

# Report of Test

## LLIA001084-004A-R01\*

\*This test report supersedes test report LLIA001084-004A

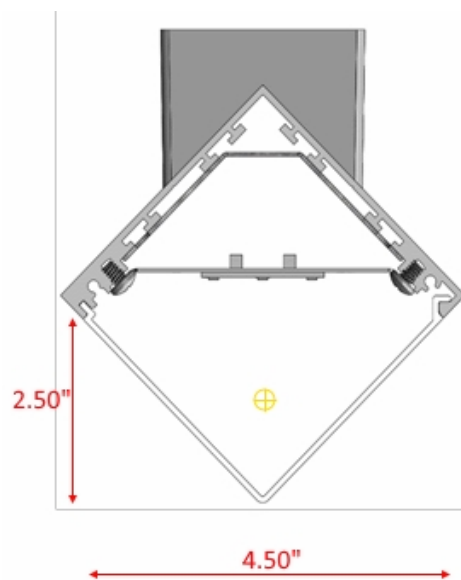
Catalog Number: AS350-HO-K40-80-4-DJ-LOH-FXXX-UNV-XXX

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.

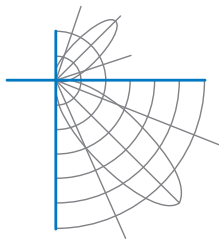
120.0Vac, 60.00Hz, 0.2303A, 27.56W, 0.997PF, 5.7%THD(i)



### Performance Summary

Total Light Output	3390 lm
Luminaire Power	27.6 W
Luminous Efficacy	122.8 lm/W

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



**Test Report No. LLIA001084-004A-R01**

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

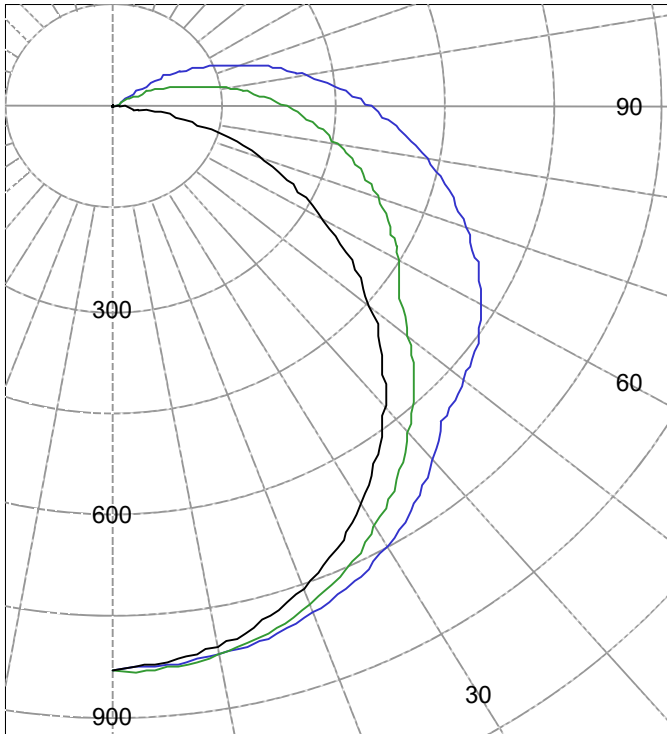
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120.0Vac, 60.00Hz, 0.2303A, 27.56W, 0.997PF, 5.7%THD(i)

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	830	830	830	830	830	
5.0	821	824	830	830	826	79
10.0	807	811	820	822	820	
15.0	785	791	804	809	810	226
20.0	755	763	780	791	794	
25.0	718	728	750	766	773	345
30.0	675	686	714	737	746	
35.0	627	640	672	701	714	420
40.0	574	588	627	661	677	
45.0	517	533	577	617	641	446
50.0	456	476	526	590	626	
55.0	394	418	477	568	604	440
60.0	332	361	448	541	578	
65.0	270	302	416	510	546	405
70.0	209	251	382	476	511	
75.0	150	215	346	440	473	347
80.0	96	181	310	402	434	
85.0	45	147	273	362	393	273
90.0	0	115	236	322	352	

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

Gamma	C0	C45	C90
45.0	5259	4206	4176
55.0	4943	3821	4209
65.0	4593	3827	4218
75.0	4180	3879	4249
85.0	3727	4072	4374

**ZONAL FLUX AND PERCENTAGES**

Zone	Flux (lm)	% Lamp	% Luminaire
0-30	649	N / A	19.1
0-40	1069	N / A	31.5
0-60	1955	N / A	57.7
0-90	2981	N / A	87.9
40-90	1912	N / A	56.4
60-90	1025	N / A	30.2
90-180	409	N / A	12.1
0-180	3390	N / A	100.0

Total Light Output = 3,390 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. LLIA001084-004A-R01**

Catalog Number: AS350-HO-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

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120.0Vac, 60.00Hz, 0.2303A, 27.56W, 0.997PF, 5.7%THD(i)

**Intensity data (cd)**

Gamma	C-Plane				
	C0	C22.5	C45	C67.5	C90
0.0	830	830	830	830	830
2.5	824	827	833	832	828
5.0	821	824	830	830	826
7.5	815	819	826	827	824
10.0	807	811	820	822	820
12.5	797	802	813	816	815
15.0	785	791	804	809	810
17.5	771	778	793	801	802
20.0	755	763	780	791	794
22.5	738	746	766	779	784
25.0	718	728	750	766	773
27.5	698	708	733	752	760
30.0	675	686	714	737	746
32.5	652	664	694	720	731
35.0	627	640	672	701	714
37.5	601	614	650	682	697
40.0	574	588	627	661	677
42.5	546	561	602	640	657
45.0	517	533	577	617	641
47.5	487	505	552	600	634
50.0	456	476	526	590	626
52.5	425	447	499	580	616
55.0	394	418	477	568	604
57.5	363	389	463	555	592
60.0	332	361	448	541	578
62.5	301	332	432	526	562
65.0	270	302	416	510	546
67.5	239	273	399	493	529
70.0	209	251	382	476	511
72.5	179	233	364	459	492
75.0	150	215	346	440	473
77.5	123	198	328	421	454
80.0	96	181	310	402	434
82.5	70	164	292	382	413
85.0	45	147	273	362	393
87.5	21	131	255	342	372
90.0	0	115	236	322	352



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120.0Vac, 60.00Hz, 0.2303A, 27.56W, 0.997PF, 5.7%THD(i)

**Intensity data (cd)**

Gamma	C-Plane				
	C0	C22.5	C45	C67.5	C90
90.0	0	115	236	322	352
92.5	0	99	217	302	331
95.0	0	85	199	281	310
97.5	0	70	181	261	289
100.0	0	56	163	241	268
102.5	0	43	145	221	247
105.0	0	30	128	201	227
107.5	0	17	110	181	206
110.0	0	5	94	161	185
112.5	0	0	77	142	165
115.0	0	0	61	123	145
117.5	0	0	46	104	125
120.0	0	0	31	86	105
122.5	0	0	17	68	87
125.0	0	0	3	51	68
127.5	0	0	0	34	51
130.0	0	0	0	19	34
132.5	0	0	0	3	18
135.0	0	0	0	1	2
137.5	0	0	0	1	0
140.0	0	0	0	1	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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**Coefficients Of Utilization - Zonal Cavity Method**

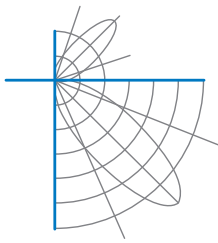
Effective Floor Cavity Reflectance 0.20

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	86	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	83	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	45	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	23.1	7.28	8.02
8.0	13.0	9.70	10.70
10.0	8.3	12.13	13.37
12.0	5.8	14.55	16.04
14.0	4.2	16.98	18.72
16.0	3.2	19.40	21.39



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

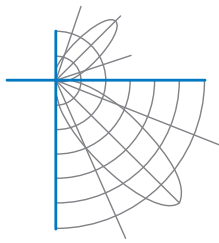
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120.0Vac, 60.00Hz, 0.2303A, 27.56W, 0.997PF, 5.7%THD(i)





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120.0Vac, 60.00Hz, 0.2303A, 27.56W, 0.997PF, 5.7%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.

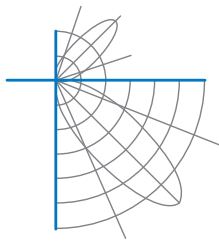
This report is free of erasures and corrections.

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



## Report of Test

**LLIA001084-004B-R01\***

Integrating Sphere Report

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

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### Performance Summary

Voltage	120.0 Vac
Current	0.2306 A
Power	27.60 W
Frequency	59.97 Hz
Power Factor	0.997
Current THD	5.7 %

Total Luminous Flux	3466.8 lm
Efficacy	125.6 lm/W
Chromaticity (x,y)	(0.3792, 0.3746)
(u',v')	(0.2252, 0.5005)
Duv	-0.0006
CCT	4018 K
CRI (Ra)	85
R9	19
TM-30: Rf	82
TM-30: Rg	94

Prepared For:

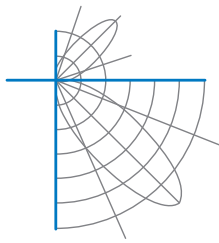
Precision Architectural Lighting  
4830 Timber Creek Drive  
Houston, TX 77017, USA

\*This test report supersedes test report LLIA001084-004B

Test date: 02/26/2019

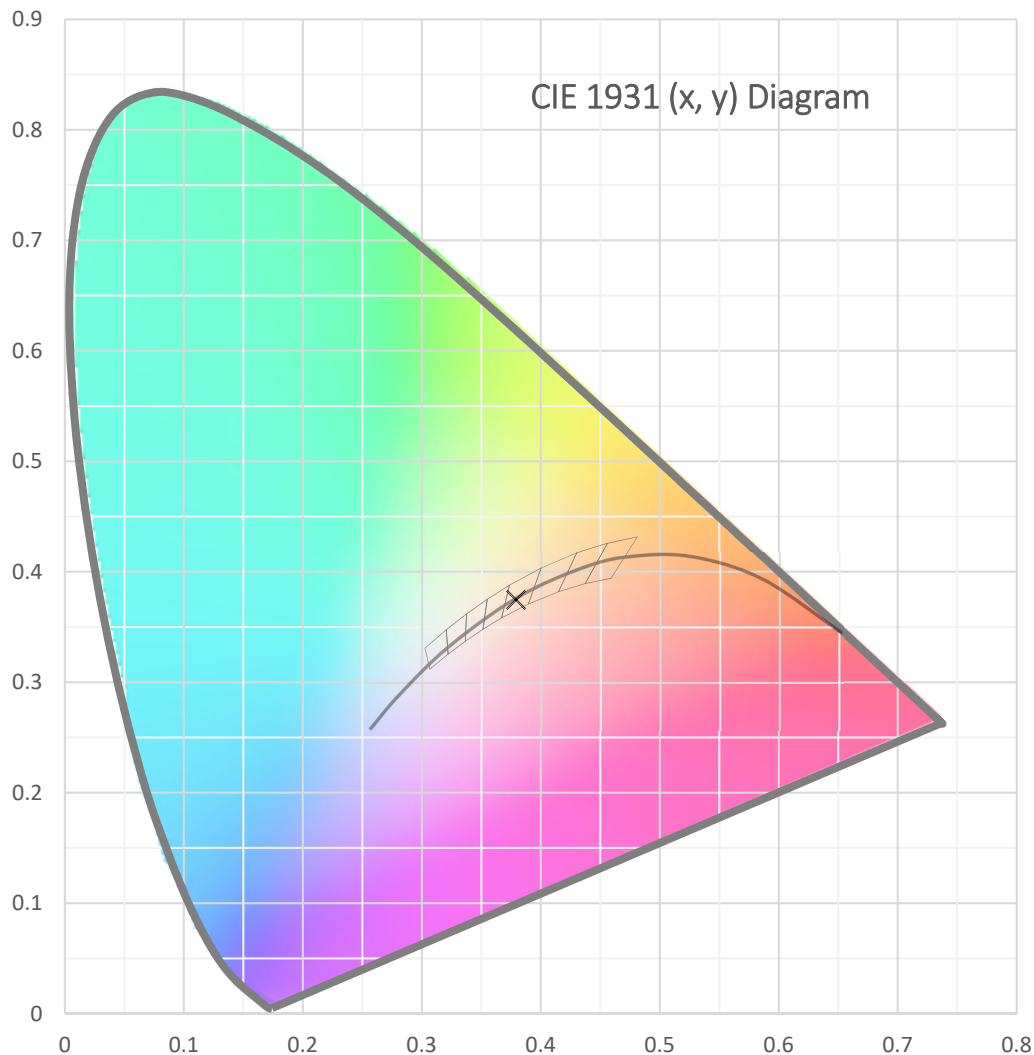
Report date: 03/16/2022

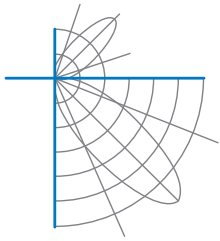




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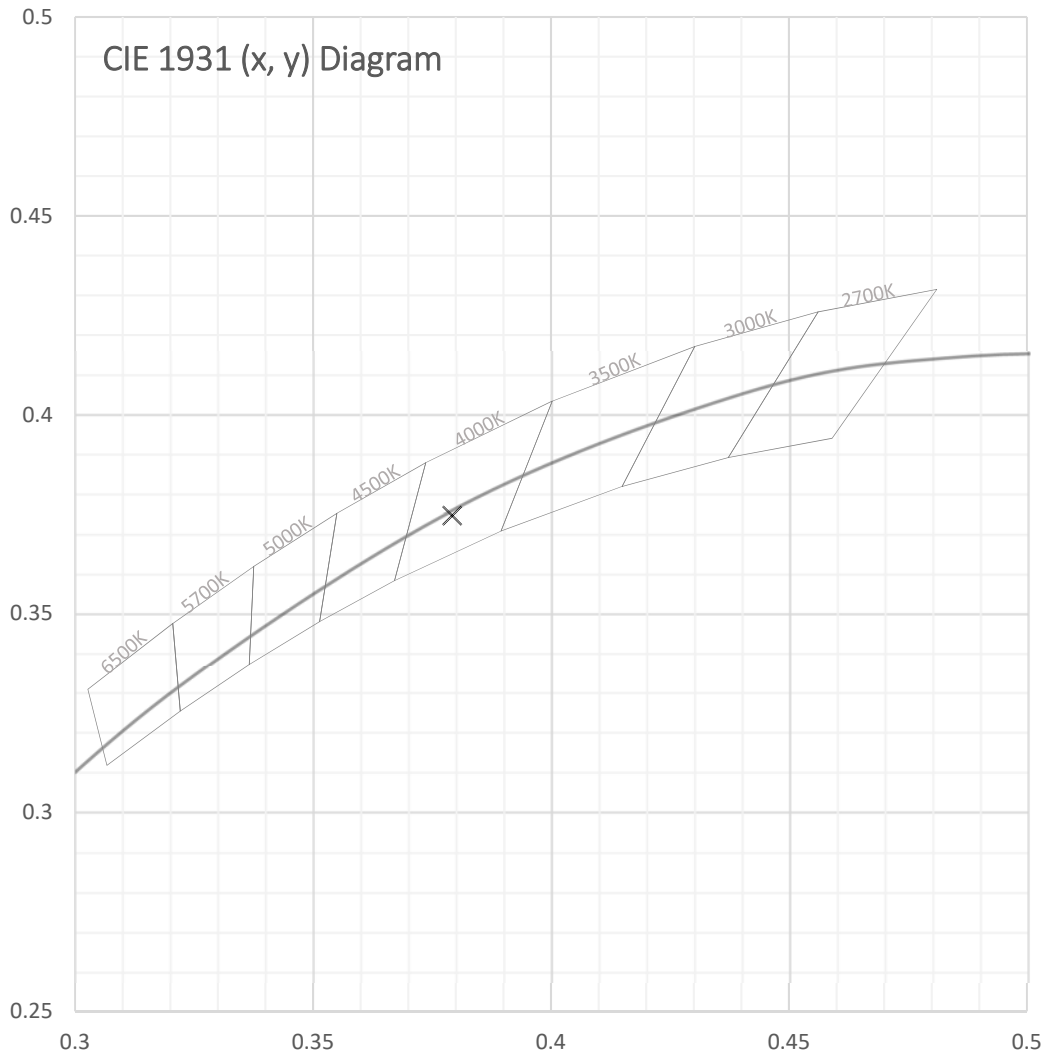
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**Spectral Data**

Total Radiant Flux	10.87 W
Total Luminous Flux	3466.8 Lm
Chromaticity CIE 1931 (x, y)	(0.3792, 0.3746)
Chromaticity CIE 1976 (u', v')	(0.2252, 0.5005)
Correlated Color Temperature (CCT)	4018 K
Color Rendering Index (Ra)	85
R1	83
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 *	1.721

**Electrical Data**

Voltage	120.0 Vac
Current	0.2306 A
Power	27.60 W
Frequency	59.97 Hz
Power Factor	0.997
Current THD	5.7 %

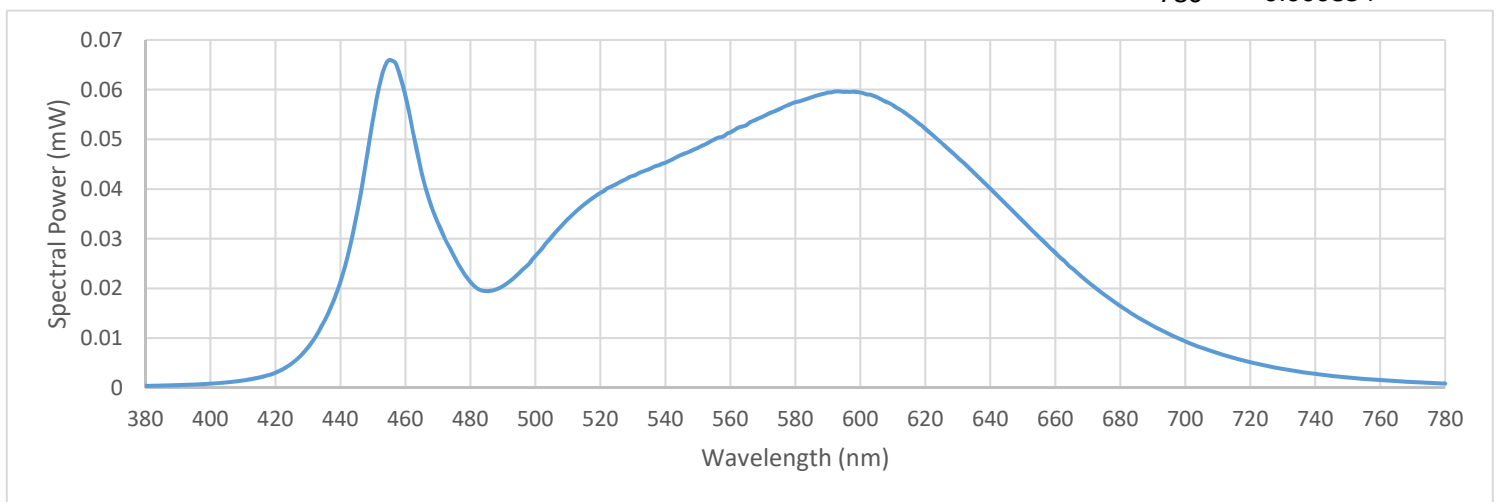


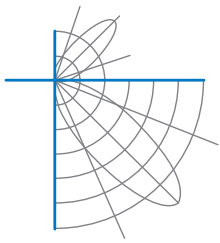
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**Summary Spectral Power Distribution (wavelength - nm, spectral power - mW)**

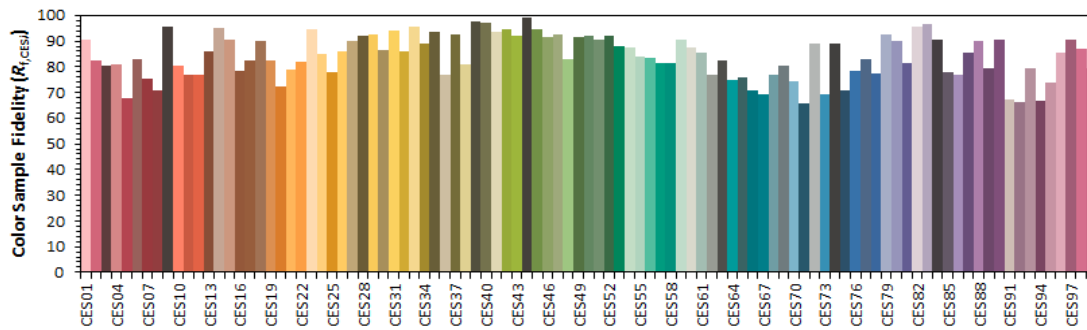
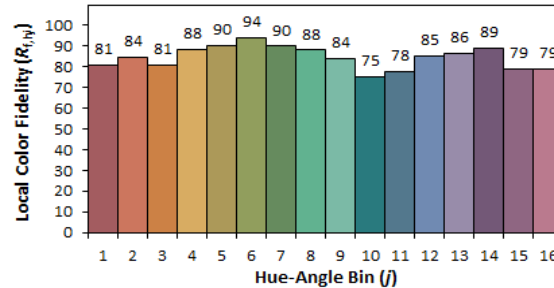
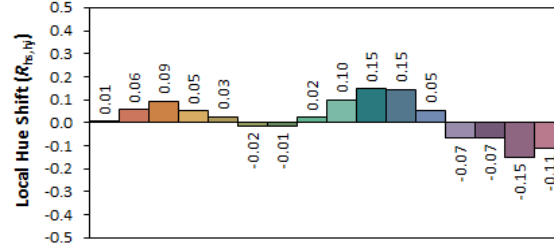
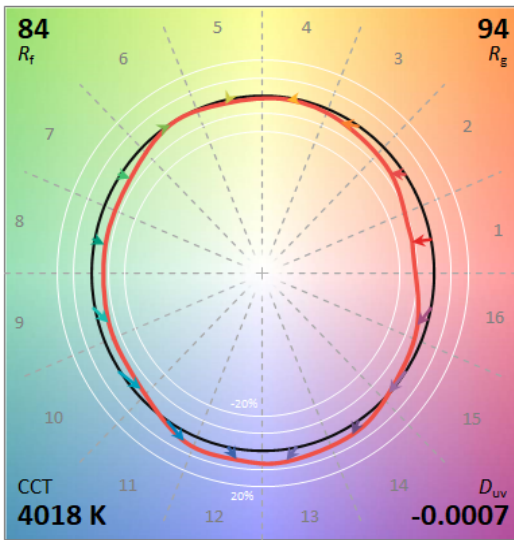
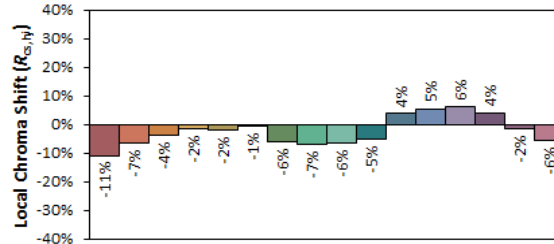
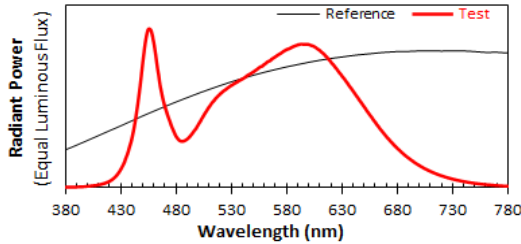
380	0.000405	480	0.021257	580	0.057478	680	0.016435
385	0.000424	485	0.019462	585	0.058473	685	0.014373
390	0.000528	490	0.020462	590	0.059408	690	0.012470
395	0.000649	495	0.023085	595	0.059544	695	0.010803
400	0.000839	500	0.026529	600	0.059421	700	0.009341
405	0.001099	505	0.030360	605	0.058520	705	0.008056
410	0.001472	510	0.033913	610	0.056886	710	0.006928
415	0.002036	515	0.036924	615	0.054688	715	0.005988
420	0.003042	520	0.039254	620	0.052068	720	0.005150
425	0.004864	525	0.041010	625	0.049342	725	0.004419
430	0.008109	530	0.042633	630	0.046271	730	0.003801
435	0.013383	535	0.043974	635	0.043276	735	0.003255
440	0.021318	540	0.045284	640	0.040034	740	0.002790
445	0.034762	545	0.046895	645	0.036811	745	0.002405
450	0.053915	550	0.048276	650	0.033557	750	0.002060
455	0.065944	555	0.049956	655	0.030302	755	0.001779
460	0.058862	560	0.051407	660	0.027232	760	0.001545
465	0.043139	565	0.052892	665	0.024125	765	0.001327
470	0.033165	570	0.054564	670	0.021315	770	0.001144
475	0.026382	575	0.056027	675	0.018796	775	0.000990
						780	0.000854





Test Report Number: LLIA001084-004B-R01

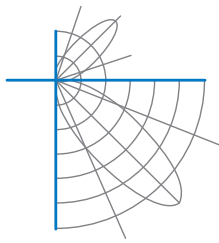
IES TM-30 Details



Notes:

x **0.3792**  
y **0.3746**  
u' **0.2252**  
v' **0.5004**

CIE 13.3-1995  
(CRI)  
R<sub>a</sub> 85  
R<sub>g</sub> 19



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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: 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, 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.

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Quantities marked with \* are not covered.

Revision History: R01 - 03/16/2022 - Added TM-30 Metrics