

Report of Test

LLI-19091-4

Optolum - Linear luminaire. Product ID: OLM-010VH-H-014835--014800

Extruded aluminum housing with clear plastic flat lens.

48 LEDs mounted in single row with individual diffuse clear plastic focusing lenses.

Two Harvard Technology LED drivers. Model: CLS50-1400A-UNI-B-I/F

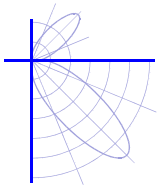
Operating at 277v AC an 60 Hz,



Performance Summary

Total Light Output	4818 lm	Min Power Factor	0.87 @ 277 V
Luminaire Power	70.4 W	Max THD(i)*	13.0 % @ 277 V
Luminous Efficacy	68.4 lm/W		
CCT	3370 K		
CIE(x,y) 1931	(0.408, 0.381)		
CRI	95		

PREPARED FOR : Optolum, Tempe, AZ 85281



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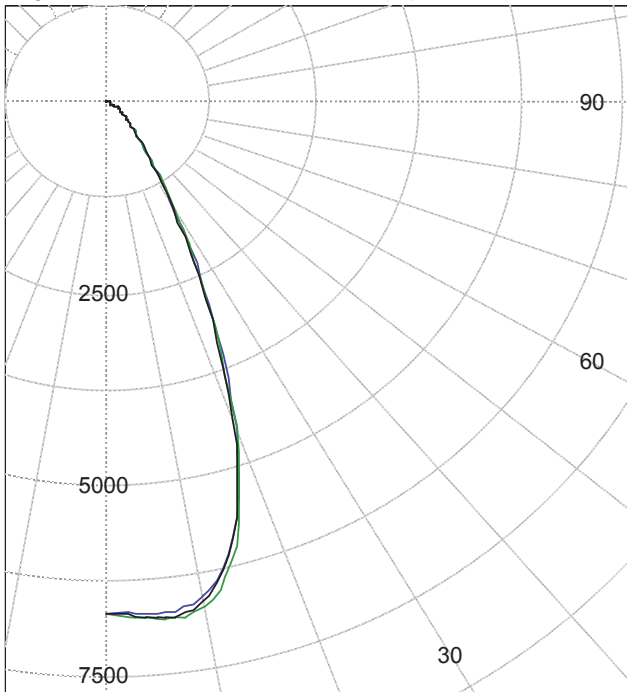
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Legend: C0-Black, C45-Green, C90-Blue (cd)



(Two plane symmetry) C0-C90

INTENSITY SUMMARY (cd)

Gamma	C-Plane					Flux (lm)
	C0	C22.5	C45	C67.5	C90	
0.0	6691	6691	6691	6691	6691	
5.0	6755	6762	6764	6734	6705	642
10.0	6631	6669	6704	6640	6574	
15.0	5887	5938	5989	5940	5872	1613
20.0	4429	4461	4513	4517	4508	
25.0	2798	2827	2884	2909	2926	1317
30.0	1572	1595	1643	1663	1671	
35.0	879	889	915	923	928	595
40.0	538	542	554	554	554	
45.0	368	370	375	371	368	294
50.0	269	270	272	268	264	
55.0	203	204	205	200	196	183
60.0	155	156	156	151	147	
65.0	116	116	117	112	109	114
70.0	81	81	82	79	76	
75.0	48	48	49	48	46	52
80.0	21	21	22	22	21	
85.0	6	6	6	6	6	9
90.0	0	0	0	0	0	

ZONAL FLUX AND PERCENTAGES

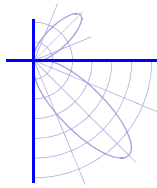
Zone	Flux (lm)	% Lamp	% Luminaire
0-30	3572	N/A	74.1
0-40	4167	N/A	86.5
0-60	4644	N/A	96.4
0-90	4818	N/A	100.0
40-90	651	N/A	13.5
60-90	174	N/A	3.6
90-180	0	N/A	0.0
0-180	4818	N/A	100.0

Total Light Output = 4,818 lm

Signed:

Ryder Tunney
Ryder Tunney
Authorized Signatory

Date of test 8-Apr-2019
Date of report 8-Apr-2019



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Extruded aluminum housing with clear plastic flat lens.

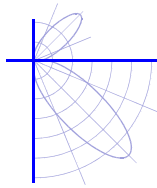
48 LEDs mounted in single row with individual diffuse clear plastic focusing lenses.

Two Harvard Technology LED drivers. Model: CLS50-1400A-UNI-B-I/F

Operating at 277v AC an 60 Hz,

Intensity data (cd)

Gamma	C-Plane				
	C0	C22.5	C45	C67.5	C90
0.0	6691	6691	6691	6691	6691
2.5	6713	6717	6721	6703	6682
5.0	6755	6762	6764	6734	6705
7.5	6748	6769	6782	6732	6688
10.0	6631	6669	6704	6640	6574
12.5	6356	6406	6455	6390	6312
15.0	5887	5938	5989	5940	5872
17.5	5221	5261	5316	5295	5258
20.0	4429	4461	4513	4517	4508
22.5	3590	3619	3674	3691	3702
25.0	2798	2827	2884	2909	2926
27.5	2113	2144	2198	2222	2235
30.0	1572	1595	1643	1663	1671
32.5	1168	1185	1221	1235	1241
35.0	879	889	915	923	928
37.5	677	684	701	705	707
40.0	538	542	554	554	554
42.5	439	443	450	448	446
45.0	368	370	375	371	368
47.5	313	314	317	313	310
50.0	269	270	272	268	264
52.5	233	234	236	231	226
55.0	203	204	205	200	196
57.5	177	178	179	174	170
60.0	155	156	156	151	147
62.5	135	135	136	131	127
65.0	116	116	117	112	109
67.5	98	98	99	95	92
70.0	81	81	82	79	76
72.5	64	64	65	63	61
75.0	48	48	49	48	46
77.5	33	34	35	34	33
80.0	21	21	22	22	21
82.5	12	12	13	13	12
85.0	6	6	6	6	6
87.5	3	3	3	2	2
90.0	0	0	0	0	0



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Operating at 277v AC an 60 Hz,

LM-79 Performance Data

Spectral	CIE 1931 (x, y) ⁽¹⁾	(0.408, 0.381)
	CIE 1976 (u', v') ⁽¹⁾	(0.241, 0.508)
	Correlated Color Temperature (CCT) ⁽¹⁾	3370 K
	Spatial Δ (u', v') Uniformity ⁽²⁾	4.48E-03
	Color Rendering Index (Ra) ⁽¹⁾	95.1
	Special CRI 9 (R ₉) ^{(1),(3)}	76.9
	Distance from Planckian Locus (Duv) ^{(1),(3)}	-4.61E-03
	Scotopic/Photopic Ratio ^{(1),(3)}	1.61

Electrical	Voltage	277.0 V	(Setpoint 1)
	Frequency	60.0 Hz	
	Current	0.294 A	
	Power	70.4 W	
	Power Factor	0.87	
	Current THD	13 %	
	Voltage	120.0 V	(Setpoint 2)
	Frequency	60.0 Hz	
	Current	0.615 A	
	Power	71.9 W	
	Power Factor	0.97	
	Current THD	2.3 %	

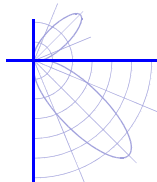
Performance data in accordance with IESNA LM-79-08. Spectral calculations are for a CIE 2° observer
Photometric and spectral values were measured at Setpoint 1

(1) Value is computed from the weighted average of the spatial measurements

(2) Value is the maximum deviation of the spatial u' and v' measurements from the weighted average

(3) Quantity is in addition to the scope of IESNA LM-79-08





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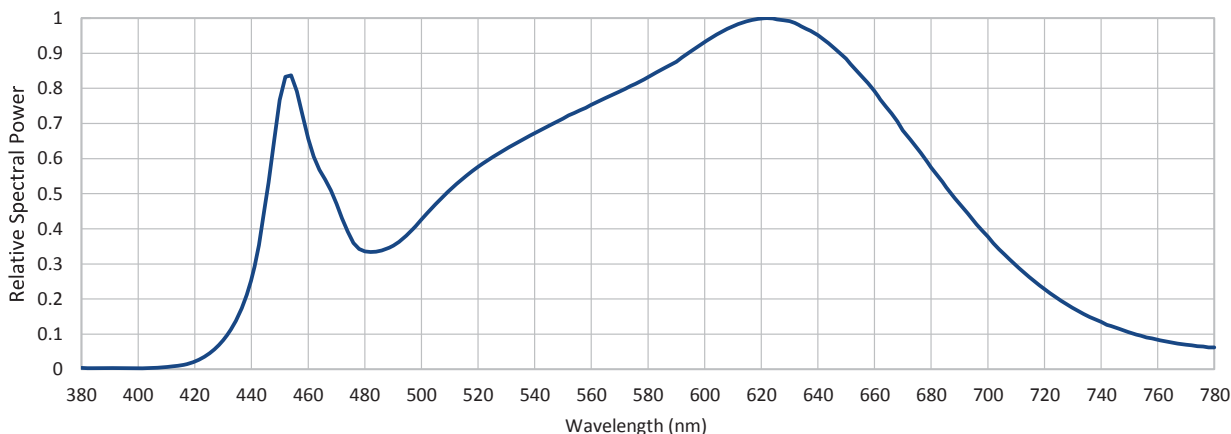
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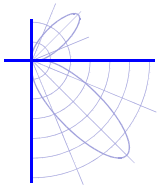
LM-79 Performance Data

Relative spectral power distribution

(Relative to peak = 1, weighted average of spatial measurements)

λ (nm)	Relative Power	λ (nm)	Relative Power	λ (nm)	Relative Power	λ (nm)	Relative Power	λ (nm)	Relative Power
380	0.004	460	0.656	540	0.673	620	0.999	700	0.378
385	0.003	465	0.554	545	0.693	625	0.998	705	0.334
390	0.003	470	0.471	550	0.714	630	0.991	710	0.296
395	0.003	475	0.376	555	0.734	635	0.973	715	0.261
400	0.003	480	0.336	560	0.753	640	0.951	720	0.228
405	0.004	485	0.337	565	0.772	645	0.920	725	0.200
410	0.006	490	0.352	570	0.791	650	0.884	730	0.175
415	0.012	495	0.383	575	0.811	655	0.839	735	0.153
420	0.022	500	0.427	580	0.832	660	0.792	740	0.135
425	0.045	505	0.470	585	0.854	665	0.738	745	0.119
430	0.083	510	0.510	590	0.876	670	0.680	750	0.105
435	0.147	515	0.545	595	0.905	675	0.631	755	0.093
440	0.258	520	0.577	600	0.932	680	0.575	760	0.084
445	0.475	525	0.604	605	0.956	685	0.522	765	0.076
450	0.767	530	0.628	610	0.977	690	0.471	770	0.070
455	0.814	535	0.651	615	0.991	695	0.423	775	0.065
								780	0.062





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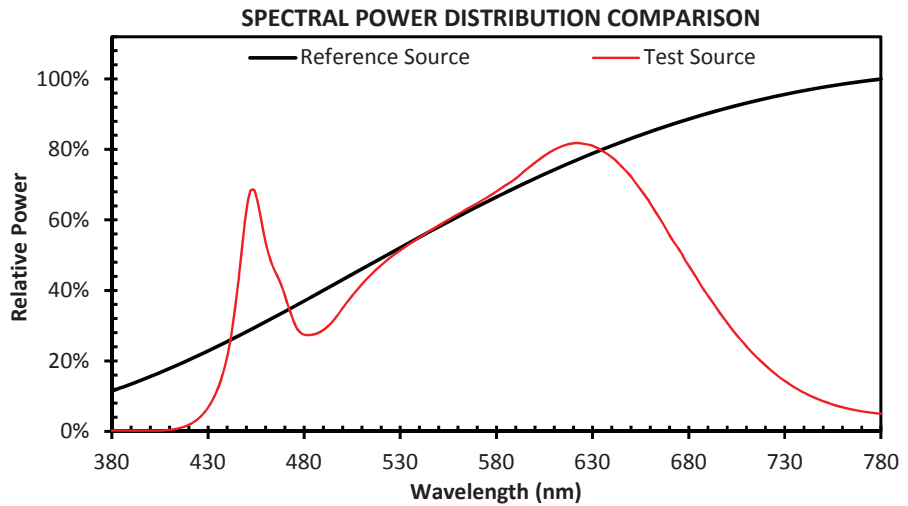
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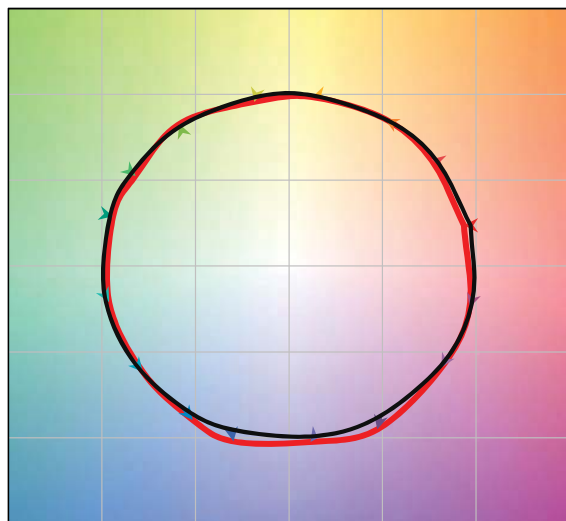
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R_f	90
R_g	100

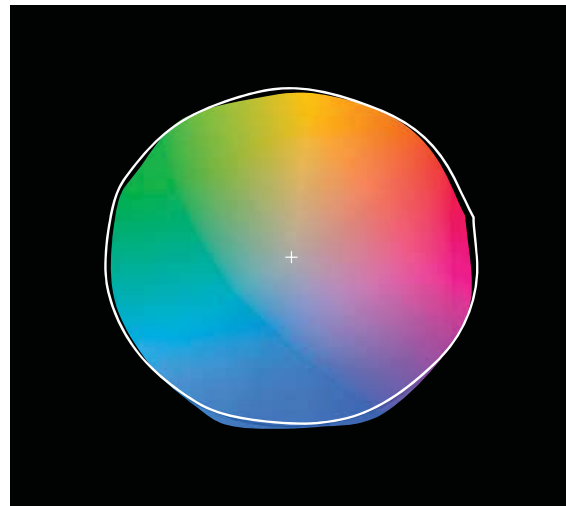


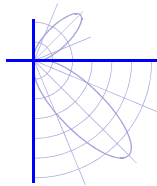
COLOR VECTOR GRAPHIC



— Test Source → Series1

COLOR DISTORTION GRAPHIC





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Test Distance 8.0 m
Test Temperature 25.3 °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.

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