0	2	11
135.0	0	0	0	0	2
137.5	0	0	0	0	0
140.0	0	0	0	0	0
142.5	0	0	0	0	0
145.0	0	0	0	0	0
147.5	0	0	0	0	0
150.0	0	0	0	0	0
152.5	0	0	0	0	0
155.0	0	0	0	0	0
157.5	0	0	0	0	0
160.0	0	0	0	0	0
162.5	0	0	0	0	0
165.0	0	0	0	0	0
167.5	0	0	0	0	0
170.0	0	0	0	0	0
172.5	0	0	0	0	0
175.0	0	0	0	0	0
177.5	0	0	0	0	0
180.0	0	0	0	0	0



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120.0Vac, 60.00Hz, 0.1419A, 16.91W, 0.993PF, 5.5%THD(i)

Coefficients Of Utilization - Zonal Cavity Method

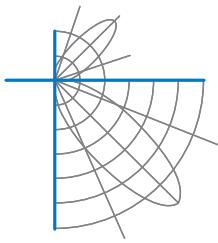
Effective Floor Cavity Reflectance 0.20

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	116	116	116	116	112	112	112	112	104	104	104	97	97	97	91	91	91	88
1	103	97	91	86	99	93	88	84	87	82	79	80	77	74	75	72	70	67
2	92	83	75	68	88	80	72	66	74	68	63	69	64	59	64	60	56	53
3	84	72	63	55	80	69	61	54	64	57	51	60	54	49	56	51	47	44
4	76	63	53	46	73	61	52	45	57	49	43	53	46	41	49	44	39	37
5	70	56	46	39	67	54	45	38	51	43	37	47	41	35	44	38	34	31
6	64	50	41	34	61	49	40	33	46	38	32	43	36	31	40	34	30	27
7	59	45	36	30	57	44	35	29	41	34	28	39	32	27	36	31	26	24
8	55	41	32	26	53	40	32	26	38	30	25	35	29	24	33	28	23	21
9	52	38	29	24	50	37	29	23	35	27	22	33	26	22	31	25	21	19
10	48	35	27	21	46	34	26	21	32	25	20	30	24	20	29	23	19	17

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	14.2	7.27	8.02
8.0	8.0	9.70	10.70
10.0	5.1	12.12	13.37
12.0	3.6	14.55	16.04
14.0	2.6	16.97	18.72
16.0	2.0	19.40	21.39



Test Report No. LLIA001084-005A-R01

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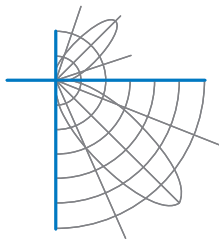
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120.0Vac, 60.00Hz, 0.1419A, 16.91W, 0.993PF, 5.5%THD(i)





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120.0Vac, 60.00Hz, 0.1419A, 16.91W, 0.993PF, 5.5%THD(i)

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.

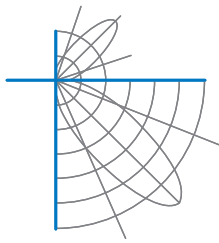
This report is free of erasures and corrections.

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.

Revision History: R01 - 03/16/2022 - Revised to keep in series with 005B and 005C



Report of Test

LLIA001084-005B-R01*

Integrating Sphere Report

Catalog Number: AS350-MO-K40-80-4-DJ-LOH-FXXX-UNV-XXX
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Performance Summary

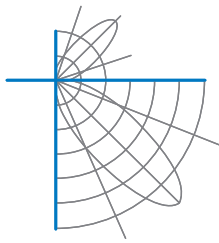
Voltage	120.0 Vac
Current	0.1419 A
Power	16.92 W
Frequency	59.97 Hz
Power Factor	0.993
Current THD	5.5 %

Total Luminous Flux	2136.2 lm
Efficacy	126.3 lm/W
Chromaticity (x,y)	(0.3795, 0.3749)
(u',v')	(0.2252, 0.5006)
Duv	-0.0006
CCT	4012 K
CRI (Ra)	85
R9	19
TM-30: Rf	82
TM-30: Rg	94

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

*This test report supersedes test report LLIA001084-005B

Test date: 02/27/2019
Report date: 03/16/2022



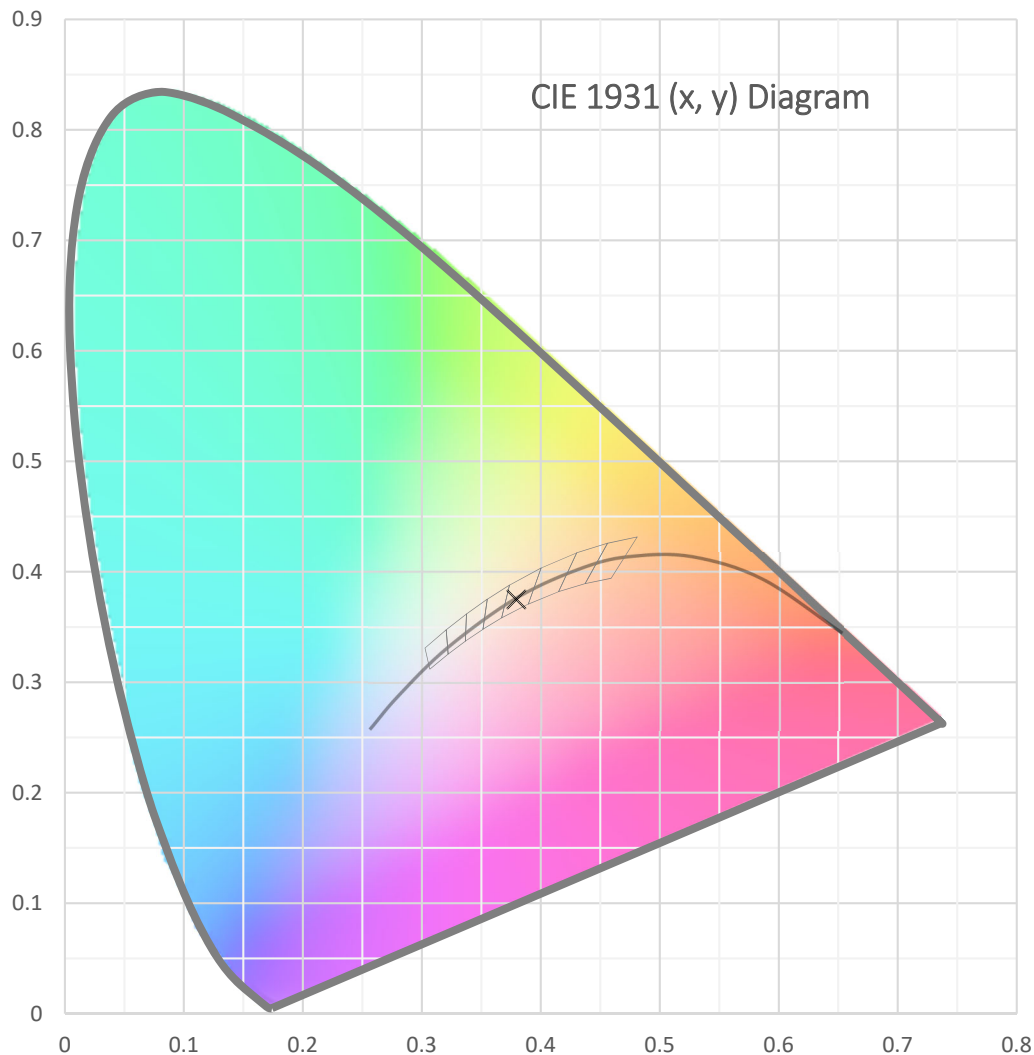
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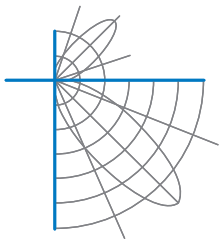
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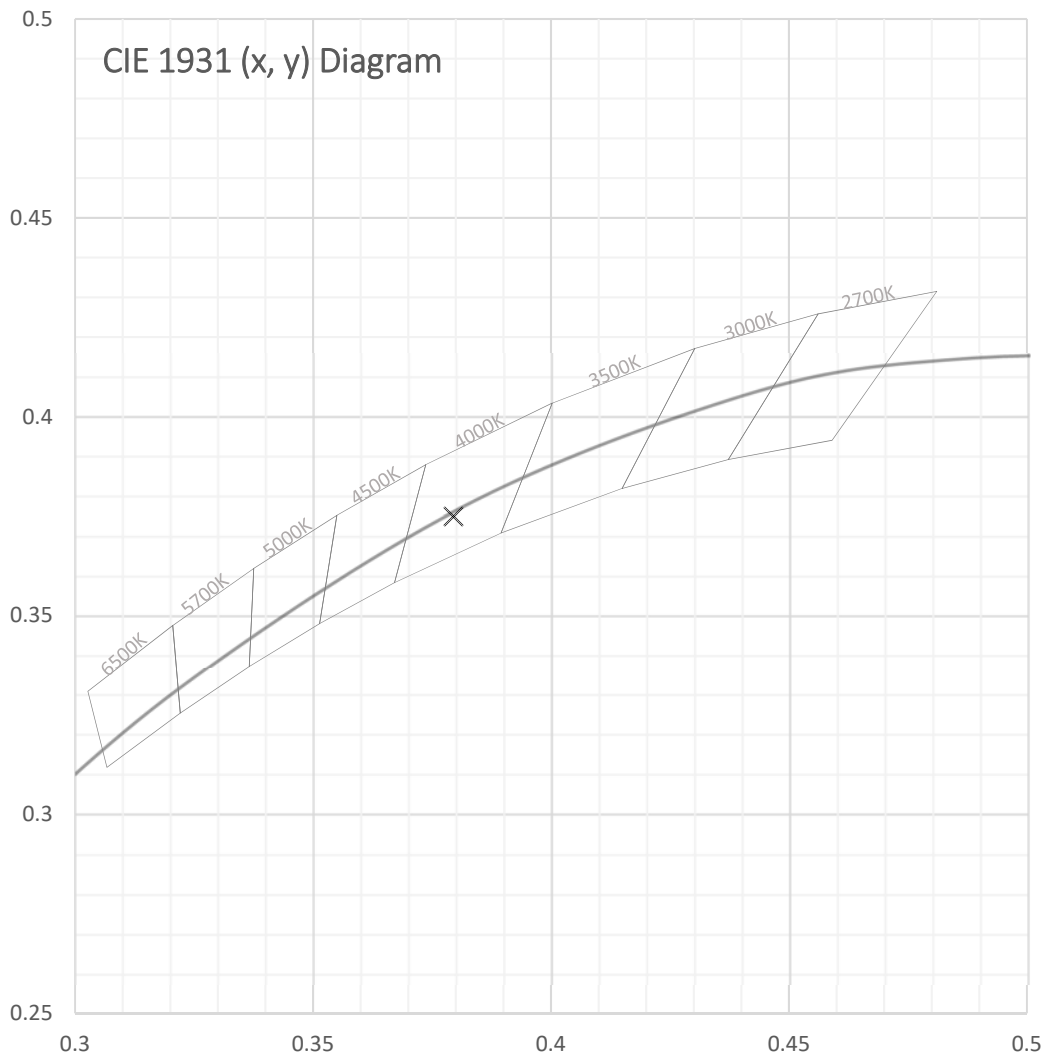
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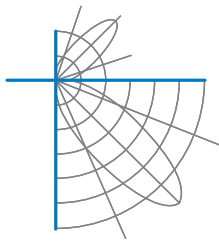




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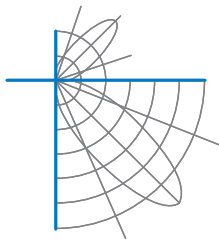
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Spectral Data

Total Radiant Flux	6.694 W
Total Luminous Flux	2136.2 Lm
Chromaticity CIE 1931 (x, y)	(0.3795, 0.3749)
Chromaticity CIE 1976 (u', v')	(0.2252, 0.5006)
Correlated Color Temperature (CCT)	4012 K
Color Rendering Index (Ra)	85
R1	84
R2	92
R3	96
R4	82
R5	83
R6	87
R7	87
R8	68
R9	19
R10	79
R11	80
R12	62
R13	86
R14	98
TM-30: Rf	82
TM-30: Rg	94
Distance from Planckian Locus (Duv)	-0.0006
Scotopic/Photopic Ratio *	1.723

Electrical Data

Voltage	120.0 Vac
Current	0.1419 A
Power	16.92 W
Frequency	59.97 Hz
Power Factor	0.993
Current THD	5.5 %

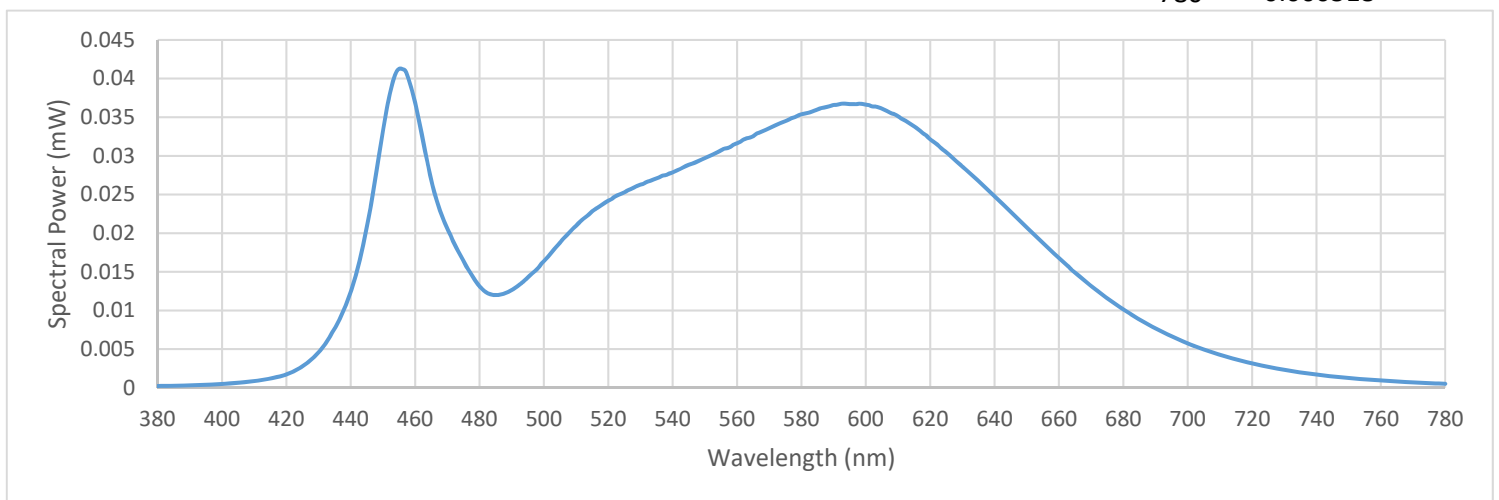


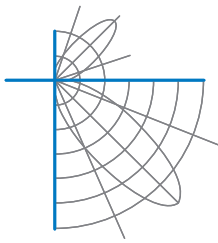
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Summary Spectral Power Distribution (wavelength - nm, spectral power - mW)

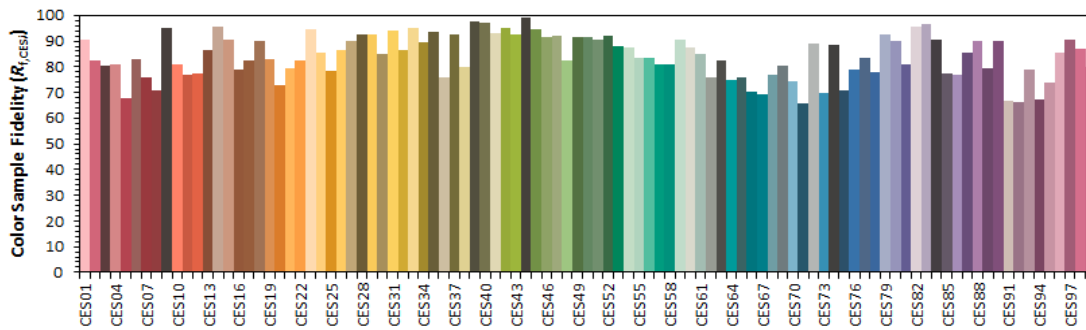
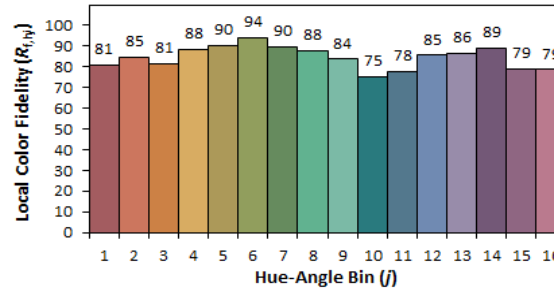
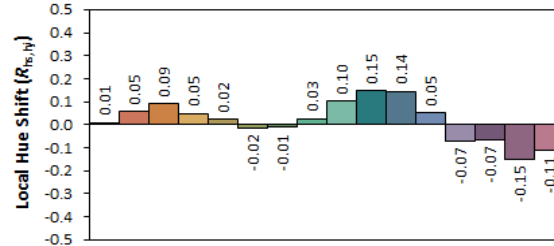
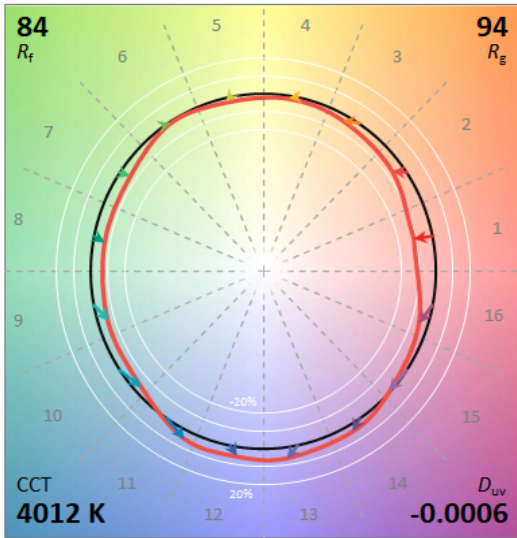
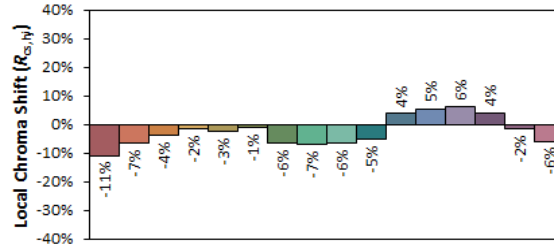
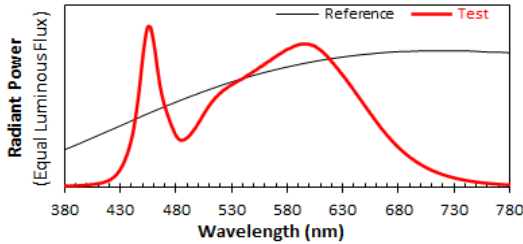
380	0.000231	480	0.013138	580	0.035377	680	0.010131
385	0.000249	485	0.012004	585	0.035998	685	0.008853
390	0.000313	490	0.012642	590	0.036578	690	0.007681
395	0.000380	495	0.014266	595	0.036697	695	0.006653
400	0.000497	500	0.016397	600	0.036630	700	0.005747
405	0.000654	505	0.018768	605	0.036122	705	0.004951
410	0.000863	510	0.020969	610	0.035130	710	0.004254
415	0.001183	515	0.022830	615	0.033801	715	0.003676
420	0.001747	520	0.024207	620	0.032134	720	0.003155
425	0.002770	525	0.025281	625	0.030508	725	0.002709
430	0.004609	530	0.026277	630	0.028614	730	0.002323
435	0.007681	535	0.027076	635	0.026761	735	0.001991
440	0.012409	540	0.027858	640	0.024754	740	0.001703
445	0.020793	545	0.028858	645	0.022759	745	0.001466
450	0.033199	550	0.029704	650	0.020752	750	0.001260
455	0.041260	555	0.030714	655	0.018734	755	0.001087
460	0.036917	560	0.031630	660	0.016809	760	0.000942
465	0.026786	565	0.032543	665	0.014891	765	0.000808
470	0.020566	570	0.033554	670	0.013145	770	0.000694
475	0.016391	575	0.034472	675	0.011593	775	0.000602
						780	0.000518





Test Report Number: LLIA001084-005B-R01

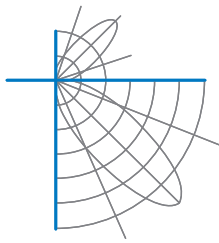
IES TM-30 Details



Notes:

x **0.3795**
y **0.3748**
u' **0.2252**
v' **0.5006**

CIE 13.3-1995
(CRI)
R_a 85
R_g 19



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Catalog Number: AS350-MO-K40-80-4-DJ-LOH-FXXX-UNV-XXX
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144 white LEDs, One Osram PrevaLED BAR with 144 LEDs
One Osram Optotronic OTi30/120-277/1A0 DIM-1 L LED driver.

Test Equipment Configuration: LightLab International Allentown 2m Integrating Sphere
Measurements acquired using a Labsphere CDS 2600 spectroradiometer
Testing was performed using 4π geometry

Test Temperature: 25.6 °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, TM-30-15

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 - 03/16/2022 - Added TM-30 Metrics



Report of Test

LLIA001084-005C-R01*

Electrical Test Report

Catalog Number: AS350-MO-K40-80-4-DJ-LOH-FXXX-UNV-XXX
Surface ceiling mounted, extruded aluminum housing, formed white enamel aluminum LED tray, frosted plastic enclosure.
144 white LEDs, One Osram PrevaLED BAR with 144 LEDs
One Osram Optotronic OTi30/120-277/1A0 DIM-1 L LED driver.



Performance Summary

Voltage	277.0 Vac
Current	0.0760 A
Power	18.87 W
Frequency	60.00 Hz
Power Factor	0.897
Current THD	18.8 %
Ambient Temperature:	24.7 °C

Prepared For:

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

*This test report supersedes test report LLIA001084-005C

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: 02/27/2019

Report date: 03/16/2022

Electrical Report Template V1-2

Revision History: R01 - 03/16/2022 - Revised to keep in series with 005A and 005B