

Report of Test

LLIA001305-001-R03*

Indoor Distribution Photometry Test Report

Catalog Number: MLA-DI-48-1050-1250-35K-HTA-BW-1%-2C-U-MG

Pendant mounted, formed steel and acoustic material housing, formed white enamel aluminum reflectors, diffuse plastic enclosures. 224 white LEDs, two Advance FO Strip PR23.7in 2200lm 835 LV5 boards with 56 LEDs each in bottom section and two Advance FO Strip PR 22in 2200lm 835 LV5 boards with 56 LEDs each in top section. Two Advance XI040C110V054BST2 LED drivers labeled as 940mA



Prepared For:
Mercury Lighting Products Company, Inc.
20 Audrey Place
Fairfield, NJ 07004, USA

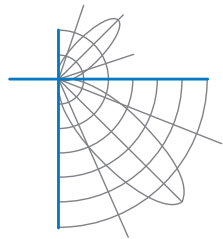
Performance Summary			
Input Voltage	120.0 V	Luminous Flux	9263.9 Lumens
Input Current	0.7397 A	Total Efficacy	105.0 Lm/W
Input Power	88.24 W	Downward Flux	4192.7 Lumens
Frequency	60.00 Hz	Downward Flux	45.3 % of Total
Power Factor	0.995		
Current THD	6.7 %		

*This test report supersedes test report LLIA001305-001-R02

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

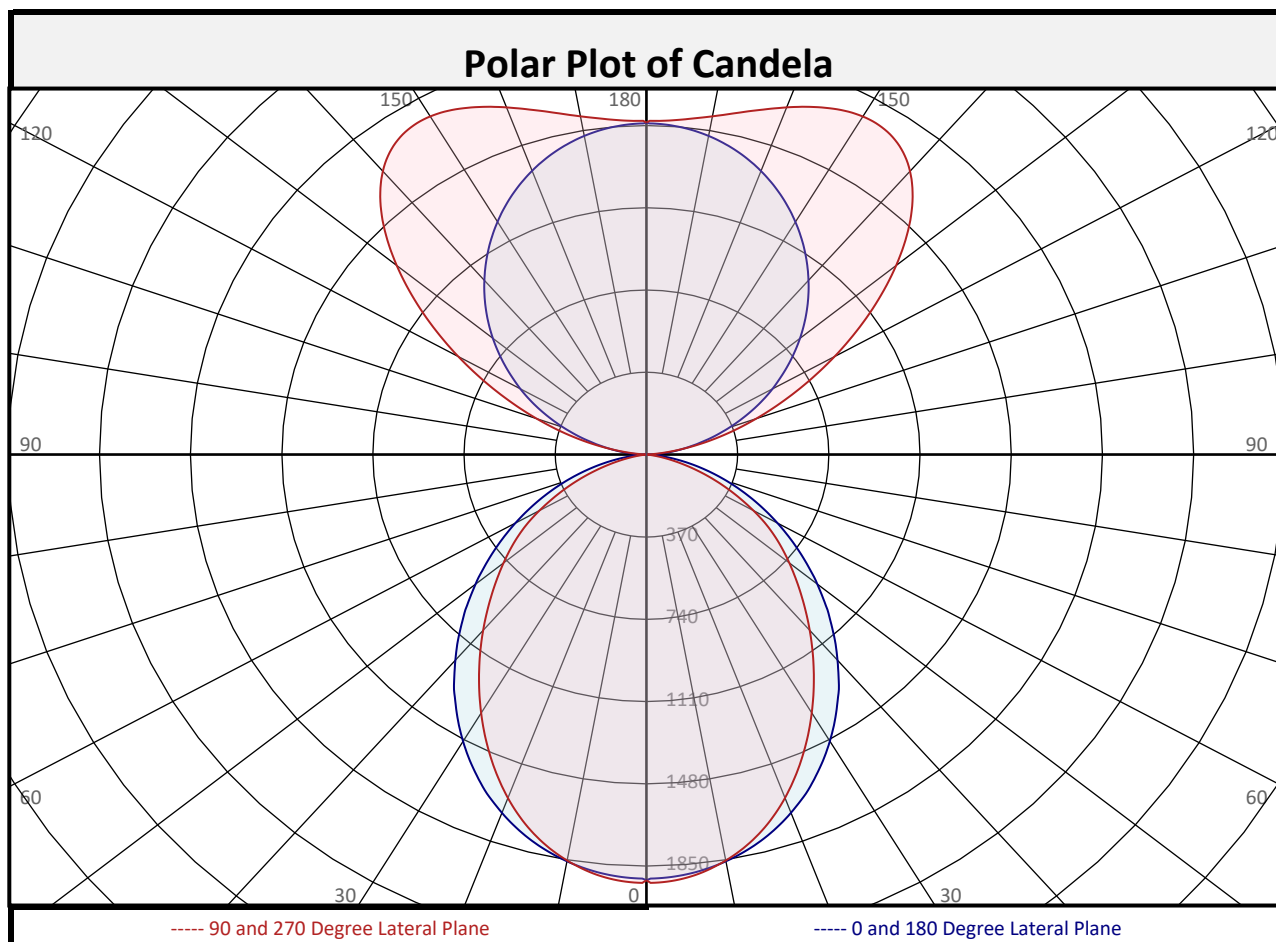
Test date: 08/21/2020
Report date: 05/28/2021

Signed: _____

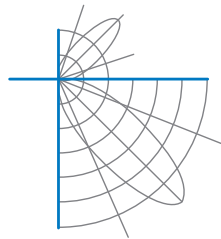


Report of Test

LLIA001305-001-R03



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	179.8	1.9%		90-100	77.1	0.8%		0-20	679.2	7.3%	
10-20	499.4	5.4%		100-110	336.1	3.6%		0-30	1391	15.0%	
20-30	712.1	7.7%		110-120	625.1	6.7%		0-40	2180	23.5%	
30-40	788.8	8.5%		120-130	869.6	9.4%		0-60	3543	38.2%	
40-50	745.1	8.0%		130-140	983.7	10.6%		0-80	4163	44.9%	
50-60	617.6	6.7%		140-150	911.8	9.8%		10-90	4013	43.3%	
60-70	424.0	4.6%		150-160	698.0	7.5%		20-50	2246	24.2%	
70-80	196.4	2.1%		160-170	426.8	4.6%		40-90	2013	21.7%	
80-90	29.5	0.3%		170-180	142.9	1.5%		60-90	649.9	7.0%	
0-90	4193	45.3%		90-180	5071	54.7%		0-180	9264	100.0%	

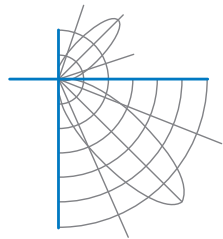


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Luminous Intensity (Candela) Table

	Lateral (C-Plane) Angles									
Vertical (Gamma) Angles		0	22.5	45	67.5	90	112.5	135	157.5	180
	0	1914	1914	1914	1914	1914	1914	1914	1914	1914
	2.5	1904	1904	1909	1917	1922	1917	1909	1904	1904
	5	1894	1894	1897	1902	1909	1902	1897	1894	1894
	7.5	1879	1877	1877	1879	1886	1879	1877	1877	1879
	10	1857	1854	1849	1847	1854	1847	1849	1854	1857
	12.5	1830	1824	1814	1808	1814	1808	1814	1824	1830
	15	1798	1788	1773	1761	1766	1761	1773	1788	1798
	17.5	1759	1747	1726	1706	1708	1706	1726	1747	1759
	20	1715	1699	1672	1644	1644	1644	1672	1699	1715
	22.5	1666	1646	1613	1576	1573	1576	1613	1646	1666
	25	1611	1591	1548	1504	1498	1504	1548	1591	1611
	27.5	1552	1528	1480	1430	1421	1430	1480	1528	1552
	30	1489	1463	1408	1352	1342	1352	1408	1463	1489
	32.5	1422	1394	1335	1275	1263	1275	1335	1394	1422
	35	1353	1323	1259	1197	1184	1197	1259	1323	1353
	37.5	1283	1251	1184	1121	1107	1121	1184	1251	1283
	40	1207	1177	1108	1045	1031	1045	1108	1177	1207
	42.5	1133	1101	1033	973	958	973	1033	1101	1133
	45	1056	1027	960	902	887	902	960	1027	1056
	47.5	981	952	888	835	820	835	888	952	981
	50	905	879	818	770	757	770	818	879	905
	52.5	830	807	751	707	695	707	751	807	830
	55	756	735	686	646	633	646	686	735	756
	57.5	684	666	623	585	569	585	623	666	684
	60	613	599	562	521	499	521	562	599	613
	62.5	544	533	501	451	430	451	501	533	544
	65	477	470	439	384	364	384	439	470	477
	67.5	411	408	373	319	300	319	373	408	411
	70	348	349	306	257	238	257	306	349	348
	72.5	287	292	243	197	180	197	243	292	287
	75	229	234	182	141	128	141	182	234	229
	77.5	174	174	125	93	84	93	125	174	174
	80	123	118	76	53	47	53	76	118	123
	82.5	78	68	36	22	18	22	36	68	78
	85	42	28	11	10	9	10	11	28	42
	87.5	15	6	6	6	6	6	6	6	15
90	2	3	3	4	4	4	3	3	2	

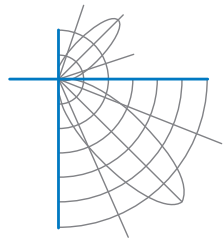


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Luminous Intensity (Candela) Table

	Lateral (C-Plane) Angles									
Vertical (Gamma) Angles		0	22.5	45	67.5	90	112.5	135	157.5	180
	90	2	3	3	4	4	4	3	3	2
	92.5	28	25	12	10	9	10	12	25	28
	95	67	82	68	46	38	46	68	82	67
	97.5	107	133	136	106	92	106	136	133	107
	100	151	190	203	174	156	174	203	190	151
	102.5	200	252	273	248	230	248	273	252	200
	105	251	312	347	326	308	326	347	312	251
	107.5	305	375	427	409	390	409	427	375	305
	110	361	440	513	497	478	497	513	440	361
	112.5	418	505	602	591	571	591	602	505	418
	115	476	570	690	690	670	690	690	570	476
	117.5	534	637	778	793	774	793	778	637	534
	120	591	704	869	899	883	899	869	704	591
	122.5	646	768	959	1007	993	1007	959	768	646
	125	702	832	1046	1115	1105	1115	1046	832	702
	127.5	758	895	1130	1220	1216	1220	1130	895	758
	130	814	955	1207	1321	1324	1321	1207	955	814
	132.5	868	1011	1277	1414	1426	1414	1277	1011	868
	135	921	1063	1337	1497	1519	1497	1337	1063	921
	137.5	973	1112	1388	1567	1599	1567	1388	1112	973
	140	1023	1156	1429	1622	1664	1622	1429	1156	1023
	142.5	1073	1198	1461	1662	1712	1662	1461	1198	1073
	145	1120	1235	1484	1687	1743	1687	1484	1235	1120
	147.5	1165	1269	1499	1698	1756	1698	1499	1269	1165
	150	1209	1300	1508	1697	1756	1697	1508	1300	1209
	152.5	1250	1329	1513	1686	1743	1686	1513	1329	1250
	155	1289	1356	1514	1668	1720	1668	1514	1356	1289
	157.5	1325	1380	1513	1646	1693	1646	1513	1380	1325
	160	1358	1402	1511	1621	1661	1621	1511	1402	1358
	162.5	1388	1422	1507	1597	1629	1597	1507	1422	1388
	165	1414	1439	1503	1573	1598	1573	1503	1439	1414
	167.5	1436	1454	1500	1551	1569	1551	1500	1454	1436
	170	1455	1466	1497	1532	1544	1532	1497	1466	1455
	172.5	1470	1476	1495	1518	1525	1518	1495	1476	1470
	175	1481	1483	1493	1507	1511	1507	1493	1483	1481
	177.5	1487	1487	1492	1500	1502	1500	1492	1487	1487
180	1493	1493	1493	1493	1493	1493	1493	1493	1493	



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LLIA001305-001-R03

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	106	106	106	106		97	97	97	97		81	81	81		66	66	66		52	52	52	45
1	97	93	89	86		89	86	82	80		71	69	67		58	57	56		46	45	45	39
2	89	82	76	71		81	75	70	66		63	59	56		52	49	47		41	40	38	33
3	81	72	65	59		74	66	60	55		56	51	48		46	43	40		37	35	33	29
4	74	64	56	50		68	59	52	47		50	45	41		41	37	35		33	31	28	25
5	68	57	49	43		62	53	46	41		45	39	35		37	33	30		30	27	25	22
6	63	51	43	38		58	47	40	35		40	35	31		34	30	26		27	24	22	19
7	58	46	39	33		53	43	36	31		37	31	27		31	27	24		25	22	20	17
8	54	42	35	29		50	39	32	28		33	28	24		28	24	21		23	20	18	15
9	50	38	31	26		46	36	29	25		31	25	22		26	22	19		21	18	16	14
10	47	35	28	24		43	33	27	22		28	23	20		24	20	17		20	17	15	13

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.

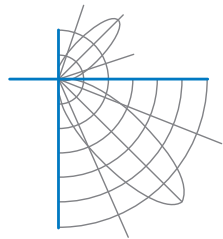
Circle of Light Plot

Height(ft)	Illuminance at Nadir (fc)	Ground-level distance to half-of-nadir illuminance (ft)	
		0-180 deg	90-270 deg
6.0	53.2	6.99	6.44
8.0	29.9	9.32	8.58
10.0	19.1	11.65	10.73
12.0	13.3	13.98	12.87
14.0	9.8	16.31	15.02
16.0	7.5	18.64	17.17

Average Luminance (cd/m ²)			
	0 deg Plane	45 deg Plane	90 deg Plane
0	41209	41209	41209
45	32148	29219	27014
55	28372	25730	23754
65	24274	22383	18544
75	19026	15120	10669
85	10351	2655	2314

Spacing Criterion

0 degree plane:	1.2
90 degree plane:	1.1
180 degree plane:	1.2
270 degree plane:	1.1



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LLIA001305-001-R03

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

X=2H	Y=2H	19.2	20.0	20.2	21.0	22.4
	3H	20.8	21.5	21.8	22.5	23.8
	4H	21.3	21.9	22.3	23.0	24.3
	6H	21.6	22.2	22.6	23.2	24.6
	8H	21.6	22.2	22.7	23.2	24.6
	12H	21.6	22.2	22.7	23.2	24.6

UGR Viewed Endwise

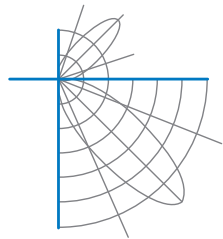
18.2	19.0	19.2	20.0	21.4
19.4	20.1	20.4	21.1	22.5
19.6	20.3	20.6	21.3	22.7
19.7	20.3	20.7	21.3	22.7
19.6	20.2	20.7	21.3	22.6
19.6	20.1	20.6	21.2	22.6

4H	2H	19.6	20.3	20.6	21.3	22.7	18.8	19.5	19.8	20.5	21.9
	3H	21.3	21.9	22.4	22.9	24.3	20.1	20.7	21.2	21.7	23.1
	4H	22.0	22.5	23.0	23.5	24.9	20.4	20.9	21.5	22.0	23.4
	6H	22.4	22.8	23.4	23.9	25.3	20.5	20.9	21.6	22.0	23.4
	8H	22.5	22.9	23.5	23.9	25.4	20.5	20.9	21.5	21.9	23.4
	12H	22.5	22.9	23.6	23.9	25.3	20.4	20.8	21.5	21.9	23.3

8H	4H	22.0	22.4	23.1	23.5	24.9	20.6	21.0	21.7	22.1	23.5
	6H	22.5	22.9	23.6	24.0	25.4	20.7	21.1	21.8	22.2	23.6
	8H	22.6	22.9	23.7	24.0	25.5	20.7	21.0	21.8	22.1	23.5
	12H	22.7	23.0	23.8	24.0	25.5	20.7	20.9	21.7	22.0	23.5

12H	4H	22.0	22.3	23.1	23.4	24.8	20.6	21.0	21.7	22.0	23.4
	6H	22.5	22.8	23.6	23.9	25.3	20.7	21.0	21.8	22.1	23.6
	8H	22.6	22.9	23.7	24.0	25.4	20.7	21.0	21.8	22.1	23.5

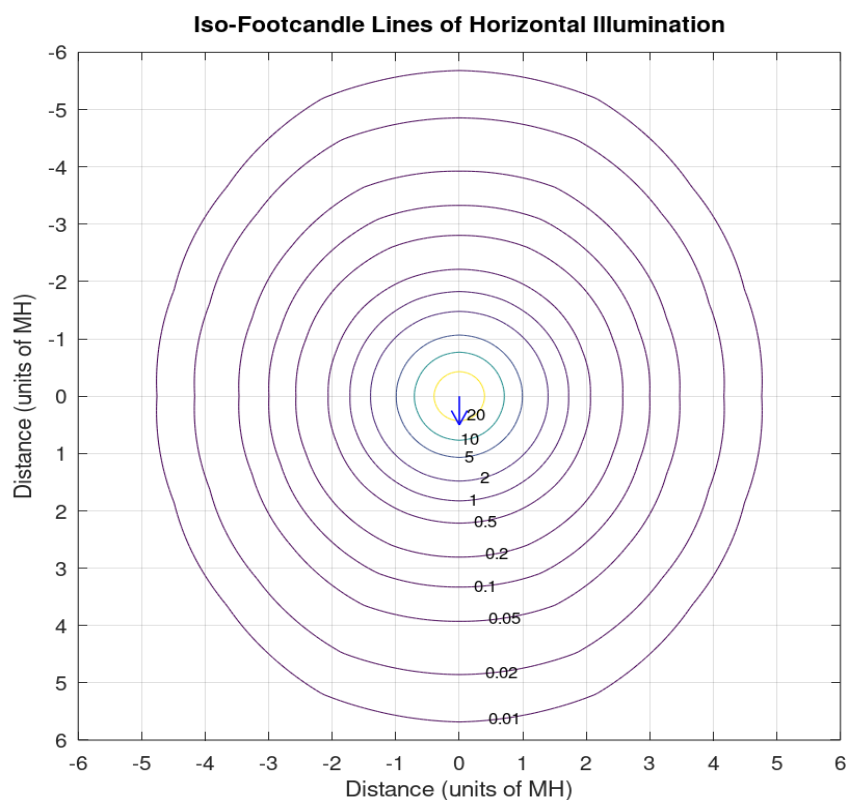
Maximum UGR = 25.5



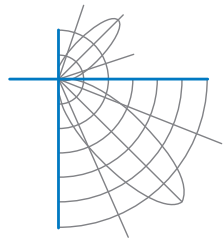
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LLIA001305-001-R03

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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LLIA001305-001-R03

Additional Pictures of Test Subject



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Test Distance 9.5 m
Ambient Temperature 25.7 °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 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.

Revision

R01- 10/13/2020 - Changed catalog number
R02- 10/14/2020 - Changed catalog number
R03 - 05/28/2021 - Changed catalog number