

Report of Test

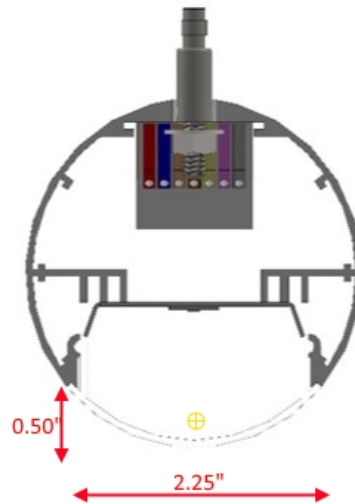
LLIA000930-001A

Catalog Number: AR300-D-MO-K40-80--4-XX-LOH-XXXX-120

Pendant mounted, extruded aluminum housing, formed
white aluminum reflector tray, frosted plastic enclosure.

96 White LEDs

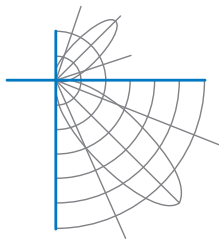
One Osram Optotronic OTi 30/120-277/1A0 DIM L LED driver
120.0Vac, 60.00Hz, 0.1556A, 18.56W, 0.994PF, 5.2%THD(i)



Performance Summary

Total Light Output	2503 lm
Luminaire Power	18.6 W
Luminous Efficacy	134.6 lm/W

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



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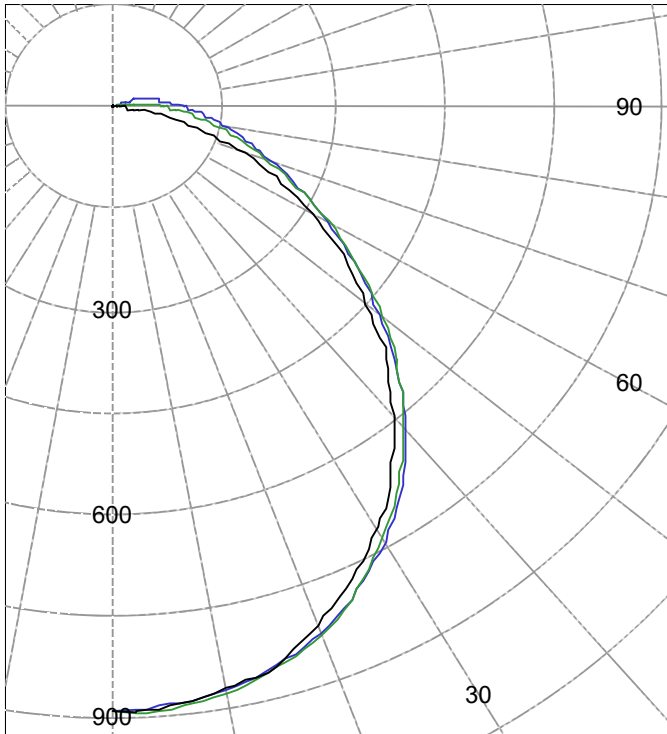
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Legend: C0-Black, C45-Green, C90-Blue (cd)



(Two plane symmetry) C0-C90

AVERAGE LUMINANCE (cd / m²)

Gamma	C0	C45	C90
45.0	10537	9543	9058
55.0	9445	8213	7592
65.0	8099	6877	6339
75.0	6338	5863	5592
85.0	3762	5610	5602

INTENSITY SUMMARY (cd)

Gamma	C-Plane					Flux (lm)
	C0	C22.5	C45	C67.5	C90	
0.0	892	892	892	892	892	
5.0	886	883	892	890	884	84
10.0	871	868	878	877	873	
15.0	855	851	856	856	853	241
20.0	812	811	831	826	824	
25.0	768	768	785	787	786	359
30.0	717	718	734	740	739	
35.0	660	665	677	686	683	421
40.0	593	597	614	624	618	
45.0	523	529	548	551	547	417
50.0	451	462	481	476	473	
55.0	382	391	406	403	401	356
60.0	311	324	338	337	335	
65.0	243	258	275	278	277	266
70.0	179	197	220	227	228	
75.0	119	142	172	184	186	173
80.0	66	96	132	149	152	
85.0	26	61	100	118	122	97
90.0	0	35	73	93	98	

ZONAL FLUX AND PERCENTAGES

Zone	Flux (lm)	% Lamp	% Luminaire
0-30	684	N / A	27.3
0-40	1105	N / A	44.1
0-60	1879	N / A	75.0
0-90	2415	N / A	96.5
40-90	1310	N / A	52.3
60-90	537	N / A	21.4
90-180	88	N / A	3.5
0-180	2503	N / A	100.0

Total Light Output = 2,503 lm

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

Signed:

Authorized Signatory

Date of test 18-Jan-2018
Date of report 24-Jan-2018



Test Report No. LLIA000930-001A

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96 White LEDs

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120.0Vac, 60.00Hz, 0.1556A, 18.56W, 0.994PF, 5.2%THD(i)

Intensity data (cd)

Gamma	C-Plane				
	C0	C22.5	C45	C67.5	C90
0.0	892	892	892	892	892
2.5	890	886	895	893	887
5.0	886	883	892	890	884
7.5	880	877	886	884	880
10.0	871	868	878	877	873
12.5	864	859	868	867	864
15.0	855	851	856	856	853
17.5	832	834	844	842	839
20.0	812	811	831	826	824
22.5	791	790	811	808	806
25.0	768	768	785	787	786
27.5	744	744	759	764	764
30.0	717	718	734	740	739
32.5	694	690	706	714	712
35.0	660	665	677	686	683
37.5	626	634	647	657	651
40.0	593	597	614	624	618
42.5	558	564	581	588	583
45.0	523	529	548	551	547
47.5	489	495	516	513	510
50.0	451	462	481	476	473
52.5	415	427	443	439	436
55.0	382	391	406	403	401
57.5	345	357	372	370	367
60.0	311	324	338	337	335
62.5	277	291	306	306	305
65.0	243	258	275	278	277
67.5	211	227	246	252	251
70.0	179	197	220	227	228
72.5	148	168	195	205	206
75.0	119	142	172	184	186
77.5	91	118	151	166	168
80.0	66	96	132	149	152
82.5	44	77	115	133	136
85.0	26	61	100	118	122
87.5	11	47	85	105	110
90.0	0	35	73	93	98



Test Report No. LLIA000930-001A

Catalog Number: AR300-D-MO-K40-80--4-XX-LOH-XXXX-120

Pendant mounted, extruded aluminum housing, formed
white aluminum reflector tray, frosted plastic enclosure.

96 White LEDs

One Osram Optotronic OTi 30/120-277/1A0 DIM L LED driver
120.0Vac, 60.00Hz, 0.1556A, 18.56W, 0.994PF, 5.2%THD(i)

Intensity data (cd)

Gamma	C-Plane				
	C0	C22.5	C45	C67.5	C90
90.0	0	35	73	93	98
92.5	0	26	62	82	87
95.0	0	18	52	72	77
97.5	0	13	43	62	68
100.0	0	9	35	54	60
102.5	0	6	29	47	52
105.0	0	4	23	40	45
107.5	0	2	19	34	38
110.0	0	0	15	28	33
112.5	0	0	11	23	28
115.0	0	0	9	19	23
117.5	0	0	6	15	19
120.0	0	0	5	12	15
122.5	0	0	3	10	12
125.0	0	0	2	7	10
127.5	0	0	0	6	7
130.0	0	0	0	4	5
132.5	0	0	0	3	4
135.0	0	0	0	0	3
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



Test Number: LLIA000930-001A

Catalog Number: AR300-D-MO-K40-80--4-XX-LOH-XXXX-120

Pendant mounted, extruded aluminum housing, formed white aluminum reflector tray, frosted plastic enclosure.

96 White LEDs

One Osram Optotronic OTi 30/120-277/1A0 DIM L LED driver

120.0Vac, 60.00Hz, 0.1556A, 18.56W, 0.994PF, 5.2%THD(i)

Coefficients Of Utilization - Zonal Cavity Method

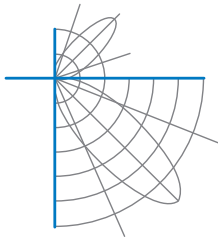
Effective Floor Cavity Reflectance 0.20

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	118	118	118	118	115	115	115	115	109	109	109	104	104	104	99	99	99	96	
1	107	102	98	94	104	100	96	92	95	91	88	90	87	85	86	84	82	79	
2	98	89	82	76	95	87	81	75	83	77	73	79	75	71	75	72	69	66	
3	89	78	70	64	86	77	69	63	73	67	61	70	64	60	67	62	58	56	
4	82	70	61	54	79	68	60	54	65	58	52	62	56	51	60	55	50	48	
5	75	62	53	47	73	61	53	46	58	51	45	56	50	45	54	48	44	42	
6	70	56	47	41	67	55	47	41	53	46	40	51	44	39	49	43	39	37	
7	65	51	42	36	63	50	42	36	48	41	35	46	40	35	45	39	34	32	
8	60	47	38	32	58	46	38	32	44	37	32	43	36	31	41	35	31	29	
9	56	43	35	29	55	42	34	29	41	34	29	39	33	28	38	32	28	26	
10	53	40	32	27	51	39	31	26	38	31	26	37	30	26	35	30	26	24	

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	24.8	7.20	7.39
8.0	13.9	9.60	9.85
10.0	8.9	12.00	12.31
12.0	6.2	14.40	14.78
14.0	4.6	16.80	17.24
16.0	3.5	19.20	19.70



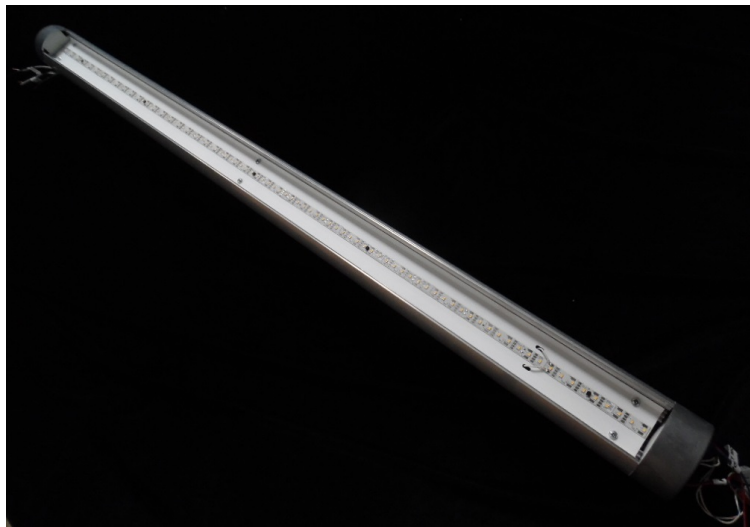
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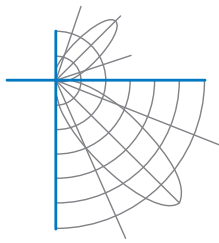
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Pendant mounted, extruded aluminum housing, formed white aluminum reflector tray, frosted plastic enclosure.

96 White LEDs

One Osram Optotronic OTi 30/120-277/1A0 DIM L LED driver
120.0Vac, 60.00Hz, 0.1556A, 18.56W, 0.994PF, 5.2%THD(i)





Test Report No. LLIA000930-001A

Catalog Number: AR300-D-MO-K40-80--4-XX-LOH-XXXX-120

Pendant mounted, extruded aluminum housing, formed
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96 White LEDs

One Osram Optotronic OTi 30/120-277/1A0 DIM L LED driver
120.0Vac, 60.00Hz, 0.1556A, 18.56W, 0.994PF, 5.2%THD(i)

Test Distance 9.5 m
Test Temperature 25.0 °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.

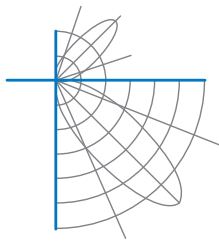
Prorating the performance of the sample for the use of other component combinations (such as lamp / LED / Ballast / driver), or for use in different environmental conditions than that tested, may produce erroneous results.

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

LLIA000930-001B

Integrating Sphere Report

Catalog Number: AR300-D-MO-K40-80--4-XX-LOH-XXXX-120

Pendant mounted, extruded aluminum housing, formed white aluminum reflector tray, frosted plastic enclosure.

96 White LEDs

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



Performance Summary

Voltage	120.1 Vac
Current	0.1556 A
Power	18.58 W
Frequency	59.97 Hz
Power Factor	0.995
Current THD	5.1 %

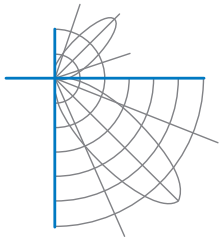
Total Luminous Flux	2592.1 lm
Efficacy	139.5 lm/W
Chromaticity (x,y)	(0.3821, 0.3794)
(u',v')	(0.2251, 0.5030)
Duv	0.0008
CCT	3976 K
CRI (Ra)	84
R9	15
TM-30: Rf	83
TM-30: Rg	96

Prepared For:

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

Test date: 01/16/2018

Report date: 01/24/2018



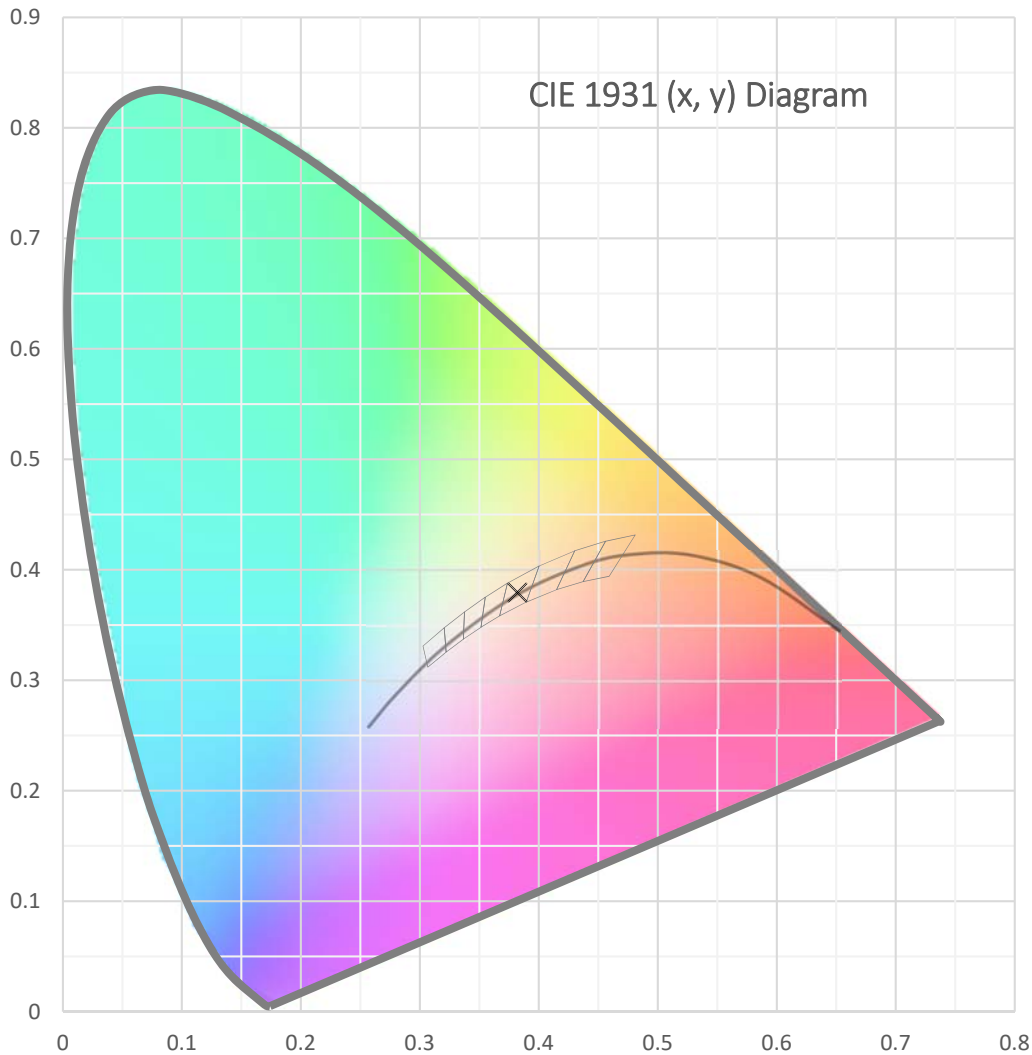
Test Report Number: LLIA000930-001B

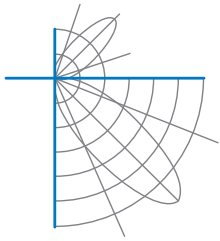
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96 White LEDs

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





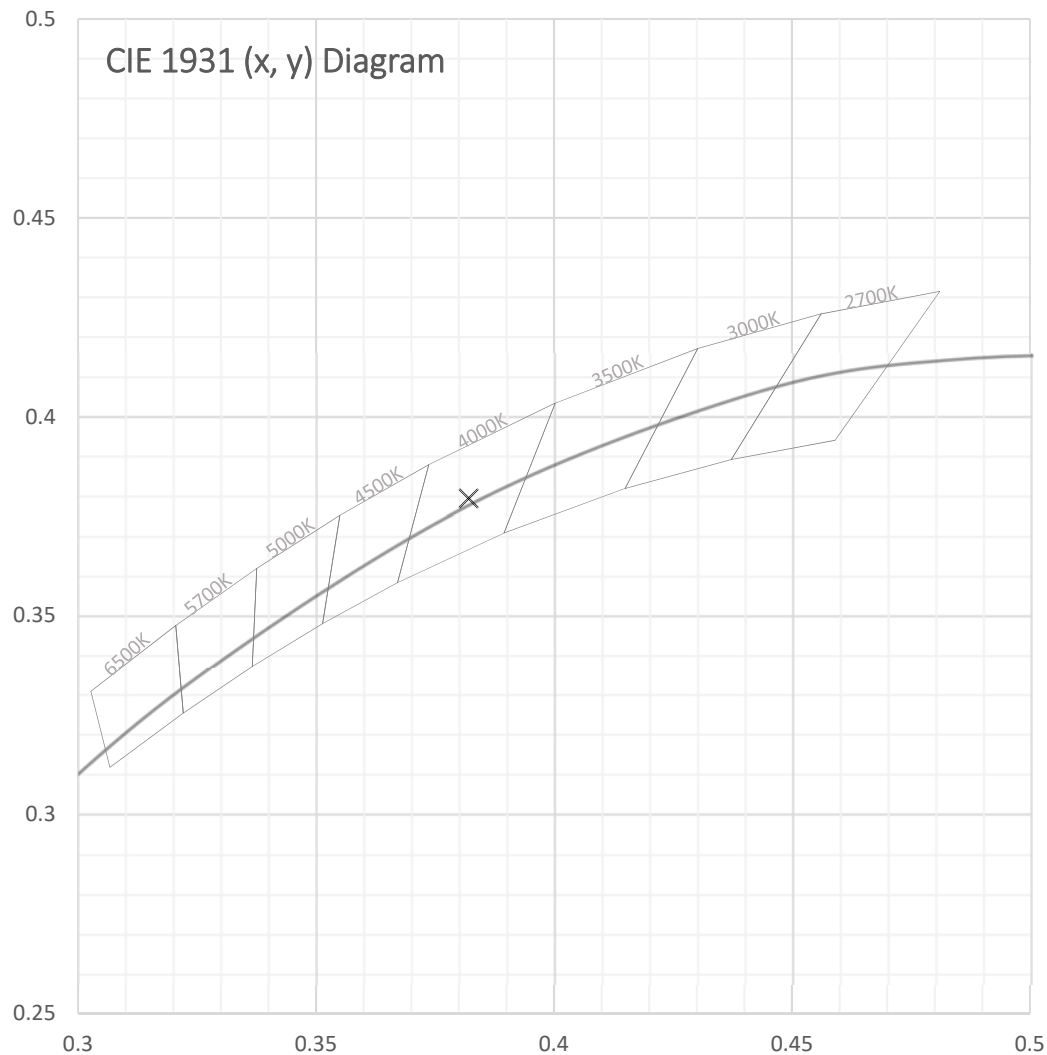
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96 White LEDs

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

Spectral Data

Total Radiant Flux	8.018 W
Total Luminous Flux	2592.1 Lm
Chromaticity CIE 1931 (x, y)	(0.3821, 0.3794)
Chromaticity CIE 1976 (u', v')	(0.2251, 0.5030)
Correlated Color Temperature (CCT)	3976 K
Color Rendering Index (Ra)	84
R1	82
R2	89
R3	95
R4	82
R5	82
R6	85
R7	87
R8	67
R9	15
R10	74
R11	81
R12	60
R13	84
R14	97
TM-30: Rf	83
TM-30: Rg	96
Distance from Planckian Locus (Duv)	0.0008
Scotopic/Photopic Ratio *	1.682

Electrical Data

Voltage	120.1 Vac
Current	0.1556 A
Power	18.58 W
Frequency	59.97 Hz
Power Factor	0.995
Current THD	5.1 %



Test Report Number: LLIA000930-001B

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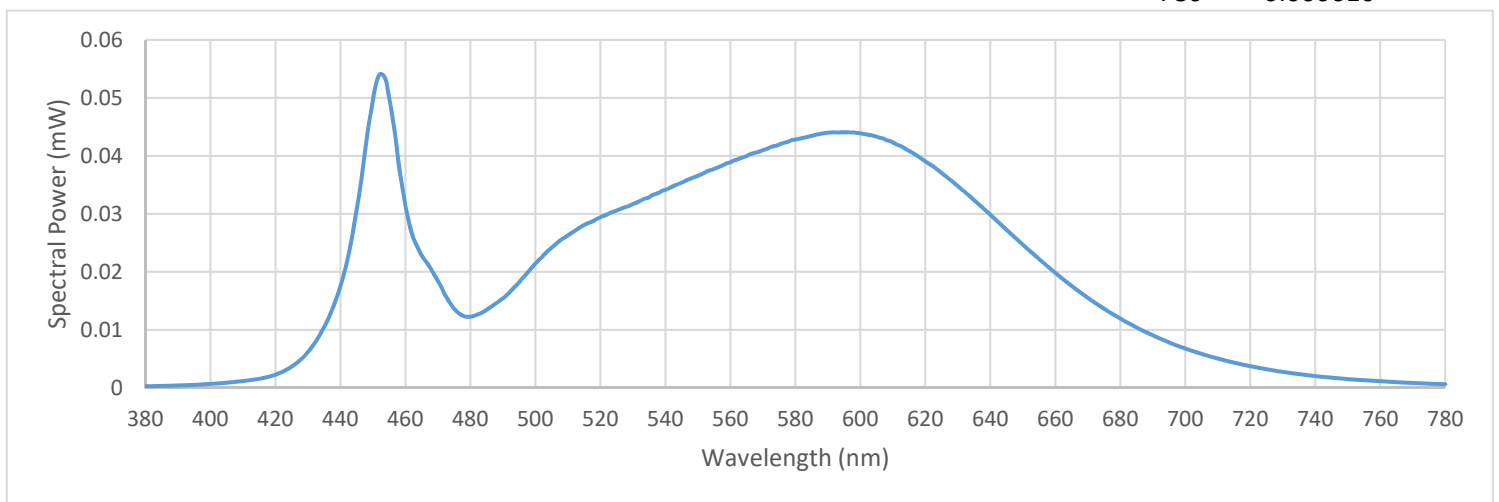
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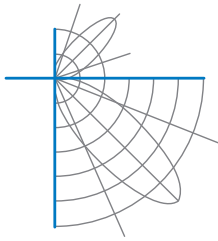
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One Osram Optotronic OTi 30/120-277/1A0 DIM L LED driver.

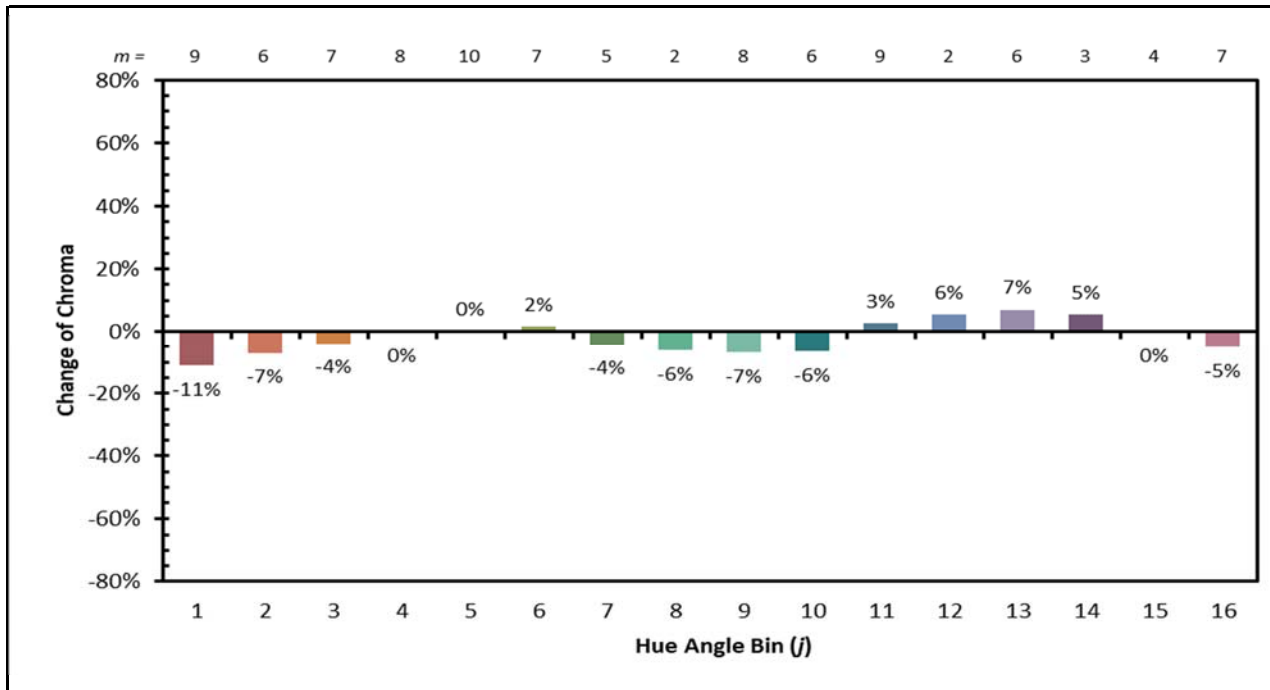
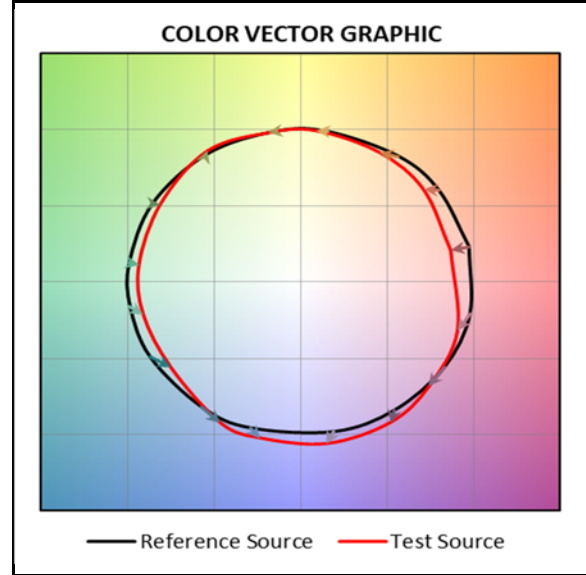
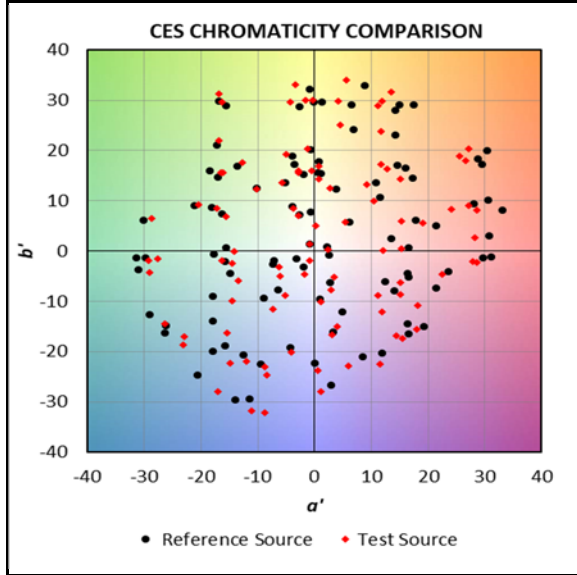
Summary Spectral Power Distribution (wavelength - nm, spectral power - mW)

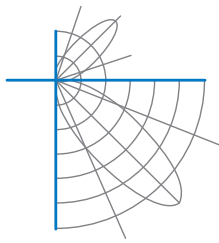
380	0.000279	480	0.012284	580	0.042808	680	0.011916
385	0.000303	485	0.013469	585	0.043465	685	0.010425
390	0.000382	490	0.015441	590	0.044008	690	0.009029
395	0.000506	495	0.018183	595	0.044079	695	0.007830
400	0.000674	500	0.021432	600	0.043895	700	0.006785
405	0.000876	505	0.024157	605	0.043301	705	0.005842
410	0.001149	510	0.026293	610	0.042341	710	0.005016
415	0.001529	515	0.028078	615	0.040853	715	0.004333
420	0.002268	520	0.029433	620	0.039082	720	0.003727
425	0.003629	525	0.030554	625	0.037086	725	0.003199
430	0.006199	530	0.031708	630	0.034799	730	0.002748
435	0.010495	535	0.032854	635	0.032431	735	0.002353
440	0.017516	540	0.034122	640	0.029815	740	0.002013
445	0.030706	545	0.035370	645	0.027246	745	0.001739
450	0.049671	550	0.036586	650	0.024678	750	0.001492
455	0.050011	555	0.037778	655	0.022200	755	0.001289
460	0.031531	560	0.038876	660	0.019860	760	0.001114
465	0.022807	565	0.039959	665	0.017576	765	0.000958
470	0.018442	570	0.040979	670	0.015472	770	0.000825
475	0.013603	575	0.041936	675	0.013632	775	0.000710
						780	0.000616





IES TM-30 Summary





Test Report Number: LLIA000930-001B

Catalog Number: AR300-D-MO-K40-80--4-XX-LOH-XXXX-120

Pendant mounted, extruded aluminum housing, formed
white aluminum reflector tray, frosted plastic enclosure.

96 White LEDs

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: 24.8 °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.