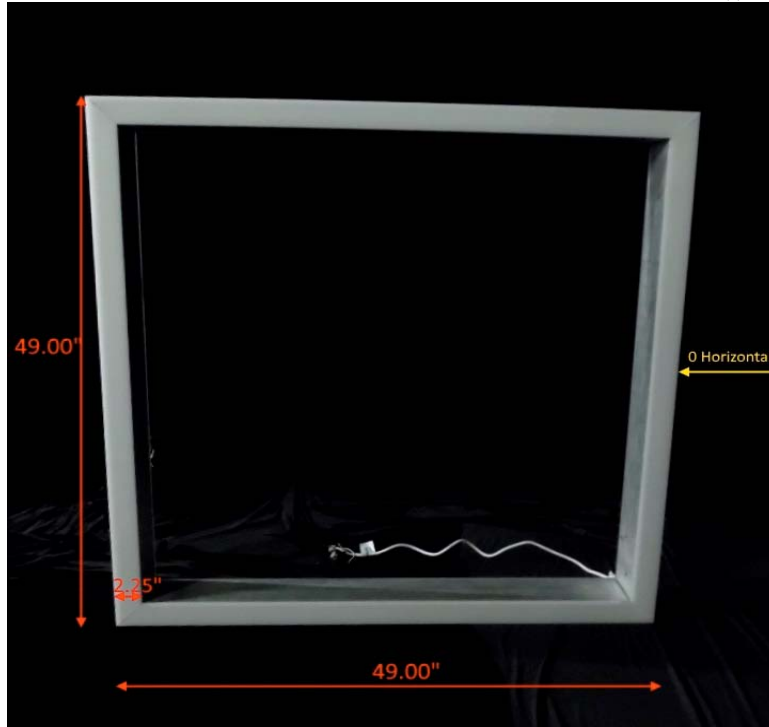


Report of Test

LLIA000833-009A

Catalog Number: MQS2-D-HO-K35-80-4X4-XXX-AL-XXXX-UNV
Pendant mounted, extruded aluminum housing, formed white enamel aluminum reflectors,
translucent white plastic enclosures.

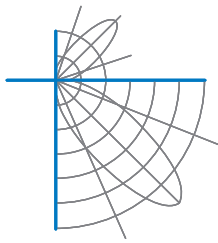
368 white LEDs, 4 PAL-Lighting LED boards with 92 LEDs each.
One Osram Optotronic OTi 85/120-277/2A6 DIMLT2 L- LED driver
120.0Vac, 59.99Hz, 0.9983A, 119.4W, 0.997PF, 3.8%THD(i)



Performance Summary

Total Light Output	10912 lm
Luminaire Power	119.4 W
Luminous Efficacy	91.4 lm/W

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



Test Report No. LLIA000833-009A

Catalog Number: MQS2-D-HO-K35-80-4X4-XXX-AL-XXXX-UNV

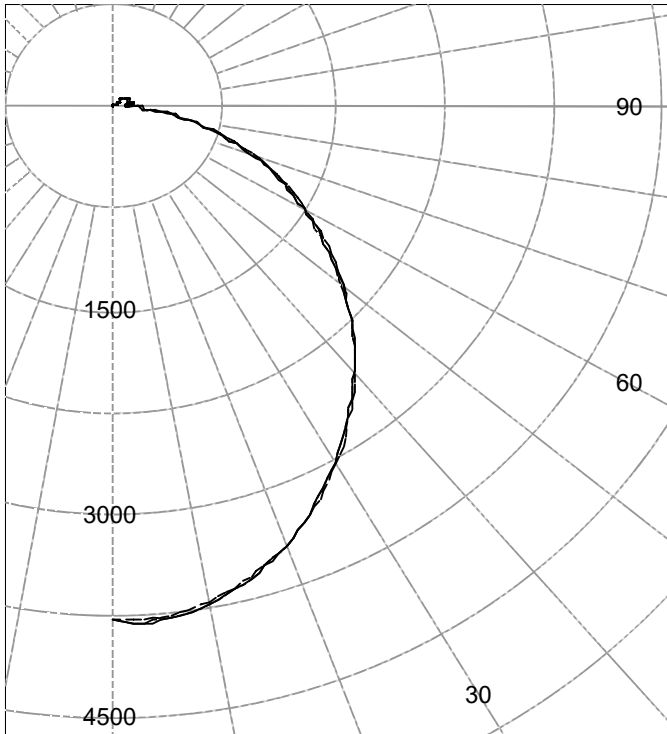
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One Osram Optotronic OTi 85/120-277/2A6 DIMLT2 L- LED driver

120.0Vac, 59.99Hz, 0.9983A, 119.4W, 0.997PF, 3.8%THD(i)

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



INTENSITY SUMMARY (cd)

Gamma	C-Plane					Flux (lm)
	C0	C22.5	C45	C67.5	C90	
0.0	3781	3781	3781	3781	3781	
5.0	3792	3772	3771	3773	3791	358
10.0	3718	3703	3702	3700	3724	
15.0	3607	3588	3587	3585	3605	1012
20.0	3435	3431	3436	3430	3434	
25.0	3230	3249	3247	3251	3230	1494
30.0	3015	3037	3034	3034	3017	
35.0	2780	2799	2800	2802	2779	1749
40.0	2544	2551	2554	2551	2545	
45.0	2303	2300	2298	2298	2297	1774
50.0	2033	2044	2041	2041	2029	
55.0	1757	1782	1782	1779	1756	1588
60.0	1492	1515	1521	1513	1488	
65.0	1238	1253	1258	1251	1235	1237
70.0	981	996	1001	994	979	
75.0	724	742	748	740	722	782
80.0	485	506	514	505	483	
85.0	288	309	317	307	287	337
90.0	89	96	98	95	89	

AVERAGE LUMINANCE (cd / m^2)

Gamma	C0	C45	C90
45.0	23034	22843	22979
55.0	21525	21631	21513
65.0	20348	20399	20311
75.0	18972	19150	18918
85.0	20069	20748	19970

ZONAL FLUX AND PERCENTAGES

Zone	Flux (lm)	% Lamp	% Luminaire
0-30	2864	N / A	26.2
0-40	4612	N / A	42.3
0-60	7974	N / A	73.1
0-90	10330	N / A	94.7
40-90	5718	N / A	52.4
60-90	2356	N / A	21.6
90-180	582	N / A	5.3
0-180	10912	N / A	100.0

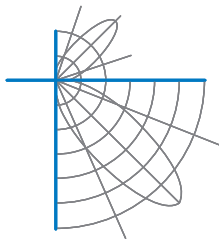
Total Light Output = 10,912 lm

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

Signed:

Authorized Signatory

Date of test 1-Oct-2017
Date of report 3-Oct-2017



Test Report No. LLIA000833-009A

Catalog Number: MQS2-D-HO-K35-80-4X4-XXX-AL-XXXX-UNV

Pendant mounted, extruded aluminum housing, formed white enamel aluminum reflectors,
translucent white plastic enclosures.

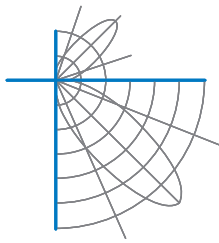
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One Osram Optotronic OTi 85/120-277/2A6 DIMLT2 L- LED driver

120.0Vac, 59.99Hz, 0.9983A, 119.4W, 0.997PF, 3.8%THD(i)

Intensity data (cd)

Gamma	C-Plane				
	C0	C22.5	C45	C67.5	C90
0.0	3781	3781	3781	3781	3781
2.5	3807	3788	3791	3788	3805
5.0	3792	3772	3771	3773	3791
7.5	3761	3739	3743	3740	3763
10.0	3718	3703	3702	3700	3724
12.5	3669	3649	3653	3650	3666
15.0	3607	3588	3587	3585	3605
17.5	3526	3513	3514	3514	3524
20.0	3435	3431	3436	3430	3434
22.5	3335	3346	3344	3344	3334
25.0	3230	3249	3247	3251	3230
27.5	3127	3144	3140	3144	3122
30.0	3015	3037	3034	3034	3017
32.5	2899	2919	2920	2922	2899
35.0	2780	2799	2800	2802	2779
37.5	2668	2678	2680	2674	2660
40.0	2544	2551	2554	2551	2545
42.5	2427	2428	2426	2423	2421
45.0	2303	2300	2298	2298	2297
47.5	2169	2172	2170	2171	2170
50.0	2033	2044	2041	2041	2029
52.5	1893	1913	1913	1913	1892
55.0	1757	1782	1782	1779	1756
57.5	1623	1648	1653	1648	1622
60.0	1492	1515	1521	1513	1488
62.5	1365	1383	1391	1381	1362
65.0	1238	1253	1258	1251	1235
67.5	1112	1124	1129	1121	1107
70.0	981	996	1001	994	979
72.5	852	868	875	866	849
75.0	724	742	748	740	722
77.5	600	619	627	618	598
80.0	485	506	514	505	483
82.5	381	402	410	401	379
85.0	288	309	317	307	287
87.5	208	225	232	225	207
90.0	89	96	98	95	89



Test Report No. LLIA000833-009A

Catalog Number: MQS2-D-HO-K35-80-4X4-XXX-AL-XXXX-UNV

Pendant mounted, extruded aluminum housing, formed white enamel aluminum reflectors,
translucent white plastic enclosures.

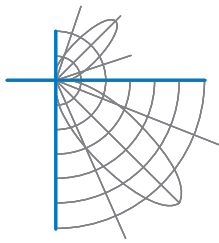
368 white LEDs, 4 PAL-Lighting LED boards with 92 LEDs each.

One Osram Optotronic OTi 85/120-277/2A6 DIMLT2 L- LED driver

120.0Vac, 59.99Hz, 0.9983A, 119.4W, 0.997PF, 3.8%THD(i)

Intensity data (cd)

Gamma	C-Plane				
	C0	C22.5	C45	C67.5	C90
90.0	89	96	98	95	89
92.5	81	89	92	89	82
95.0	82	90	101	90	82
97.5	137	130	124	129	136
100.0	136	134	133	130	133
102.5	133	137	134	133	132
105.0	130	136	116	134	129
107.5	101	93	132	132	126
110.0	74	92	129	128	120
112.5	107	125	129	123	114
115.0	111	119	128	121	109
117.5	106	118	125	116	106
120.0	105	115	120	113	104
122.5	102	111	116	110	100
125.0	99	107	110	105	97
127.5	95	102	106	101	93
130.0	90	96	102	94	88
132.5	84	90	94	89	81
135.0	79	82	86	82	77
137.5	74	76	80	75	72
140.0	65	69	73	68	63
142.5	56	62	66	62	54
145.0	49	56	59	56	48
147.5	42	50	54	50	41
150.0	37	44	52	44	36
152.5	33	39	47	39	32
155.0	31	36	42	36	30
157.5	29	33	36	33	27
160.0	26	29	31	29	24
162.5	23	26	26	25	21
165.0	20	22	22	21	18
167.5	17	18	18	17	15
170.0	15	16	15	14	13
172.5	13	12	12	11	11
175.0	11	10	10	9	9
177.5	8	8	8	8	8
180.0	7	7	7	7	7



Test Number: LLIA000833-009A

Catalog Number: MQS2-D-HO-K35-80-4X4-XXX-AL-XXXX-UNV

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120.0Vac, 59.99Hz, 0.9983A, 119.4W, 0.997PF, 3.8%THD(i)

Coefficients Of Utilization - Zonal Cavity Method

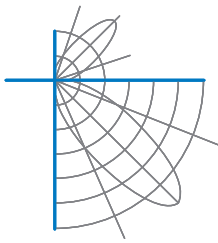
Effective Floor Cavity Reflectance 0.20

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	118	118	118	118	114	114	114	114	108	108	108	102	102	102	97	97	97	95
1	107	102	98	94	104	99	95	91	94	91	88	89	86	84	85	83	81	78
2	97	89	82	76	94	86	80	75	82	77	72	78	73	70	74	71	67	65
3	89	78	70	63	86	76	68	62	72	66	60	69	63	59	65	61	57	55
4	81	69	60	53	78	67	59	53	64	57	51	61	55	50	58	53	49	47
5	75	62	53	46	72	60	52	46	58	50	45	55	49	44	53	47	43	40
6	69	56	47	40	67	54	46	40	52	45	39	50	43	38	48	42	38	35
7	64	50	42	36	62	49	41	35	47	40	35	45	39	34	44	38	33	31
8	60	46	38	32	58	45	37	31	43	36	31	42	35	30	40	34	30	28
9	56	42	34	29	54	41	34	28	40	33	28	38	32	28	37	31	27	25
10	52	39	31	26	51	38	31	26	37	30	25	36	29	25	34	29	25	23

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	105.0	7.14	7.15
8.0	59.1	9.53	9.53
10.0	37.8	11.91	11.91
12.0	26.3	14.29	14.29
14.0	19.3	16.67	16.68
16.0	14.8	19.05	19.06



Test Report No. LLIA000833-009A

Catalog Number: MQS2-D-HO-K35-80-4X4-XXX-AL-XXXX-UNV

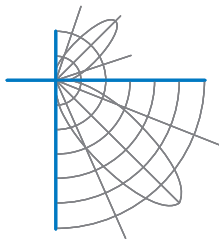
Pendant mounted, extruded aluminum housing, formed white enamel aluminum reflectors,
translucent white plastic enclosures.

368 white LEDs, 4 PAL-Lighting LED boards with 92 LEDs each.

One Osram Optotronic OTi 85/120-277/2A6 DIMLT2 L- LED driver

120.0Vac, 59.99Hz, 0.9983A, 119.4W, 0.997PF, 3.8%THD(i)





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120.0Vac, 59.99Hz, 0.9983A, 119.4W, 0.997PF, 3.8%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

LLIA000833-009B

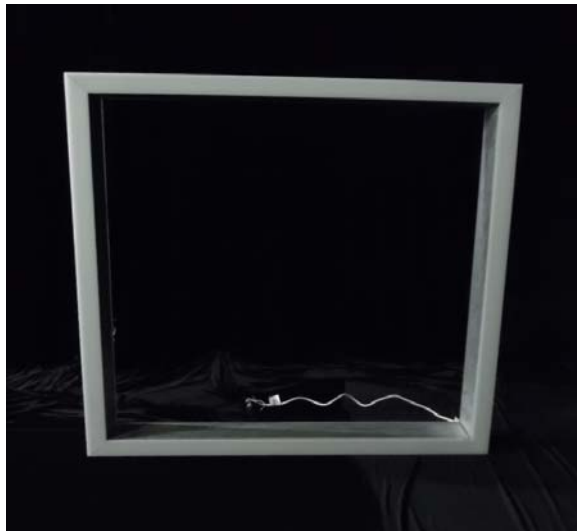
Integrating Sphere Report

Catalog Number: MQS2-D-HO-K35-80-4X4-XXX-AL-XXXX-UNV

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Performance Summary

Voltage	120.0 Vac
Current	1.001 A
Power	119.5 W
Frequency	60.00 Hz
Power Factor	0.995
Current THD	3.5 %

Chromaticity (x,y)	(0.4096, 0.3932)
(u',v')	(0.2375, 0.5129)

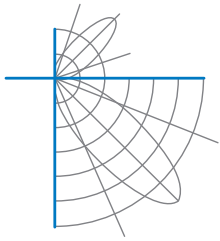
Duv	0.0002
CCT	3427 K
CRI (Ra)	82
R9	11

Prepared For:

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

Test date: 10/02/2017

Report date: 10/04/2017

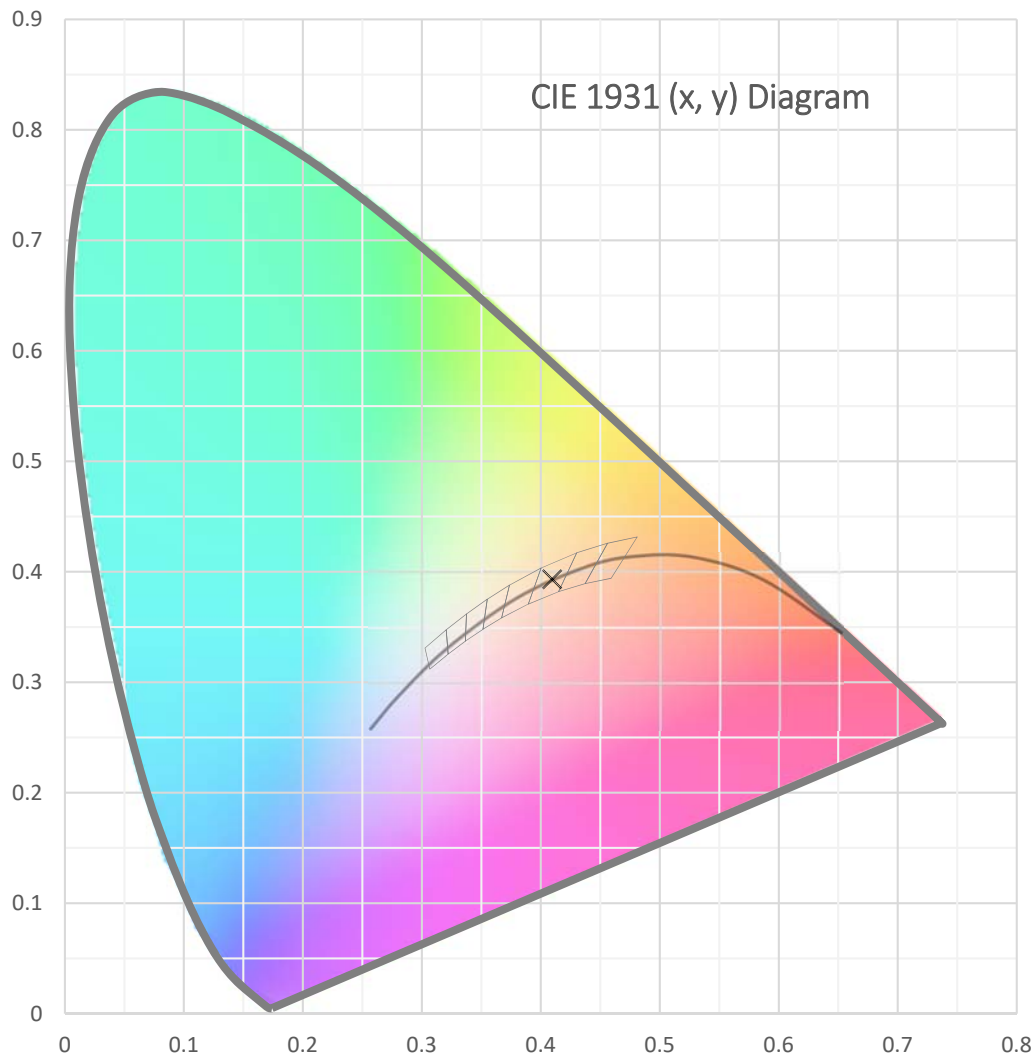


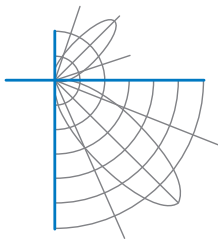
Test Report Number: LLIA000833-009B

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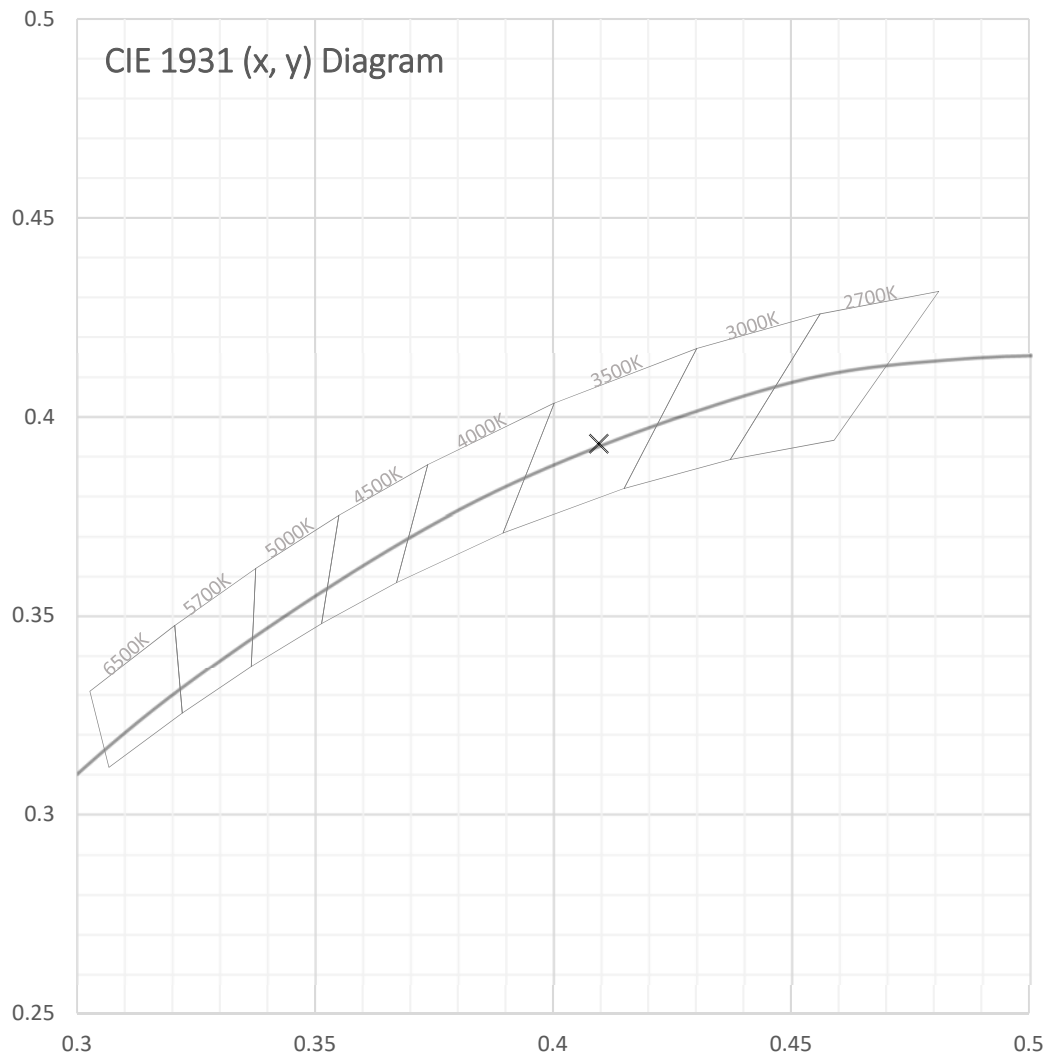
Test Report Number: LLIA000833-009B

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Spectral Data

Chromaticity CIE 1931 (x, y)	(0.4096, 0.3932)
Chromaticity CIE 1976 (u', v')	(0.2375, 0.5129)
Correlated Color Temperature (CCT)	3427 K
Color Rendering Index (Ra)	82
R1	80
R2	89
R3	95
R4	80
R5	80
R6	84
R7	86
R8	64
R9	11
R10	73
R11	78
R12	61
R13	82
R14	97
Distance from Planckian Locus (Duv)	0.0002
Scotopic/Photopic Ratio *	1.475

Electrical Data

Voltage	120.0 Vac
Current	1.001 A
Power	119.5 W
Frequency	60.00 Hz
Power Factor	0.995
Current THD	3.5 %



Test Report Number: LLIA000833-009B

Catalog Number: MQS2-D-HO-K35-80-4X4-XXX-AL-XXXX-UNV

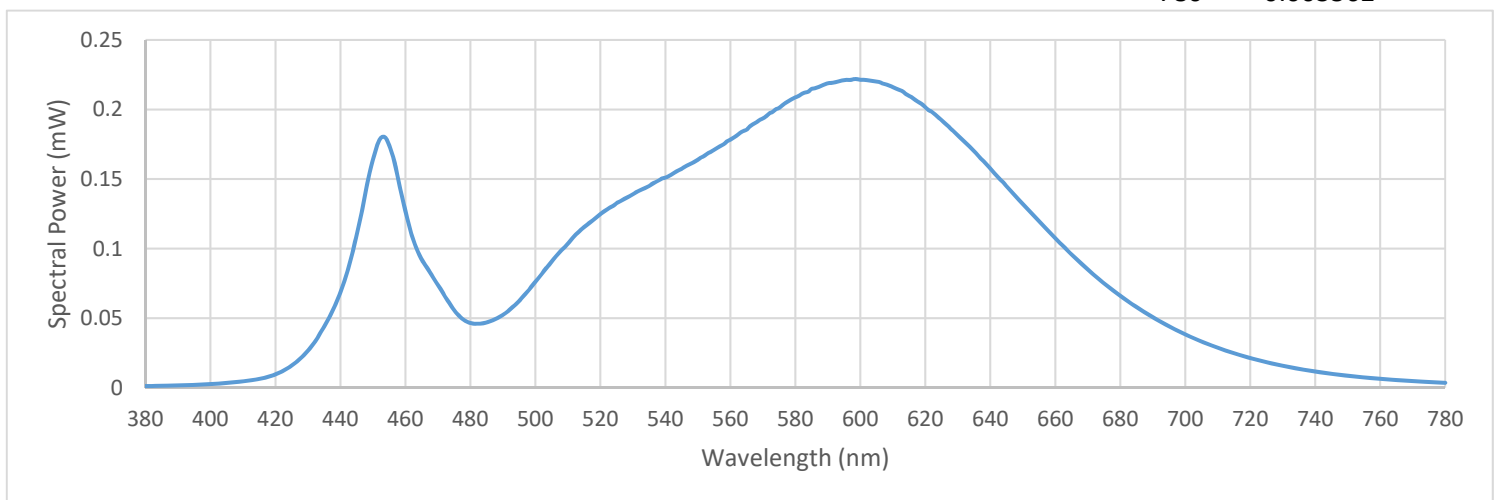
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One Osram Optotronic OTi 85/120-277/2A6 DIMLT2 L- LED driver

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

380	0.001267	480	0.046517	580	0.208717	680	0.066056
385	0.001366	485	0.047003	585	0.214766	685	0.058108
390	0.001673	490	0.052374	590	0.218899	690	0.050743
395	0.002074	495	0.062350	595	0.221150	695	0.044133
400	0.002639	500	0.076261	600	0.221374	700	0.038378
405	0.003456	505	0.090645	605	0.220092	705	0.033183
410	0.004573	510	0.103642	610	0.216062	710	0.028595
415	0.006353	515	0.115490	615	0.209835	715	0.024767
420	0.009694	520	0.124908	620	0.201610	720	0.021330
425	0.015953	525	0.132765	625	0.192437	725	0.018341
430	0.026874	530	0.139053	630	0.181281	730	0.015853
435	0.043998	535	0.144937	635	0.170023	735	0.013573
440	0.068409	540	0.151000	640	0.157578	740	0.011662
445	0.109977	545	0.157393	645	0.144721	745	0.010072
450	0.163862	550	0.163904	650	0.132113	750	0.008648
455	0.174300	555	0.171082	655	0.119480	755	0.007438
460	0.127103	560	0.178290	660	0.107617	760	0.006453
465	0.092076	565	0.185461	665	0.095791	765	0.005556
470	0.073832	570	0.193573	670	0.084989	770	0.004769
475	0.055588	575	0.201137	675	0.075064	775	0.004131
						780	0.003562





Test Report Number: LLIA000833-009B

Catalog Number: MQS2-D-HO-K35-80-4X4-XXX-AL-XXXX-UNV

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One Osram Optotronic OTi 85/120-277/2A6 DIMLT2 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:	25.3 °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 Note: Luminaire was oriented vertically during testing.
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.