



# Report of Test

## LLIA000844-010A-R03\*

\*This test reports supersedes test report LLIA000844-010A-R02

Catalog Number: MLS5-I-MO-K40-80-4-XX-WSOP-XXXX-120  
Pendant mounted, extruded aluminum housing with aluminum end caps, formed white enamel aluminum LED tray. 144 white LEDs, four Osram PrevaLED line LED boards with 36 LEDs each, clear linear plastic lens above.  
One Osram Optotronic OTi 30/120-277/1A0 DIM L LED driver  
120.0Vac, 60.00Hz, 0.1572A, 18.75W, 0.994PF, 5.4%THD(i)



### Performance Summary

Total Light Output	2693 lm
Luminaire Power	18.8 W
Luminous Efficacy	143.2 lm/W

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



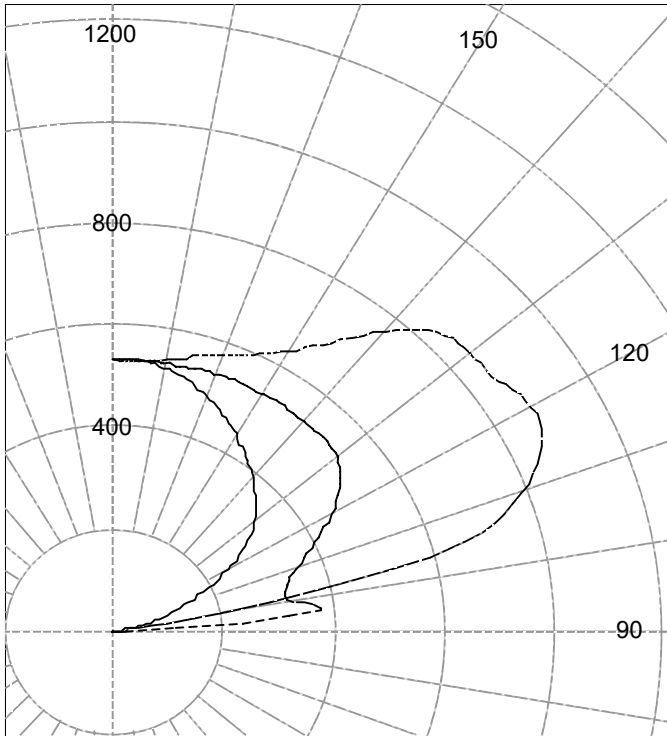
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Legend: C0-Solid, C45-Dashed, C90-Grey (cd)



**INTENSITY SUMMARY (cd)**

Gamma	C-Plane					Flux (lm)
	C0	C22.5	C45	C67.5	C90	
90.0	0	0	1	0	0	
95.0	16	41	322	51	30	111
100.0	46	80	332	404	207	
105.0	84	115	327	718	659	387
110.0	128	162	354	780	786	
115.0	180	214	404	791	859	476
120.0	239	267	456	776	878	
125.0	293	319	504	766	856	484
130.0	335	367	530	770	847	
135.0	365	408	537	749	828	441
140.0	392	435	537	695	766	
145.0	418	453	538	642	691	345
150.0	444	468	538	605	635	
155.0	468	482	538	581	598	247
160.0	490	497	537	565	574	
165.0	509	510	535	552	557	151
170.0	524	522	533	539	541	
175.0	532	529	534	533	532	51
180.0	533	533	533	533	533	

**ZONAL FLUX AND PERCENTAGES**

Zone	Flux (lm)	% Lamp	% Luminaire
180-150	449	N / A	16.7
180-140	794	N / A	29.5
180-120	1719	N / A	63.8
180-90	2693	N / A	100.0
140-90	1899	N / A	70.5
120-90	974	N / A	36.2
90-0	0	N / A	0.0
180-0	2693	N / A	100.0

Total Light Output = 2,693 lm

Signed:

Authorized Signatory

Date of test

11-Aug-2017

Date of report

23-Mar-2022



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**Intensity data (cd)**

Gamma	C-Plane				
	C0	C22.5	C45	C67.5	C90
90.0	0	0	1	0	0
92.5	6	16	53	9	7
95.0	16	41	322	51	30
97.5	30	64	372	152	81
100.0	46	80	332	404	207
102.5	64	96	317	645	455
105.0	84	115	327	718	659
107.5	105	138	336	754	733
110.0	128	162	354	780	786
112.5	153	187	379	790	832
115.0	180	214	404	791	859
117.5	209	240	429	785	875
120.0	239	267	456	776	878
122.5	267	293	482	768	868
125.0	293	319	504	766	856
127.5	316	343	520	769	849
130.0	335	367	530	770	847
132.5	351	389	535	765	842
135.0	365	408	537	749	828
137.5	379	423	537	724	802
140.0	392	435	537	695	766
142.5	405	445	538	667	728
145.0	418	453	538	642	691
147.5	431	461	538	622	660
150.0	444	468	538	605	635
152.5	456	475	538	592	615
155.0	468	482	538	581	598
157.5	480	490	538	572	585
160.0	490	497	537	565	574
162.5	500	504	536	559	565
165.0	509	510	535	552	557
167.5	517	516	533	545	549
170.0	524	522	533	539	541
172.5	529	526	533	535	534
175.0	532	529	534	533	532
177.5	534	530	535	533	531
180.0	533	533	533	533	533



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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	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	8	0
2	79	72	66	62	67	62	57	53	42	40	37	24	23	22	8	7	7	0
3	72	63	57	51	61	54	49	44	37	34	31	21	20	18	7	6	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	5	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	11	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	27	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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**Test Distance** 9.5 m  
**Test Temperature** 24.7 °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 - 12/14/2017 - Changed catalog number
- R02 - 01/03/2019 - Added -80 to catalog number for 80 CRI chips
- R03 - 03/23/2022 - Revised to keep in series with 010B



## Report of Test

### LLIA000844-010B-R03\*

Integrating Sphere Report

Catalog Number: MLS5-I-MO-K40-80-4-XX-WSOP-XXXX-120

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



#### Performance Summary

Voltage	120.0 Vac
Current	0.1571 A
Power	18.74 W
Frequency	59.97 Hz
Power Factor	0.994
Current THD	5.4 %

Total Luminous Flux	2817.4 lm
Efficacy	150.3 lm/W
Chromaticity (x,y)	(0.3822, 0.3814)
(u',v')	(0.2244, 0.5039)
Duv	0.0017
CCT	3986 K
CRI (Ra)	82
R9	8

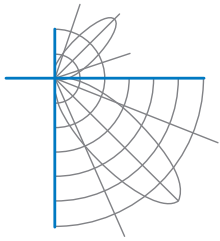
Prepared For:

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

\*This test report supersedes test report LLIA000844-010B-R02

Test date: 08/10/2017

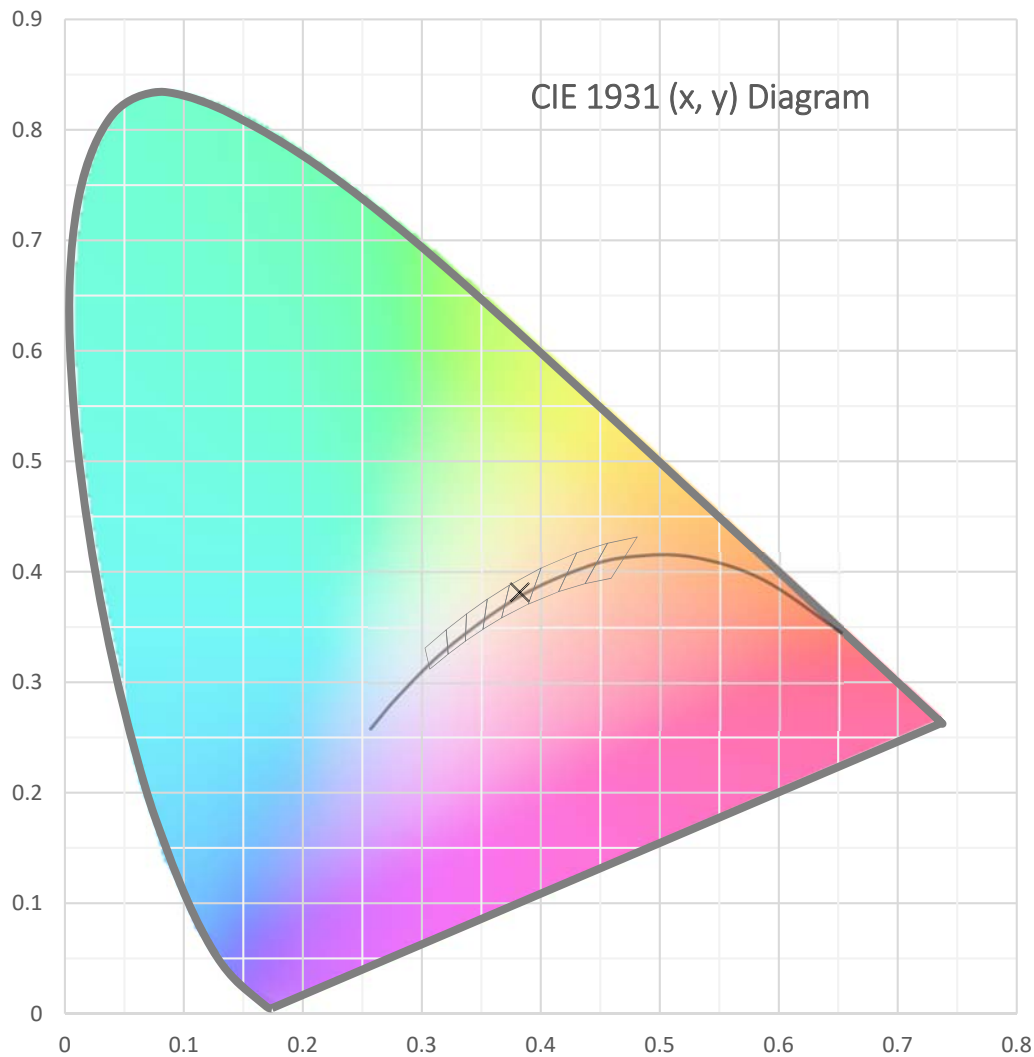
Report date: 03/23/2022



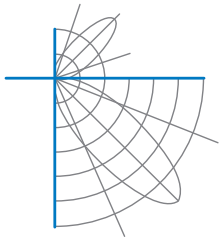
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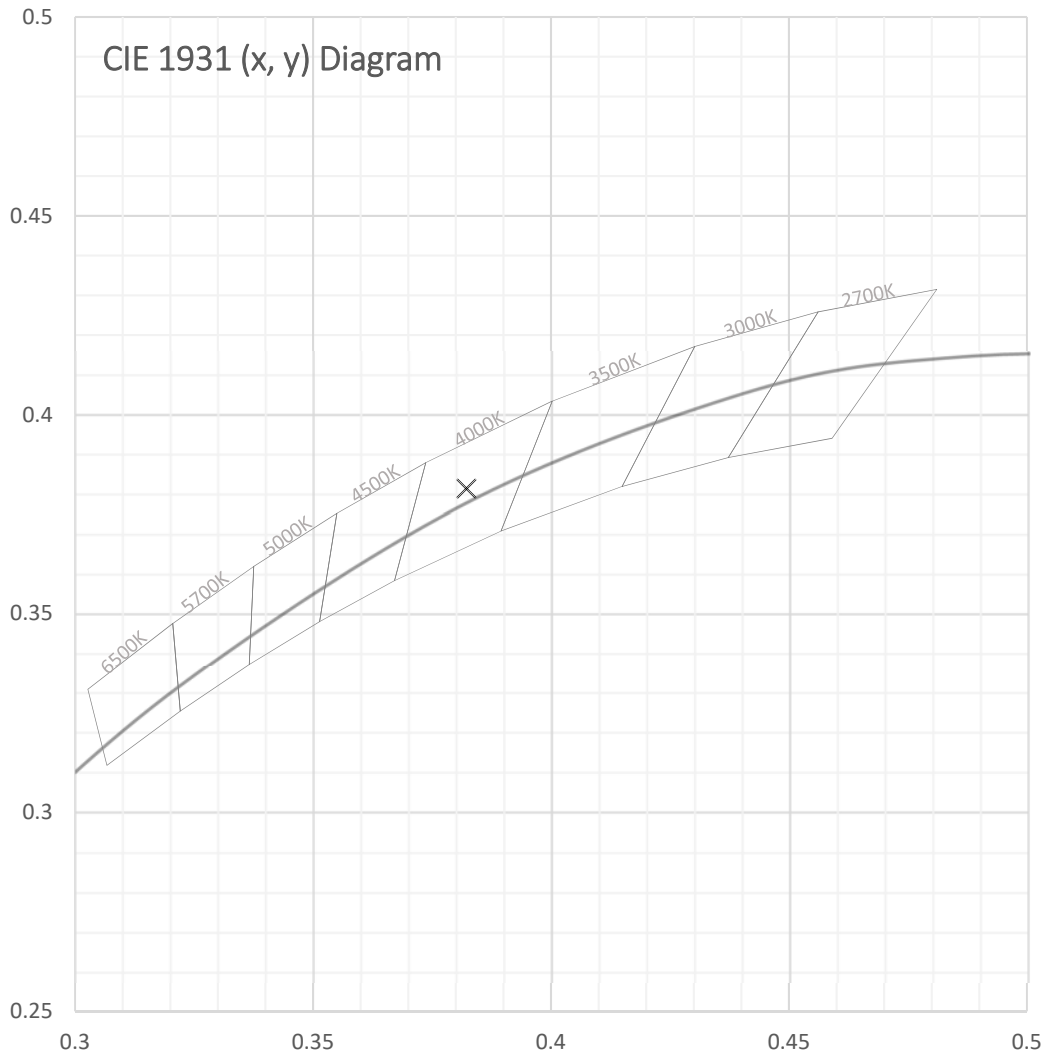




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**Spectral Data**

Total Radiant Flux	8.595 W
Total Luminous Flux	2817.4 Lm
Chromaticity CIE 1931 (x, y)	(0.3822, 0.3814)
Chromaticity CIE 1976 (u', v')	(0.2244, 0.5039)
Correlated Color Temperature (CCT)	3986 K
Color Rendering Index (Ra)	82
R1	80
R2	87
R3	92
R4	81
R5	79
R6	81
R7	87
R8	65
R9	8
R10	69
R11	78
R12	54
R13	81
R14	96
Distance from Planckian Locus (Duv)	0.0017
Scotopic/Photopic Ratio *	1.645

**Electrical Data**

Voltage	120.0 Vac
Current	0.1571 A
Power	18.74 W
Frequency	59.97 Hz
Power Factor	0.994
Current THD	5.4 %



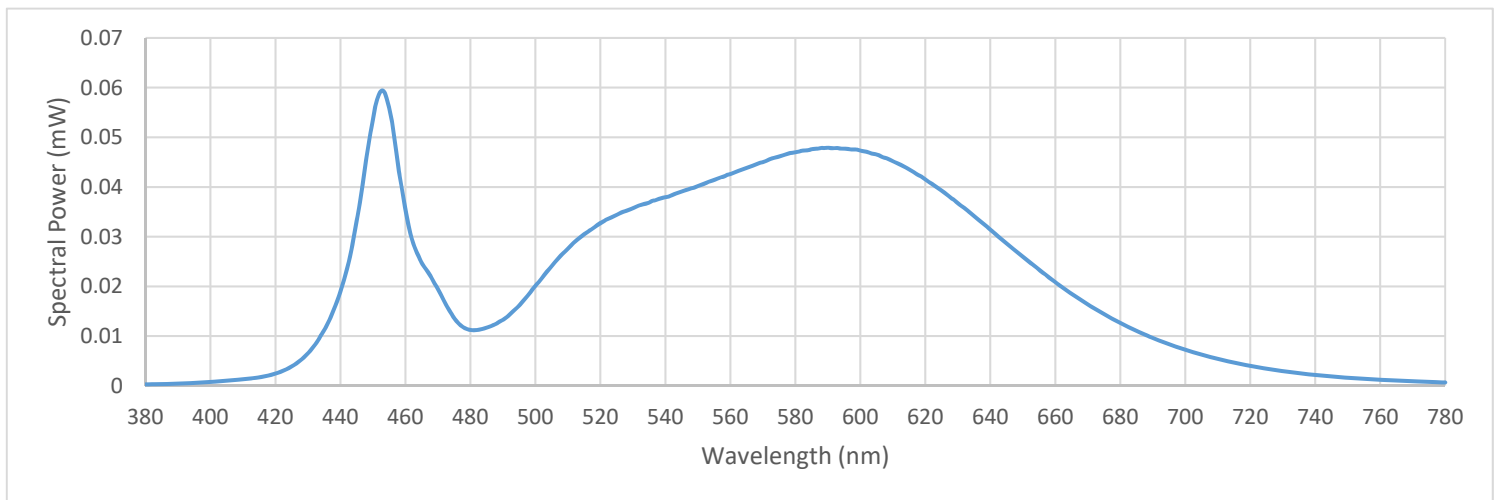
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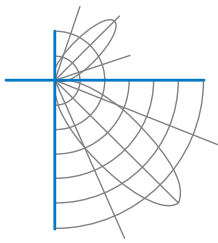
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**Summary Spectral Power Distribution (wavelength - nm, spectral power - mW)**

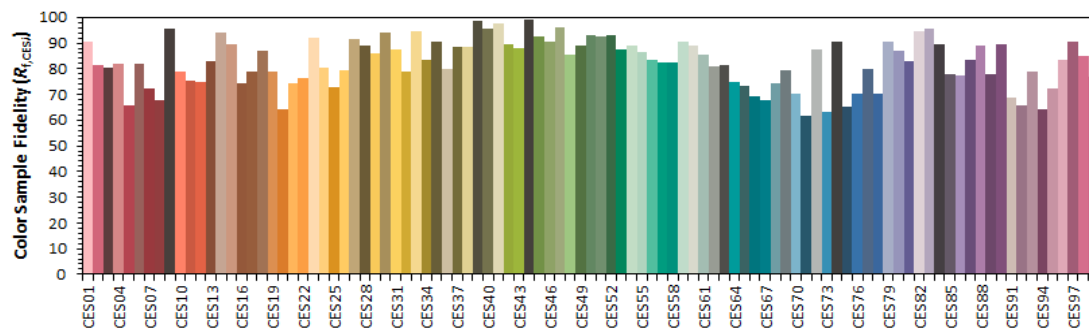
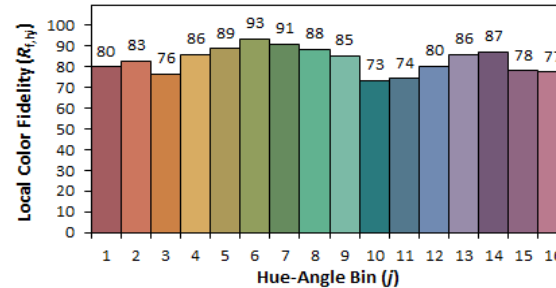
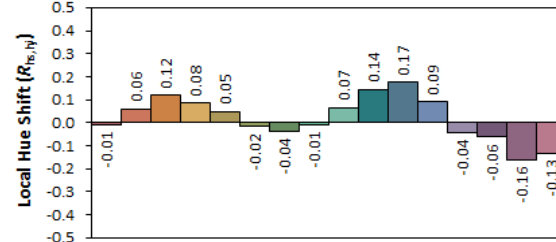
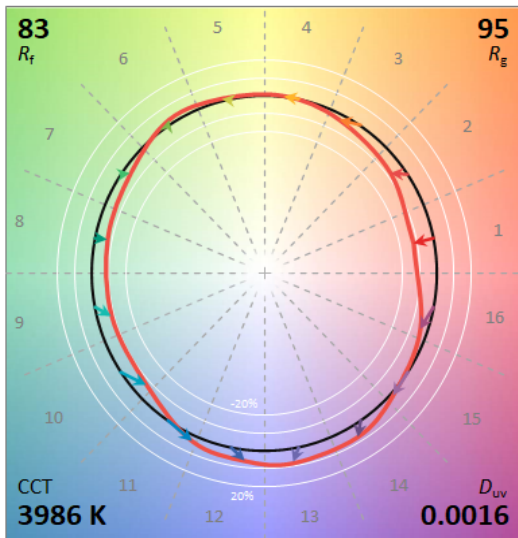
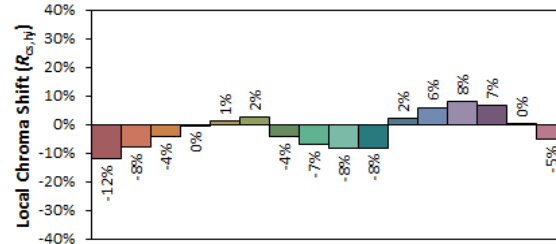
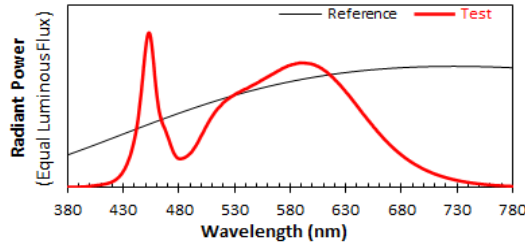
380	0.000295	480	0.011241	580	0.046990	680	0.012629
385	0.000331	485	0.011665	585	0.047610	685	0.011065
390	0.000427	490	0.013279	590	0.047910	690	0.009624
395	0.000569	495	0.016125	595	0.047715	695	0.008358
400	0.000772	500	0.020103	600	0.047325	700	0.007249
405	0.001009	505	0.024058	605	0.046556	705	0.006266
410	0.001319	510	0.027591	610	0.045166	710	0.005390
415	0.001712	515	0.030523	615	0.043534	715	0.004667
420	0.002463	520	0.032752	620	0.041480	720	0.004010
425	0.003882	525	0.034362	625	0.039297	725	0.003444
430	0.006582	530	0.035738	630	0.036714	730	0.002963
435	0.011200	535	0.036858	635	0.034161	735	0.002536
440	0.018954	540	0.037917	640	0.031416	740	0.002176
445	0.033168	545	0.039061	645	0.028612	745	0.001876
450	0.053693	550	0.040206	650	0.025951	750	0.001616
455	0.055986	555	0.041406	655	0.023311	755	0.001387
460	0.035530	560	0.042602	660	0.020896	760	0.001207
465	0.024743	565	0.043803	665	0.018491	765	0.001040
470	0.019445	570	0.045003	670	0.016357	770	0.000892
475	0.013582	575	0.046125	675	0.014416	775	0.000772
						780	0.000665





Test Report Number: LLIA000844-010B-R03

IES TM-30 Details



Notes:

x **0.3822**  
y **0.3813**  
u' **0.2244**  
v' **0.5039**

CIE 13.3-1995  
(CRI)  
R<sub>a</sub> 82  
R<sub>g</sub> 8



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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
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.
Revision History:	R01 - 12/14/2017 - Changed catalog number R02 - 01/03/2019 - Added -80 to catalog number for 80 CRI chips R03 - 03/23/2022 - Added TM-30 metrics page to report