



Report of Test

LLIA001008-002A

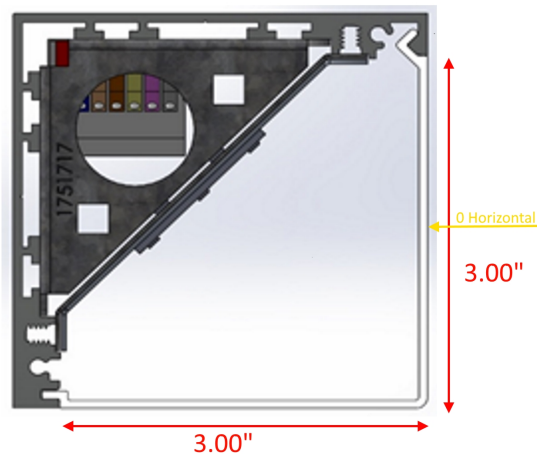
Catalog Number: AS350-HO-K35-80-4-XX-LOH-FXXX-UNV-XX

Wall/ceiling mounted extruded aluminum housing, white enamel
aluminum reflector, translucent white plastic enclosure.

144 white LEDs, one Osram PrevaLED Bar board with 144 LEDs.

One Osram Optotronic OTi 30/120-277/1A0 DIM L LED driver labeled as 720mA.

120.0Vac, 60.00Hz, 0.2319A, 27.75W, 0.997PF, 5.7%THD(i)



Performance Summary

Total Light Output	3170 lm
Luminaire Power	27.7 W
Luminous Efficacy	114.4 lm/W

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



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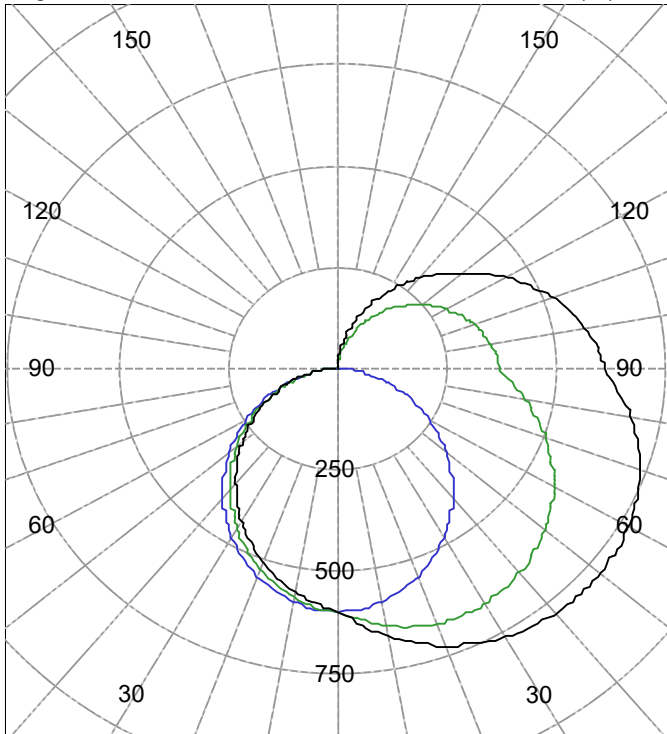
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Legend: C0/C180-Black, C45/C225-Green, C90/C270-Blue (cd)



C180-C270 (Symmetric about C0/C180) C0-C90

AVERAGE LUMINANCE (cd/m²)

Gamma	C0	C45	C90
45.0	5972	5523	5239
55.0	6008	5377	4793
65.0	6097	5239	4248
75.0	6224	5134	3485
85.0	6393	5157	2106

INTENSITY SUMMARY (cd)

Gamma	C-Plane					Flux (lm)
	C0	C22.5	C45	C67.5	C90	
0.0	598	598	598	598	598	
5.0	631	629	621	602	592	57
10.0	667	661	642	607	582	
15.0	698	688	657	607	564	169
20.0	724	710	666	599	541	
25.0	745	726	670	586	513	264
30.0	762	737	668	567	481	
35.0	773	743	660	544	445	331
40.0	780	745	649	518	406	
45.0	783	741	634	488	365	367
50.0	781	734	615	456	322	
55.0	776	722	593	422	277	370
60.0	766	707	566	387	233	
65.0	751	687	536	350	189	341
70.0	731	664	503	311	145	
75.0	706	637	468	271	103	288
80.0	677	606	434	233	64	
85.0	642	572	399	198	29	222
90.0	609	540	369	170	0	

ZONAL FLUX AND PERCENTAGES

Zone	Flux (lm)	% Lamp	% Luminaire
0-30	490	N / A	15.4
0-40	821	N / A	25.9
0-60	1558	N / A	49.1
0-90	2409	N / A	76.0
40-90	1588	N / A	50.1
60-90	851	N / A	26.9
90-180	761	N / A	24.0
0-180	3170	N / A	100.0

Total Light Output = 3,170 lm

Spacing Criterion: 0-180 1.9
Spacing Criterion: 90-270 1.2

Signed:

Authorized Signatory

Date of test 1-Aug-2018
Date of report 3-Aug-2018



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Intensity data (cd)

Gamma	C-Plane				
	C0	C22.5	C45	C67.5	C90
0.0	598	598	598	598	598
2.5	612	611	608	598	595
5.0	631	629	621	602	592
7.5	649	646	632	605	588
10.0	667	661	642	607	582
12.5	683	675	650	608	574
15.0	698	688	657	607	564
17.5	712	700	662	604	554
20.0	724	710	666	599	541
22.5	735	719	669	593	528
25.0	745	726	670	586	513
27.5	754	733	669	577	497
30.0	762	737	668	567	481
32.5	768	741	665	556	463
35.0	773	743	660	544	445
37.5	777	745	655	532	426
40.0	780	745	649	518	406
42.5	782	744	642	503	386
45.0	783	741	634	488	365
47.5	782	738	625	472	344
50.0	781	734	615	456	322
52.5	779	728	604	439	300
55.0	776	722	593	422	277
57.5	771	715	580	405	255
60.0	766	707	566	387	233
62.5	759	698	551	369	211
65.0	751	687	536	350	189
67.5	742	676	520	331	167
70.0	731	664	503	311	145
72.5	719	651	486	291	124
75.0	706	637	468	271	103
77.5	692	622	451	252	83
80.0	677	606	434	233	64
82.5	660	590	417	215	46
85.0	642	572	399	198	29
87.5	623	554	382	182	13
90.0	609	540	369	170	0



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Intensity data (cd)

Gamma	C-Plane				
	C0	C22.5	C45	C67.5	C90
90.0	609	540	369	170	0
92.5	602	534	366	168	0
95.0	593	527	362	167	0
97.5	584	519	358	165	0
100.0	573	510	353	163	0
102.5	561	500	347	161	0
105.0	547	489	341	159	0
107.5	532	477	334	157	0
110.0	517	464	327	154	0
112.5	500	450	319	151	0
115.0	483	436	310	147	0
117.5	465	421	300	142	0
120.0	447	405	290	138	0
122.5	429	389	280	133	0
125.0	409	373	269	128	0
127.5	390	357	258	123	0
130.0	371	340	246	118	0
132.5	352	323	234	112	0
135.0	332	305	222	105	0
137.5	312	288	210	98	0
140.0	293	270	197	91	0
142.5	273	252	185	84	0
145.0	253	234	172	78	0
147.5	233	216	157	71	0
150.0	213	198	142	65	0
152.5	193	180	126	58	0
155.0	174	162	111	52	0
157.5	155	144	97	46	0
160.0	136	127	84	41	0
162.5	117	110	71	36	0
165.0	99	93	59	31	0
167.5	82	76	47	26	0
170.0	64	61	36	20	0
172.5	48	45	27	14	0
175.0	30	23	17	10	0
177.5	14	11	8	5	0
180.0	0	0	0	0	0



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Intensity data (cd)

Gamma	C-Plane				
	C90	C112.5	C135	C157.5	C180
0.0	598	598	598	598	598
2.5	595	592	595	592	587
5.0	592	587	589	585	578
7.5	588	581	581	576	569
10.0	582	573	571	565	558
12.5	574	563	561	554	545
15.0	564	552	548	541	532
17.5	554	540	535	527	518
20.0	541	527	521	512	503
22.5	528	512	506	496	487
25.0	513	497	489	480	470
27.5	497	480	473	463	453
30.0	481	463	455	445	436
32.5	463	445	437	427	418
35.0	445	427	418	408	399
37.5	426	408	400	390	381
40.0	406	389	380	371	362
42.5	386	369	360	351	343
45.0	365	349	341	332	324
47.5	344	328	321	312	305
50.0	322	308	301	292	286
52.5	300	287	280	272	267
55.0	277	266	260	252	247
57.5	255	245	239	232	228
60.0	233	224	219	213	209
62.5	211	204	198	193	189
65.0	189	183	178	173	170
67.5	167	162	158	154	151
70.0	145	141	138	135	133
72.5	124	121	118	116	115
75.0	103	100	99	97	97
77.5	83	81	80	80	79
80.0	64	63	63	63	62
82.5	46	45	46	46	46
85.0	29	29	30	31	31
87.5	13	14	15	16	16
90.0	0	0	0	0	3



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Intensity data (cd)

Gamma	C-Plane				
	C90	C112.5	C135	C157.5	C180
90.0	0	0	0	0	3
92.5	0	0	0	0	0
95.0	0	0	0	0	0
97.5	0	0	0	0	0
100.0	0	0	0	0	0
102.5	0	0	0	0	0
105.0	0	0	0	0	0
107.5	0	0	0	0	0
110.0	0	0	0	0	0
112.5	0	0	0	0	0
115.0	0	0	0	0	0
117.5	0	0	0	0	0
120.0	0	0	0	0	0
122.5	0	0	0	0	0
125.0	0	0	0	0	0
127.5	0	0	0	0	0
130.0	0	0	0	0	0
132.5	0	0	0	0	0
135.0	0	0	0	0	0
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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Coefficients Of Utilization - Zonal Cavity Method

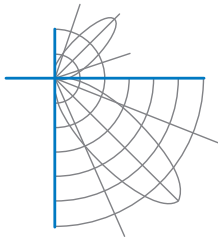
Effective Floor Cavity Reflectance 0.20

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	113	113	113	113	108	108	108	108	98	98	98	89	89	89	80	80	80	76
1	100	95	89	84	95	90	85	81	81	77	74	73	70	67	66	63	61	57
2	90	81	73	66	85	77	70	64	69	64	59	62	58	54	56	52	49	46
3	82	70	61	54	77	67	58	52	60	53	48	54	49	44	49	44	40	37
4	74	61	52	45	70	58	50	43	53	46	40	48	42	37	43	38	34	31
5	68	54	45	38	64	52	43	37	47	40	34	42	36	32	38	33	29	26
6	62	49	39	33	59	46	38	32	42	35	30	38	32	27	35	29	25	23
7	58	44	35	29	55	42	34	28	38	31	26	35	29	24	31	26	22	20
8	54	40	31	25	51	38	30	24	35	28	23	32	26	21	29	24	20	18
9	50	36	28	22	47	35	27	22	32	25	20	29	23	19	26	21	18	16
10	47	33	25	20	44	32	25	19	29	23	18	27	21	17	25	20	16	14

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	16.6	8.99	7.20
8.0	9.3	11.98	9.60
10.0	6.0	14.98	12.00
12.0	4.2	17.97	14.40
14.0	3.0	20.97	16.80
16.0	2.3	23.97	19.20



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Test Distance 9.5 m
Test Temperature 25.4 °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

LLIA001008-002B

Integrating Sphere Report

Catalog Number: AS350-HO-K35-80-4-XX-LOH-FXXX-UNV-XX

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Performance Summary

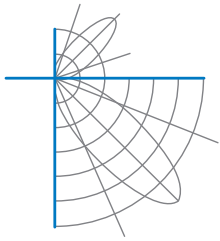
Voltage	120.0 Vac
Current	0.2321 A
Power	27.76 W
Frequency	59.97 Hz
Power Factor	0.997
Current THD	5.7 %
Total Luminous Flux	3308.3 lm
Efficacy	119.2 lm/W
Chromaticity (x,y)	(0.4086, 0.3895)
(u',v')	(0.2383, 0.5112)
Duv	-0.0012
CCT	3419 K
CRI (Ra)	83
R9	17
TM-30: Rf	82
TM-30: Rg	98

Prepared For:

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

Test date: 08/01/2018

Report date: 08/03/2018



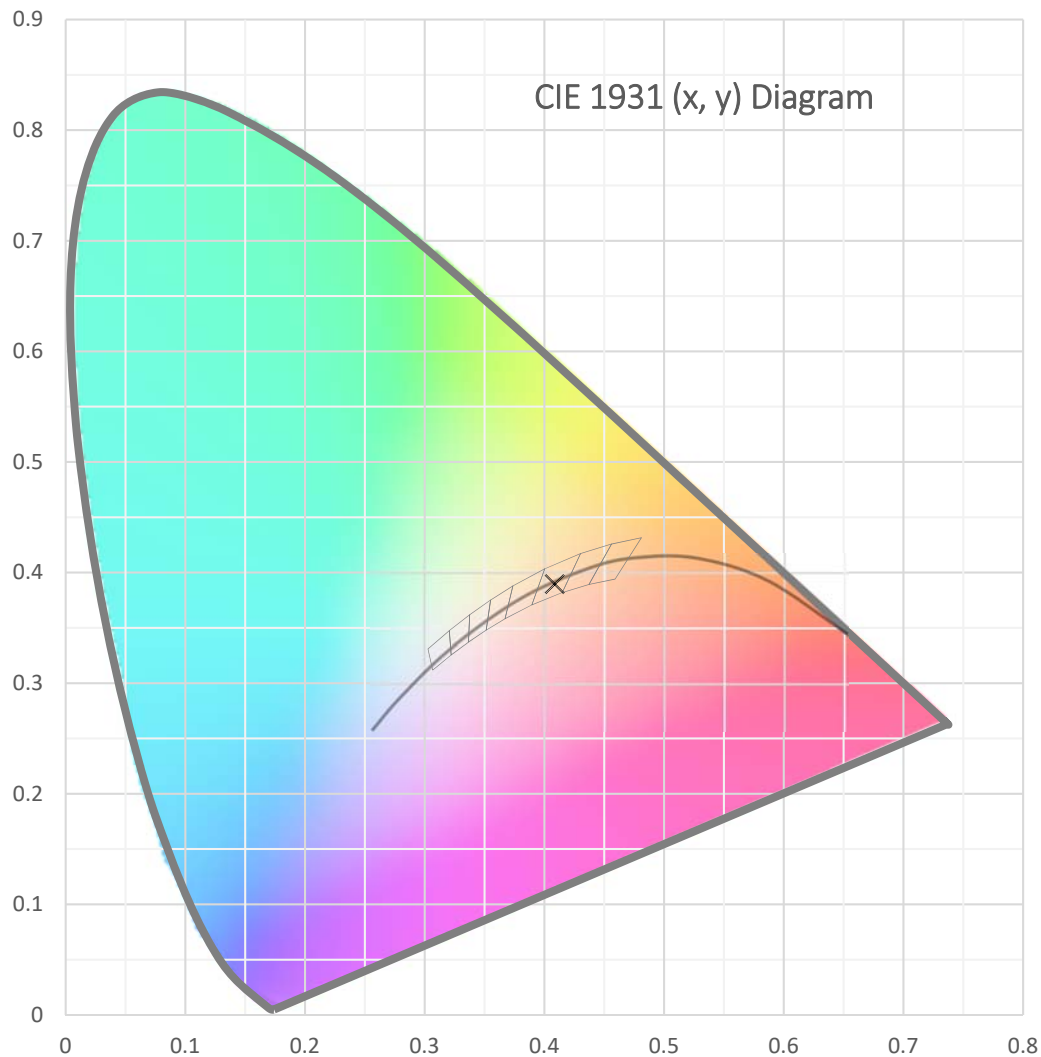
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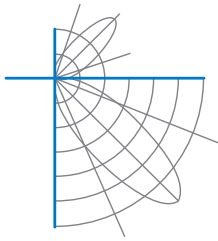
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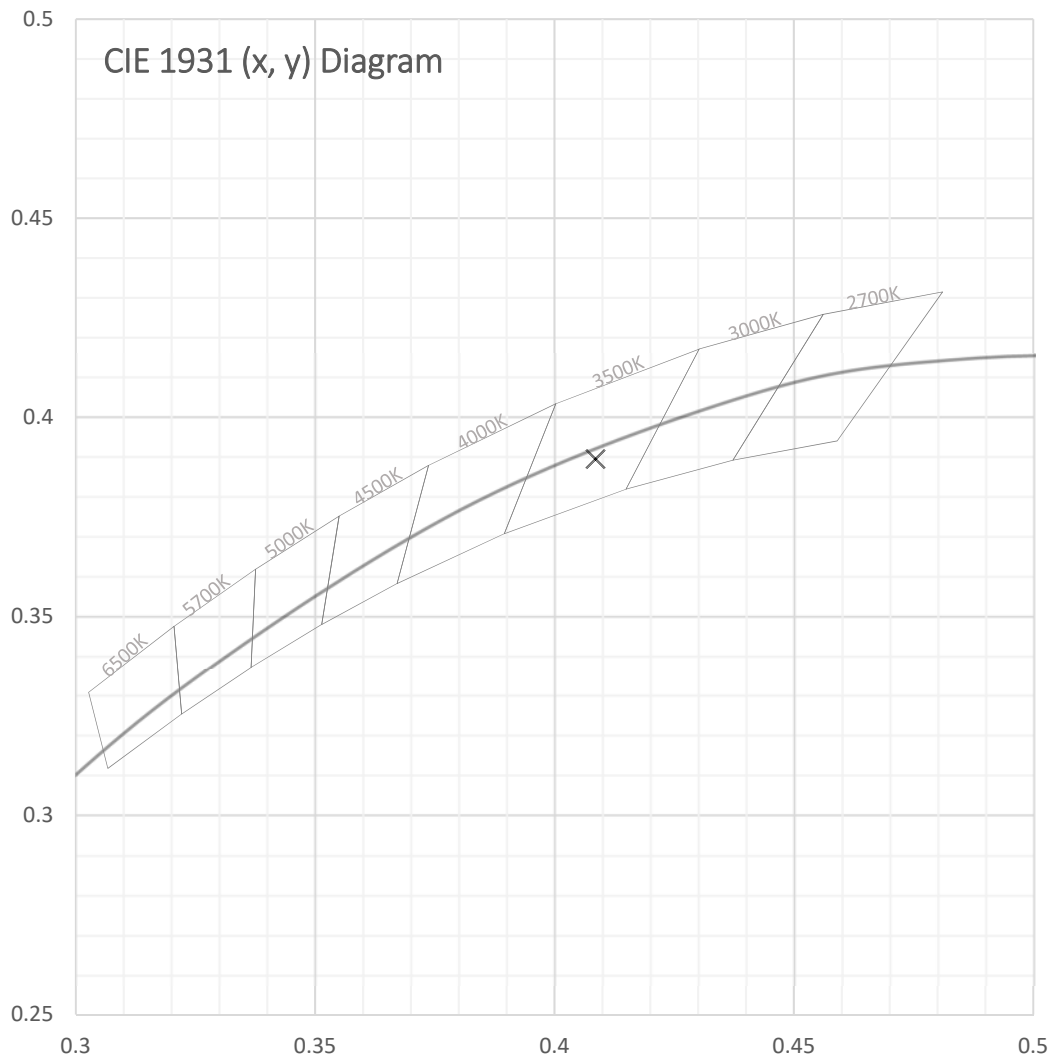
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Spectral Data

Total Radiant Flux	10.36 W
Total Luminous Flux	3308.3 Lm
Chromaticity CIE 1931 (x, y)	(0.4086, 0.3895)
Chromaticity CIE 1976 (u', v')	(0.2383, 0.5112)
Correlated Color Temperature (CCT)	3419 K
Color Rendering Index (Ra)	83
R1	82
R2	89
R3	94
R4	82
R5	82
R6	85
R7	86
R8	66
R9	17
R10	73
R11	81
R12	65
R13	83
R14	96
TM-30: Rf	82
TM-30: Rg	98
Distance from Planckian Locus (Duv)	-0.0012
Scotopic/Photopic Ratio *	1.476

Electrical Data

Voltage	120.0 Vac
Current	0.2321 A
Power	27.76 W
Frequency	59.97 Hz
Power Factor	0.997
Current THD	5.7 %



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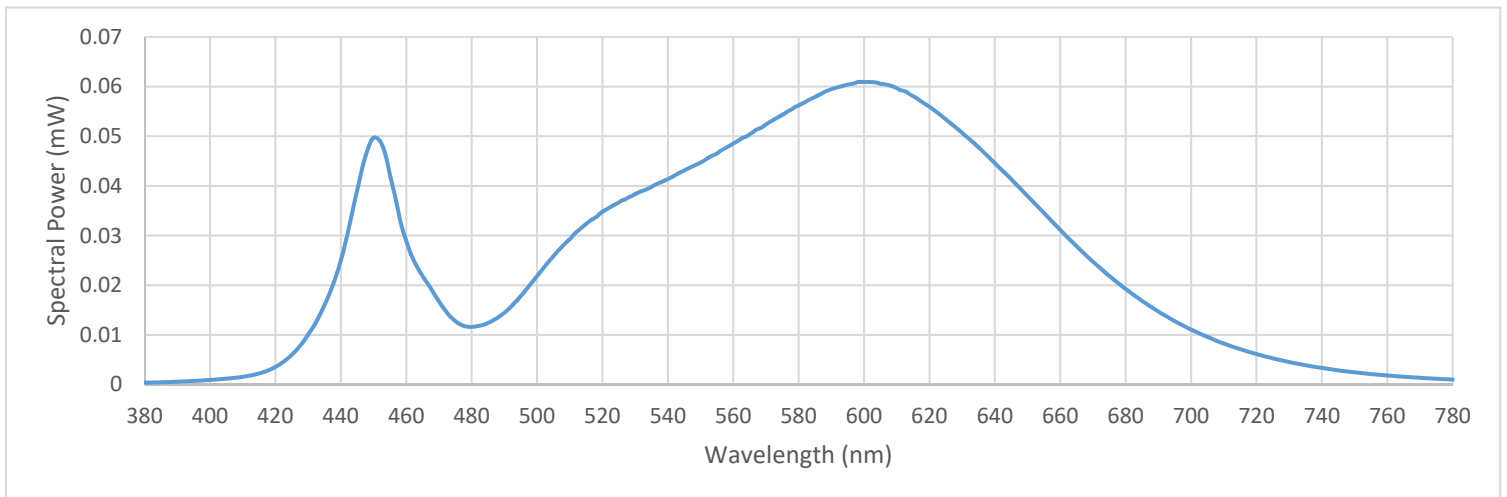
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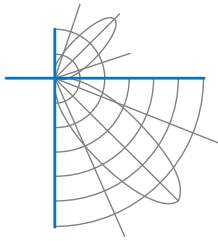
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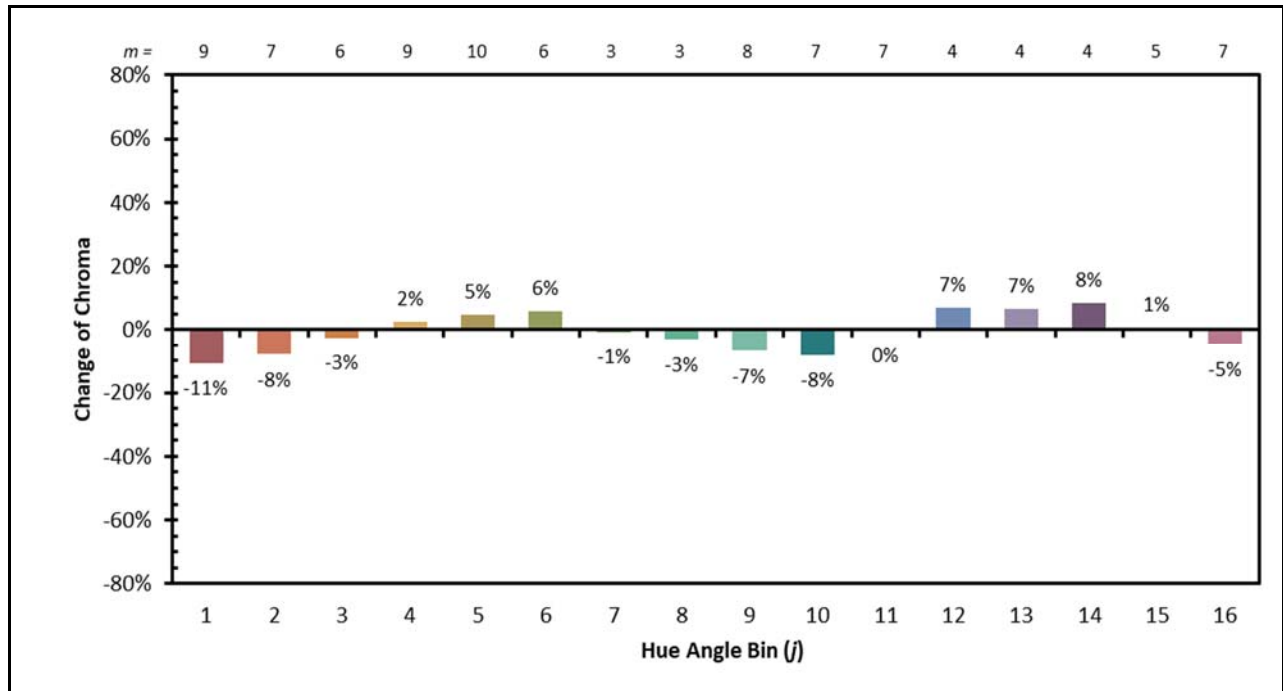
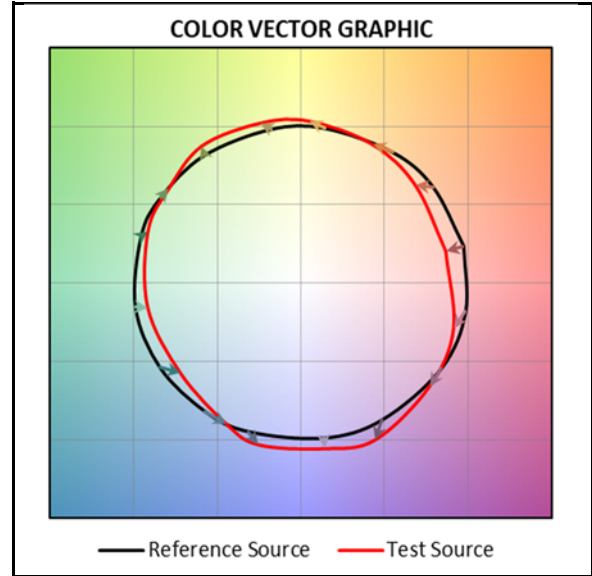
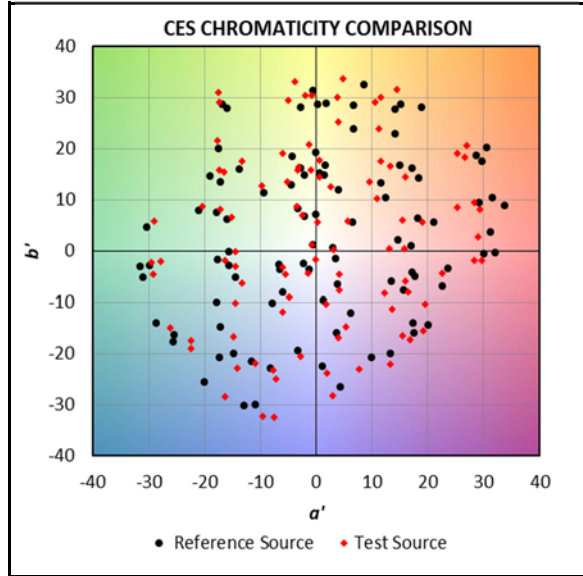
Summary Spectral Power Distribution (wavelength - nm, spectral power - mW)

380	0.000414	480	0.011614	580	0.056165	680	0.019238
385	0.000466	485	0.012428	585	0.057927	685	0.016885
390	0.000597	490	0.014451	590	0.059476	690	0.014723
395	0.000752	495	0.017791	595	0.060407	695	0.012779
400	0.000949	500	0.021936	600	0.060967	700	0.011100
405	0.001201	505	0.025838	605	0.060550	705	0.009587
410	0.001580	510	0.029282	610	0.059707	710	0.008266
415	0.002260	515	0.032342	615	0.058048	715	0.007149
420	0.003596	520	0.034796	620	0.055926	720	0.006162
425	0.005969	525	0.036681	625	0.053417	725	0.005287
430	0.010098	530	0.038361	630	0.050677	730	0.004553
435	0.015986	535	0.039821	635	0.047824	735	0.003909
440	0.024990	540	0.041354	640	0.044610	740	0.003344
445	0.039265	545	0.043090	645	0.041387	745	0.002880
450	0.049692	550	0.044729	650	0.037979	750	0.002476
455	0.042343	555	0.046521	655	0.034488	755	0.002133
460	0.028955	560	0.048535	660	0.031169	760	0.001849
465	0.021837	565	0.050385	665	0.027831	765	0.001591
470	0.016764	570	0.052378	670	0.024724	770	0.001366
475	0.012779	575	0.054298	675	0.021881	775	0.001180
						780	0.001023





IES TM-30 Summary





Test Report Number: LLIA001008-002B

Catalog Number: AS350-HO-K35-80-4-XX-LOH-FXXX-UNV-XX

Wall/ceiling mounted extruded aluminum housing, white enamel
aluminum reflector, translucent white plastic enclosure.

144 white LEDs, one Osram PrevaLED Bar board with 144 LEDs.

One Osram Optotronic OTi 30/120-277/1A0 DIM L LED driver labeled as 720mA.

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: 24.6 °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.