



Report of Test

LLIA001503-007

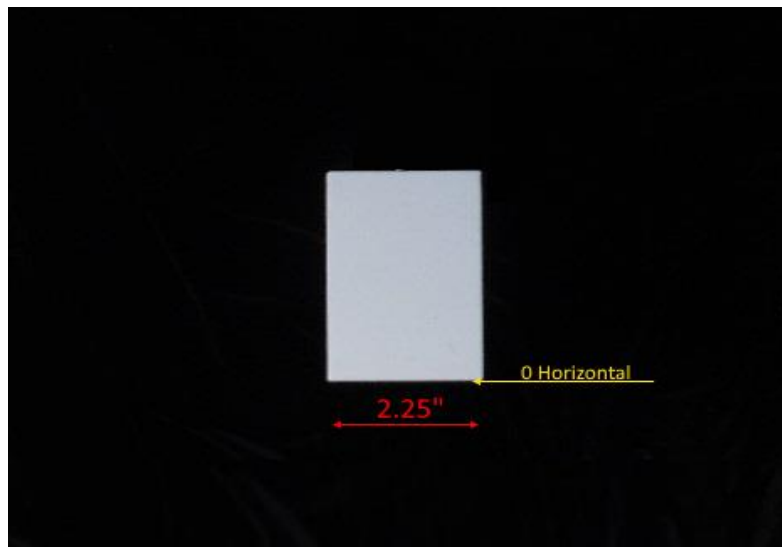
Indoor Distribution Photometry Test Report

Catalog Number: MLW2-M-48-1040-35K-HTA-1%-U

Pendant/surface mounted, extruded aluminum housing, frosted plastic enclosure.

112 white LEDs, two Advance FO Strip PR 23.7 in 2200lm 835 LV5 LED boards with 56 LEDs each.

One Advance XI040C110V054BST2 LED driver labeled as 750mA



Prepared For:

Mercury Lighting Products Company, Inc.

20 Audrey Place

Fairfield, NJ 07004, USA

Performance Summary

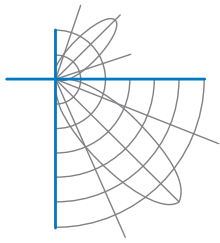
Input Voltage	120.0 V	Luminous Flux	4163.4 Lumens
Input Current	0.2890 A	Total Efficacy	121.2 Lm/W
Input Power	34.34 W	Downward Flux	4163.3 Lumens
Frequency	60.00 Hz	Downward Flux	100.0 % of Total
Power Factor	0.990		
Current THD	8.9 %		

This test report was issued by LightLab International Allentown, LLC without alterations or erasures.

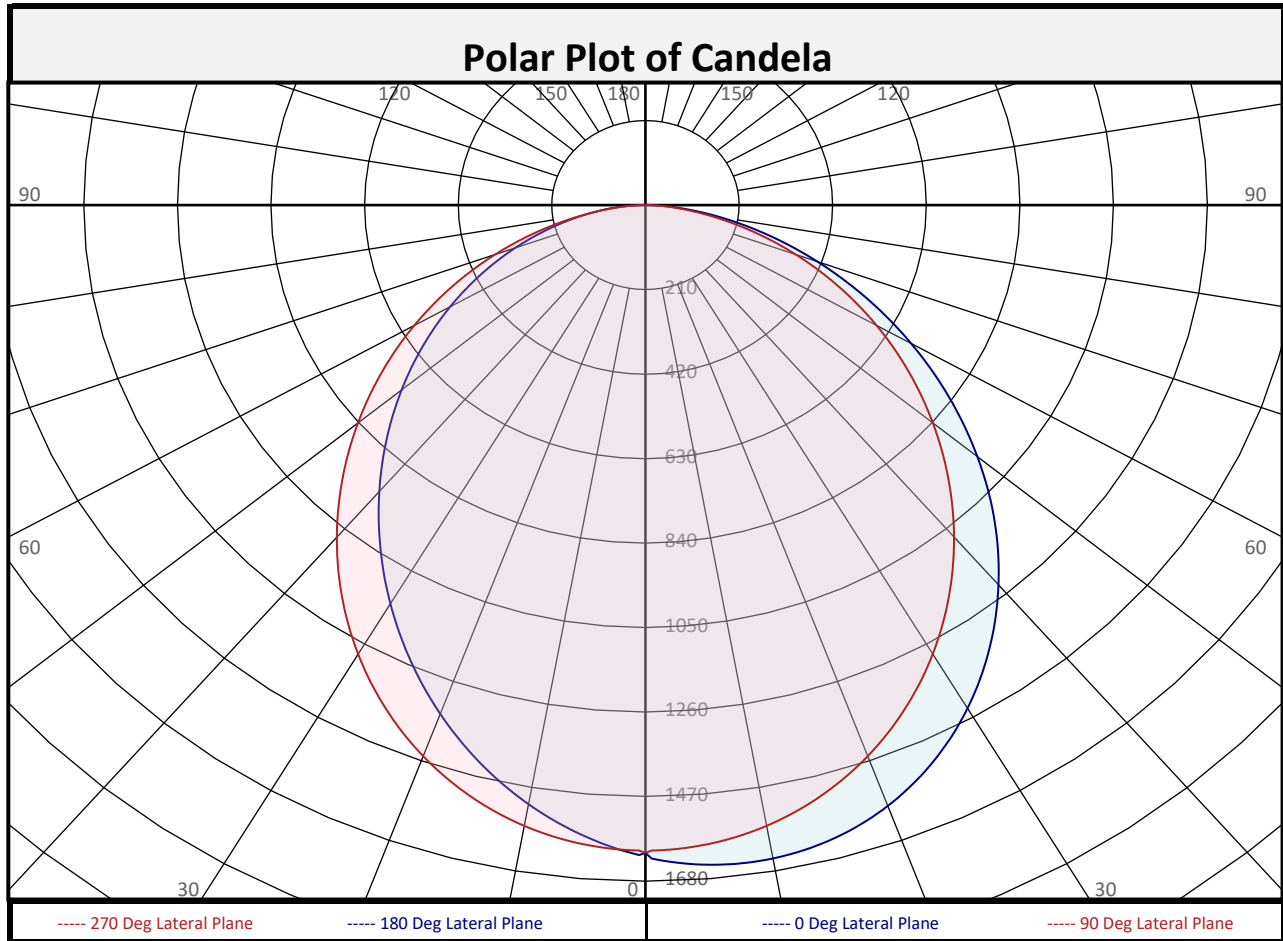
Test date: 08/06/2021

Report date: 08/09/2021

Signed: _____

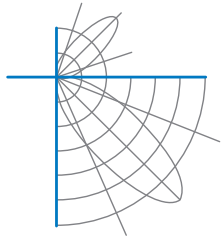


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Zonal Flux Summary

Zone (Deg Vert)	Flux (Lumens)	Percent of Total	Zone (Deg Vert)	Flux (Lumens)	Percent of Total	Zone (Deg Vert)	Flux (Lumens)	Percent of Total
0-10	151.9	3.6%	90-100	0.1	0.0%	0-20	581.7	14.0%
10-20	429.8	10.3%	100-110	0.0	0.0%	0-30	1218	29.3%
20-30	636.4	15.3%	110-120	0.0	0.0%	0-40	1961	47.1%
30-40	743.0	17.8%	120-130	0.0	0.0%	0-60	3350	80.5%
40-50	742.8	17.8%	130-140	0.0	0.0%	0-80	4090	98.2%
50-60	646.0	15.5%	140-150	0.0	0.0%	10-90	4011	96.3%
60-70	475.2	11.4%	150-160	0.0	0.0%	20-50	2122	51.0%
70-80	265.1	6.4%	160-170	0.0	0.0%	40-90	2202	52.9%
80-90	73.1	1.8%	170-180	0.0	0.0%	60-90	813.5	19.5%
0-90	4163	100.0%	90-180	0.1	0.0%	0-180	4163	100.0%

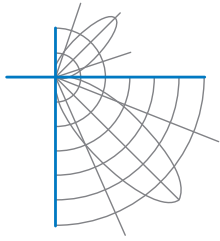


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Luminous Intensity (Candela) Table

		Lateral (C-Plane) Angles								
		0	22.5	45	67.5	90	112.5	135	157.5	180
Vertical (Gamma) Angles	0	1610	1610	1610	1610	1610	1610	1610	1610	1610
	2.5	1636	1630	1619	1608	1602	1595	1593	1597	1599
	5	1646	1638	1623	1608	1595	1581	1574	1574	1574
	7.5	1650	1642	1623	1602	1583	1562	1550	1546	1545
	10	1649	1640	1618	1592	1566	1540	1522	1514	1512
	12.5	1642	1632	1608	1577	1546	1513	1491	1479	1475
	15	1630	1620	1592	1557	1520	1483	1455	1440	1435
	17.5	1612	1601	1571	1532	1491	1448	1416	1398	1392
	20	1589	1578	1546	1503	1458	1411	1374	1354	1346
	22.5	1560	1549	1515	1470	1421	1370	1330	1307	1298
	25	1527	1515	1479	1432	1380	1326	1283	1258	1248
	27.5	1488	1476	1440	1390	1336	1279	1234	1207	1197
	30	1444	1432	1395	1345	1289	1230	1183	1155	1144
	32.5	1397	1385	1348	1296	1239	1180	1131	1102	1091
	35	1345	1334	1296	1245	1187	1127	1078	1049	1037
	37.5	1290	1279	1242	1191	1133	1073	1025	995	983
	40	1232	1221	1185	1134	1077	1018	970	941	929
	42.5	1171	1161	1125	1076	1020	963	916	887	875
	45	1107	1099	1064	1016	961	907	861	833	821
	47.5	1041	1034	1002	955	902	850	806	779	767
50	972	967	938	893	842	793	752	726	714	
52.5	902	897	872	829	781	736	697	672	661	
55	831	827	806	766	721	679	643	619	609	
57.5	760	757	738	702	660	622	589	567	558	
60	688	686	670	638	599	565	535	515	507	
62.5	617	615	601	574	538	508	482	464	456	
65	547	545	533	511	478	452	429	413	407	
67.5	478	477	466	447	418	396	377	364	358	
70	410	409	400	385	359	341	326	316	311	
72.5	345	344	336	322	301	288	275	268	265	
75	282	281	274	262	244	235	227	222	220	
77.5	222	222	216	205	191	185	181	179	177	
80	167	166	161	152	141	138	138	138	137	
82.5	115	115	111	104	96	96	98	100	100	
85	69	69	67	63	58	59	63	65	65	
87.5	28	28	28	28	27	29	32	33	34	
90	5	4	3	1	0	1	3	4	4	



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		Lateral (C-Plane) Angles								
		0	22.5	45	67.5	90	112.5	135	157.5	180
Vertical (Gamma) Angles	90	5	4	3	1	0	1	3	4	4
	92.5	0	0	0	0	0	0	0	0	0
	95	0	0	0	0	0	0	0	0	0
	97.5	0	0	0	0	0	0	0	0	0
	100	0	0	0	0	0	0	0	0	0
	102.5	0	0	0	0	0	0	0	0	0
	105	0	0	0	0	0	0	0	0	0
	107.5	0	0	0	0	0	0	0	0	0
	110	0	0	0	0	0	0	0	0	0
	112.5	0	0	0	0	0	0	0	0	0
	115	0	0	0	0	0	0	0	0	0
	117.5	0	0	0	0	0	0	0	0	0
	120	0	0	0	0	0	0	0	0	0
	122.5	0	0	0	0	0	0	0	0	0
	125	0	0	0	0	0	0	0	0	0
	127.5	0	0	0	0	0	0	0	0	0
	130	0	0	0	0	0	0	0	0	0
	132.5	0	0	0	0	0	0	0	0	0
	135	0	0	0	0	0	0	0	0	0
	137.5	0	0	0	0	0	0	0	0	0
140	0	0	0	0	0	0	0	0	0	
142.5	0	0	0	0	0	0	0	0	0	
145	0	0	0	0	0	0	0	0	0	
147.5	0	0	0	0	0	0	0	0	0	
150	0	0	0	0	0	0	0	0	0	
152.5	0	0	0	0	0	0	0	0	0	
155	0	0	0	0	0	0	0	0	0	
157.5	0	0	0	0	0	0	0	0	0	
160	0	0	0	0	0	0	0	0	0	
162.5	0	0	0	0	0	0	0	0	0	
165	0	0	0	0	0	0	0	0	0	
167.5	0	0	0	0	0	0	0	0	0	
170	0	0	0	0	0	0	0	0	0	
172.5	0	0	0	0	0	0	0	0	0	
175	0	0	0	0	0	0	0	0	0	
177.5	0	0	0	0	0	0	0	0	0	
180	0	0	0	0	0	0	0	0	0	



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Coefficients of Utilization/Room 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
RCR																						
0	119	119	119	119		116	116	116	116		111	111	111		106	106	106		102	102	102	100
1	109	104	100	96		106	102	98	95		98	95	92		94	91	89		90	88	86	84
2	99	91	85	79		97	89	83	78		86	81	76		83	78	74		80	76	73	71
3	91	80	72	66		88	79	71	65		76	69	64		73	68	63		71	66	62	60
4	83	71	63	56		81	70	62	56		68	61	55		65	59	54		63	58	53	51
5	77	64	55	49		75	63	54	48		61	53	48		59	52	47		57	51	47	45
6	71	58	49	43		69	57	48	42		55	47	42		53	47	42		52	46	41	39
7	66	52	44	38		64	52	43	38		50	43	37		49	42	37		47	41	37	35
8	61	48	39	34		60	47	39	34		46	39	33		45	38	33		43	37	33	31
9	57	44	36	30		56	43	36	30		42	35	30		41	35	30		40	34	30	28
10	54	41	33	28		52	40	33	28		39	32	27		38	32	27		37	31	27	25

For absolute test reports, RUs are expressed as a percentage of total lumen output. For relative test reports, CUs are expressed as a percentage of total lamp 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)	Ground-level distance to half-of-nadir illuminance (ft)		
		0-180 deg	90-270 deg	
6.0	44.7	7.18	7.17	
8.0	25.2	9.57	9.56	
10.0	16.1	11.96	11.95	
12.0	11.2	14.36	14.33	
14.0	8.2	16.75	16.72	
16.0	6.3	19.14	19.11	

Average Luminance (cd/m ²)			
	0 deg Plane	45 deg Plane	90 deg Plane
0	23109	23109	23109
45	22466	21603	19506
55	20783	20166	18031
65	18582	18112	16225
75	15630	15204	13548
85	11361	10965	9515

Spacing Criterion	
0 degree plane:	1.3
90 degree plane:	1.2
180 degree plane:	1.1
270 degree plane:	1.2



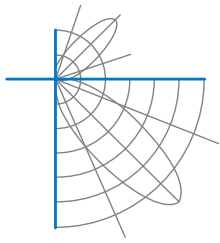
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UGR TABLE - CORRECTED

Reflectances											
Ceiling Cavity		70	70	50	50	30	70	70	50	50	30
Walls		50	30	50	30	30	50	30	50	30	30
Floor Cavity		20	20	20	20	20	20	20	20	20	20
Room Size		UGR Viewed Crosswise					UGR Viewed Endwise				
X=2H	Y=2H	23.0	24.6	23.4	24.9	25.2	22.1	23.7	22.4	24.0	24.3
	3H	24.7	26.2	25.1	26.5	26.8	23.8	25.2	24.2	25.6	25.9
	4H	25.3	26.7	25.7	27.0	27.4	24.4	25.8	24.8	26.1	26.5
	6H	25.7	27.0	26.2	27.4	27.8	24.8	26.1	25.2	26.4	26.8
	8H	25.9	27.1	26.3	27.5	27.9	24.9	26.2	25.4	26.5	26.9
	12H	26.0	27.1	26.4	27.5	27.9	25.0	26.2	25.4	26.6	27.0
4H	2H	23.6	24.9	24.0	25.3	25.7	22.7	24.1	23.1	24.4	24.8
	3H	25.5	26.6	25.9	27.0	27.4	24.6	25.8	25.0	26.2	26.6
	4H	26.2	27.3	26.6	27.7	28.1	25.3	26.4	25.8	26.8	27.2
	6H	26.8	27.7	27.2	28.1	28.6	25.9	26.8	26.3	27.2	27.7
	8H	27.0	27.8	27.4	28.3	28.7	26.1	26.9	26.5	27.3	27.8
	12H	27.1	27.9	27.6	28.3	28.8	26.2	26.9	26.6	27.4	27.9
8H	4H	26.5	27.3	26.9	27.8	28.2	25.6	26.5	26.1	26.9	27.4
	6H	27.2	27.9	27.7	28.4	28.8	26.3	27.0	26.8	27.5	28.0
	8H	27.4	28.0	27.9	28.5	29.0	26.5	27.2	27.0	27.7	28.2
	12H	27.6	28.2	28.1	28.7	29.2	26.7	27.3	27.2	27.8	28.3
12H	4H	26.5	27.3	27.0	27.7	28.2	25.7	26.4	26.1	26.9	27.4
	6H	27.2	27.8	27.7	28.3	28.8	26.4	27.0	26.9	27.5	28.0
	8H	27.5	28.1	28.0	28.6	29.1	26.6	27.2	27.1	27.7	28.3

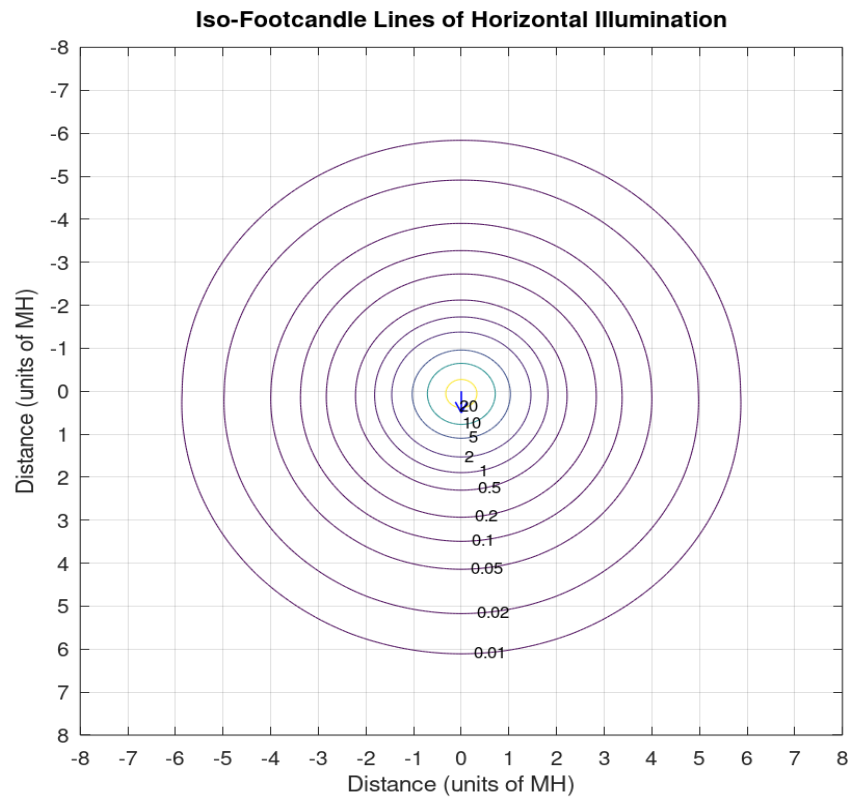
Maximum UGR = 29.2



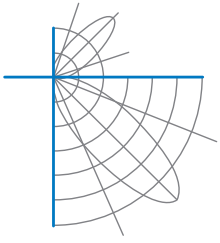
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Iso-Illuminance Plot



The isofootcandle values shown in the plot above are based on a mounting height of $h = 8.0$ feet. Grid values show multiples of mounting height. The isoilluminance contour lines are expressed in units of footcandles. The values expressed are based on the direct light from a single unit without the contribution of room reflections.



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Additional Pictures of Test Subject





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Test Distance 9.5 m
Ambient Temperature 25.4 °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 IES LM-79-19. Format of reports and angular increments based on IES LM-41-14 and LM-46-04.

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 C-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.