



Report of Test

LLIA000844-006A-R01*

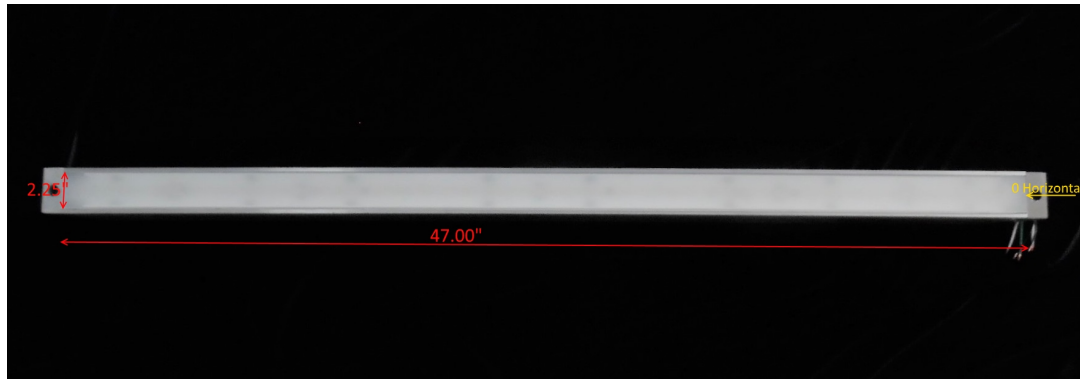
*This test report supersedes test report LLIA000844-006A

Catalog Number: MLS2-I-MO-K40-XX-4-XX-FDC-XXXX-120

Pendant mounted, extruded aluminum housing with aluminum end caps,
formed white enamel aluminum LED tray/reflector, frosted plastic enclosure.

Three connected PAL-Lighting LED boards with 92 white LEDs.

One Osram Optotronic OTi 30/120-277/1A0-DIM L LED driver programmed to 480mA
120.0Vac, 60.00Hz, 0.1551A, 18.49W, 0.994PF, 5.4%THD(i)



Performance Summary

Total Light Output	2400 lm
Luminaire Power	18.5 W
Luminous Efficacy	129.7 lm/W

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



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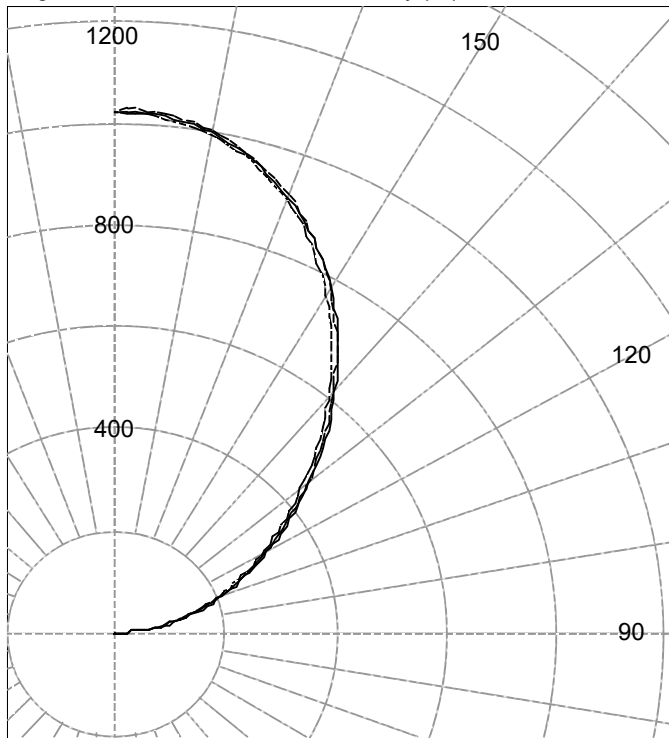
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Legend: C0-Solid, C45-Dashed, C90-Grey (cd)



INTENSITY SUMMARY (cd)

Gamma	C-Plane					Flux (lm)
	C0	C22.5	C45	C67.5	C90	
90.0	0	2	3	4	4	
95.0	50	50	50	50	50	55
100.0	100	100	99	98	97	
105.0	152	150	148	145	144	156
110.0	203	204	199	195	193	
115.0	259	260	254	248	246	252
120.0	319	319	314	306	304	
125.0	386	383	380	371	368	339
130.0	459	455	453	443	439	
135.0	538	533	532	522	517	408
140.0	621	614	615	606	600	
145.0	703	696	699	692	685	434
150.0	782	774	779	773	766	
155.0	853	845	852	848	841	390
160.0	913	906	915	911	904	
165.0	962	955	965	962	955	270
170.0	997	990	1001	998	992	
175.0	1018	1012	1023	1020	1014	96
180.0	1025	1025	1025	1025	1025	

ZONAL FLUX AND PERCENTAGES

Zone	Flux (lm)	% Lamp	% Luminaire
180-150	756	N / A	31.5
180-140	1190	N / A	49.6
180-120	1937	N / A	80.7
180-90	2400	N / A	100.0
140-90	1210	N / A	50.4
120-90	463	N / A	19.3
90-0	0	N / A	0.0
180-0	2400	N / A	100.0

Total Light Output = 2,400 lm

Signed:

Authorized Signatory

Date of test 31-Aug-2017
Date of report 15-Dec-2017



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Intensity data (cd)

Gamma	C-Plane				
	C0	C22.5	C45	C67.5	C90
90.0	0	2	3	4	4
92.5	24	25	26	26	26
95.0	50	50	50	50	50
97.5	75	75	75	74	73
100.0	100	100	99	98	97
102.5	125	125	123	122	120
105.0	152	150	148	145	144
107.5	179	177	173	170	168
110.0	203	204	199	195	193
112.5	230	231	226	221	219
115.0	259	260	254	248	246
117.5	288	289	284	276	274
120.0	319	319	314	306	304
122.5	352	351	346	338	335
125.0	386	383	380	371	368
127.5	422	418	416	406	403
130.0	459	455	453	443	439
132.5	498	493	492	482	477
135.0	538	533	532	522	517
137.5	579	573	573	564	559
140.0	621	614	615	606	600
142.5	662	655	657	649	643
145.0	703	696	699	692	685
147.5	743	735	739	733	726
150.0	782	774	779	773	766
152.5	818	810	817	812	805
155.0	853	845	852	848	841
157.5	884	877	885	881	874
160.0	913	906	915	911	904
162.5	939	932	942	938	932
165.0	962	955	965	962	955
167.5	981	974	985	982	976
170.0	997	990	1001	998	992
172.5	1009	1003	1014	1011	1005
175.0	1018	1012	1023	1020	1014
177.5	1023	1017	1028	1025	1020
180.0	1025	1025	1025	1025	1025



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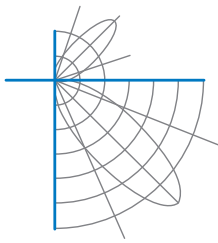
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Coefficients Of Utilization - Zonal Cavity Method

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	95	95	95	95	81	81	81	81	56	56	56	32	32	32	10	10	10	0
1	87	83	79	76	74	71	68	65	48	47	45	28	27	26	9	9	9	0
2	79	72	66	62	67	62	57	53	42	40	37	25	23	22	8	8	7	0
3	72	63	57	51	61	54	49	44	37	34	31	22	20	18	7	7	6	0
4	65	56	48	43	56	48	42	37	33	29	26	19	17	16	6	6	5	0
5	60	49	42	36	51	42	36	32	29	25	22	17	15	13	6	5	4	0
6	55	44	36	31	47	38	32	27	26	22	19	15	13	11	5	4	4	0
7	50	39	32	27	43	34	28	23	23	19	17	14	12	10	4	4	3	0
8	47	35	28	23	40	30	24	20	21	17	14	12	10	9	4	3	3	0
9	43	32	25	20	37	28	22	18	19	15	13	11	9	8	4	3	3	0
10	40	29	22	18	34	25	19	16	17	14	11	10	8	7	3	3	2	0

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.



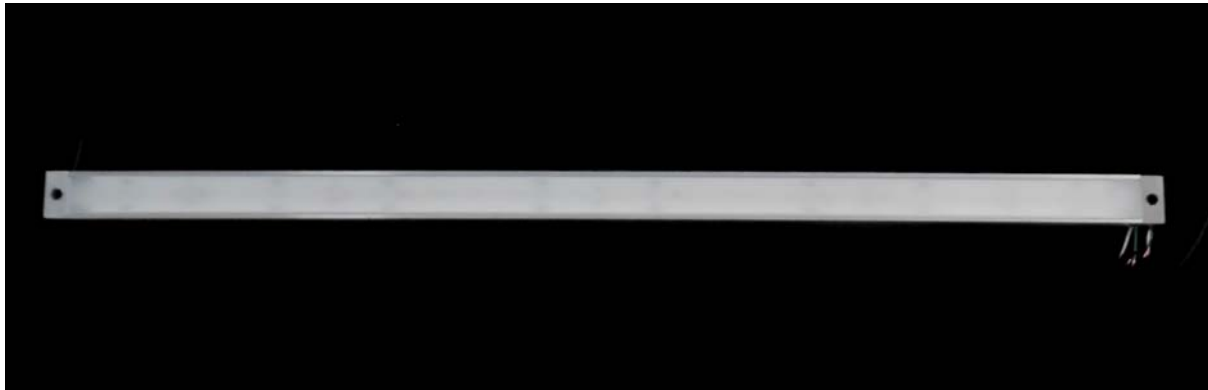
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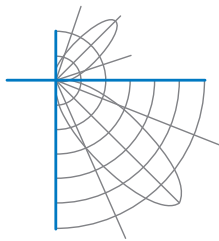
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Test Distance 9.5 m
Test Temperature 25.0 °C

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

LLIA000844-006B-R01*

Integrating Sphere Report

Catalog Number: MLS2-I-MO-K40-XX-4-XX-FDC-XXXX-120

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Performance Summary

Voltage	120.0 Vac
Current	0.1551 A
Power	18.50 W
Frequency	60.00 Hz
Power Factor	0.994
Current THD	5.4 %

Total Luminous Flux	2475.8 lm
Efficacy	133.8 lm/W
Chromaticity (x,y)	(0.3830, 0.3790)
(u',v')	(0.2259, 0.5030)
Duv	0.0003
CCT	3948 K
CRI (Ra)	84
R9	16

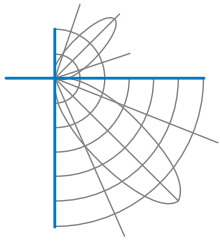
Prepared For:

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

*This test report supersedes test report LLIA000844-006B

Test date: 08/29/2017

Report date: 12/15/2017



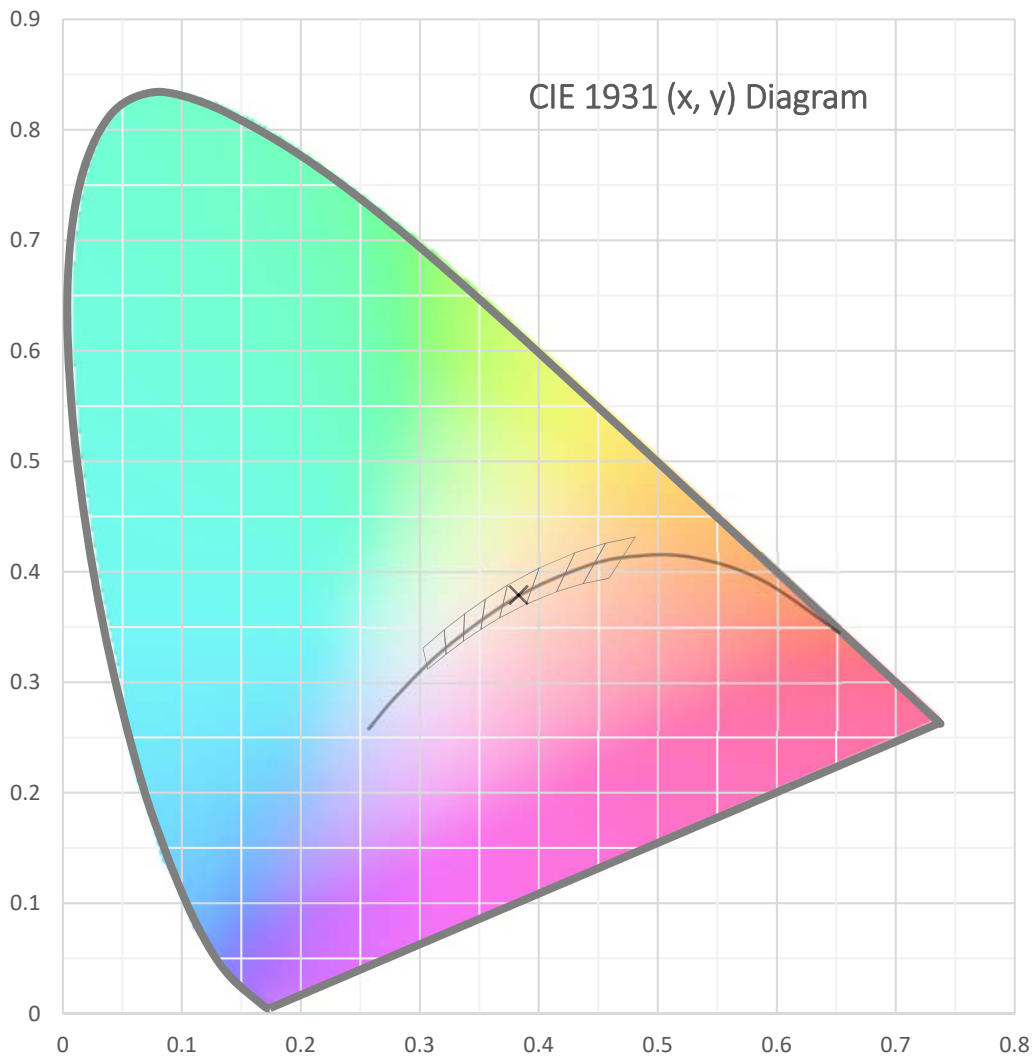
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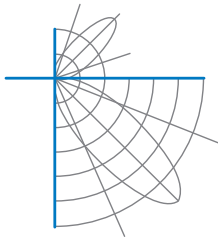
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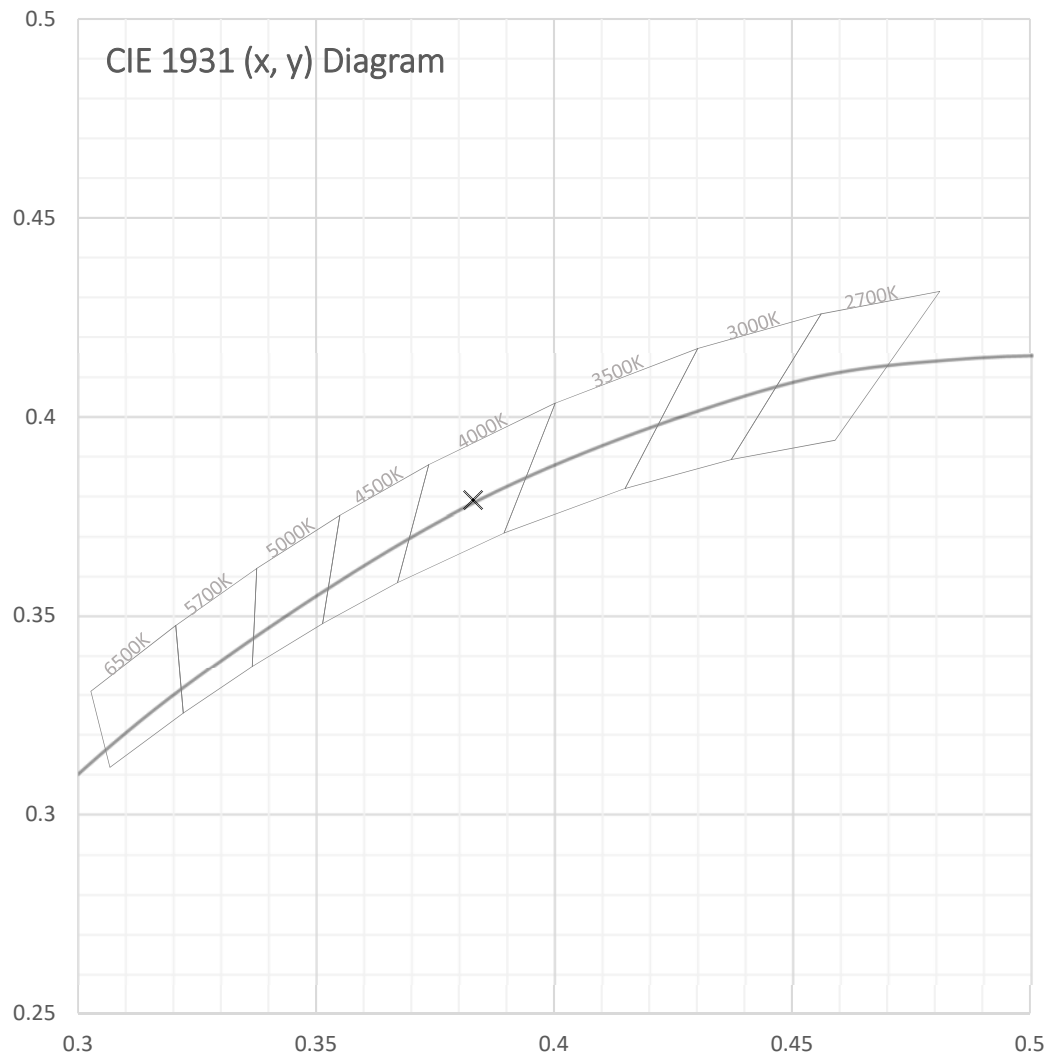
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Spectral Data	Total Radiant Flux	7.659 W
	Total Luminous Flux	2475.8 Lm
	Chromaticity CIE 1931 (x, y)	(0.3830, 0.3790)
	Chromaticity CIE 1976 (u', v')	(0.2259, 0.5030)
	Correlated Color Temperature (CCT)	3948 K
	Color Rendering Index (Ra)	84
	R1	83
	R2	91
	R3	96
	R4	82
	R5	82
	R6	86
	R7	87
	R8	67
	R9	16
	R10	77
	R11	81
	R12	61
	R13	85
	R14	98
	Distance from Planckian Locus (Duv)	0.0003
	Scotopic/Photopic Ratio *	1.691

Electrical Data

Voltage	120.0 Vac
Current	0.1551 A
Power	18.50 W
Frequency	60.00 Hz
Power Factor	0.994
Current THD	5.4 %



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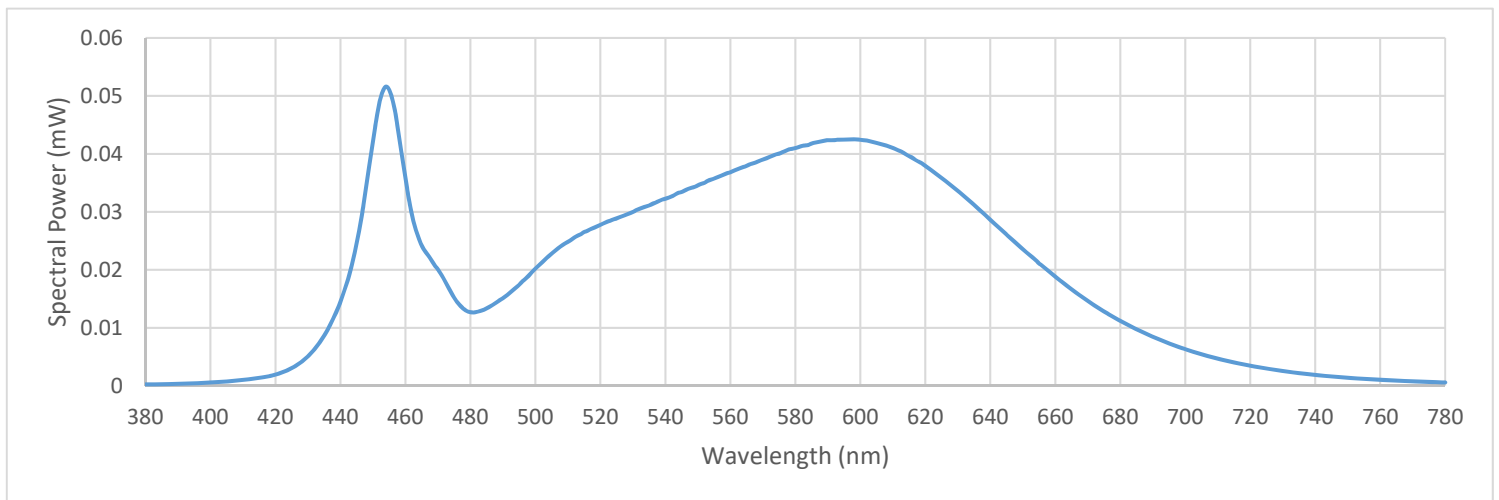
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Summary Spectral Power Distribution (wavelength - nm, spectral power - mW)

380	0.000234	480	0.012699	580	0.041002	680	0.011198
385	0.000256	485	0.013358	585	0.041786	685	0.009777
390	0.000318	490	0.015100	590	0.042370	690	0.008455
395	0.000422	495	0.017407	595	0.042457	695	0.007309
400	0.000568	500	0.020236	600	0.042431	700	0.006320
405	0.000759	505	0.022812	605	0.041889	705	0.005433
410	0.001002	510	0.024825	610	0.040991	710	0.004653
415	0.001336	515	0.026514	615	0.039619	715	0.004026
420	0.001948	520	0.027762	620	0.037889	720	0.003463
425	0.003042	525	0.028849	625	0.035879	725	0.002969
430	0.005109	530	0.029968	630	0.033577	730	0.002557
435	0.008716	535	0.031083	635	0.031219	735	0.002185
440	0.014445	540	0.032238	640	0.028642	740	0.001865
445	0.024559	545	0.033421	645	0.026080	745	0.001607
450	0.042043	550	0.034576	650	0.023551	750	0.001376
455	0.051056	555	0.035721	655	0.021106	755	0.001191
460	0.035964	560	0.036823	660	0.018850	760	0.001030
465	0.024199	565	0.037927	665	0.016625	765	0.000890
470	0.020078	570	0.039004	670	0.014622	770	0.000763
475	0.015160	575	0.040033	675	0.012824	775	0.000661
						780	0.000570





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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 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
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.