LightLab INTERNATIONAL ALLENTOWN LLC

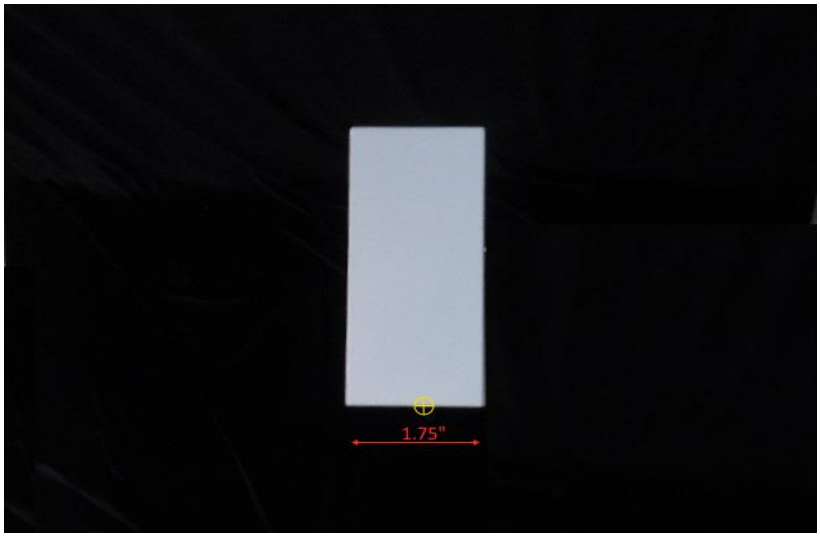
NVLAP TESTING Lab Code: 201079-0

Report of Test

LLIA001503-008

Indoor Distribution Photometry Test Report

Catalog Number: MLR2-M-48-550-35K-HTA-1%-U
Pendant/surface mounted, extruded aluminum housing, frosted plastic enclosure.
112 white LEDs, two Advance FO Strip PR 23.72in 2200lm 835 LV5 LED boards with 56 LEDs each.
One Advance XI040C110V054BST2 LED driver labeled as 630mA



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

Performance Summary					
Input Voltage	120.0	V	Luminous Flux	2200.3	Lumens
Input Current	0.2414	A	Total Efficacy	76.7	Lm/W
Input Power	28.67	W	Downward Flux	2200.3	Lumens
Frequency	60.00	Hz	Downward Flux	100.0	% of Total
Power Factor	0.989				
Current THD	9.3	%			

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

Test date: 08/09/2021
Report date: 08/09/2021

Signed: Michael L. Grather

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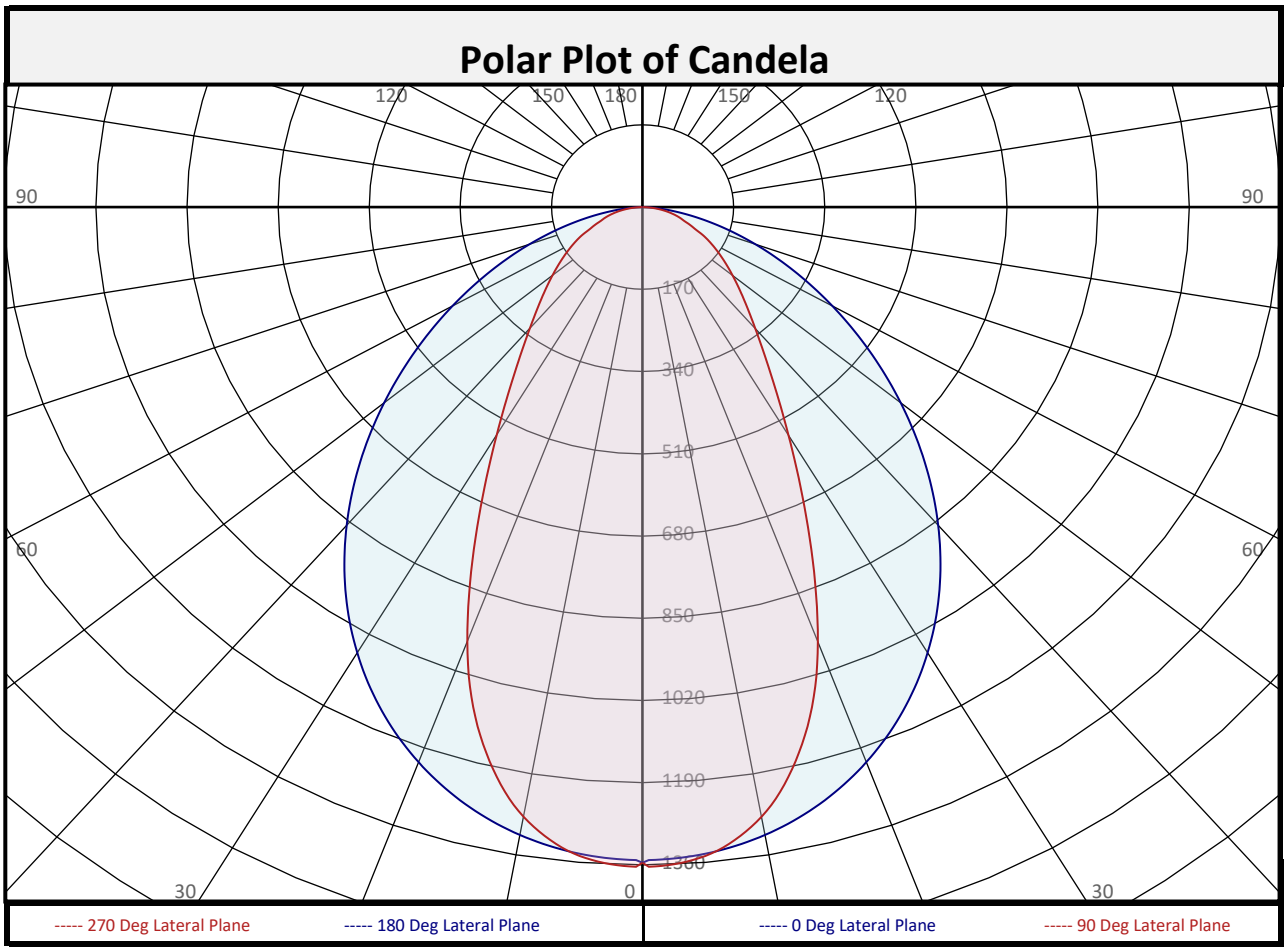

Zonal Flux Summary									
Zone (Deg Vert)	Flux (Lumens)	Percent of Total	Zone (Deg Vert)	Flux (Lumens)	Percent of Total	Zone (Deg Vert)	Flux (Lumens)	Percent of Total
0-10	127.0	5.8%	90-100	0.0	0.0%	0-20	467.8	21.3%
10-20	340.8	15.5%	100-110	0.0	0.0%	0-30	903.1	41.0%
20-30	435.4	19.8%	110-120	0.0	0.0%	0-40	1318	59.9%
30-40	414.5	18.8%	120-130	0.0	0.0%	0-60	1922	87.4%
40-50	345.6	15.7%	130-140	0.0	0.0%	0-80	2177	98.9%
50-60	259.0	11.8%	140-150	0.0	0.0%	10-90	2073	94.2%
60-70	168.1	7.6%	150-160	0.0	0.0%	20-50	1196	54.4%
70-80	86.4	3.9%	160-170	0.0	0.0%	40-90	882.6	40.1%
80-90	23.4	1.1%	170-180	0.0	0.0%	60-90	278.0	12.6%
0-90	2200	100.0%	90-180	0.0	0.0%	0-180	2200	100.0%

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Luminous Intensity (Candela) Table

Vertical (Gamma) Angles	Lateral (C-Plane) Angles									
	0	22.5	45	67.5	90	112.5	135	157.5	180
0	1356	1356	1356	1356	1356	1356	1356	1356	1356
2.5	1348	1348	1352	1357	1360	1357	1352	1348	1348
5	1342	1341	1343	1346	1347	1346	1343	1341	1342
7.5	1332	1330	1327	1323	1320	1323	1327	1330	1332
10	1318	1314	1301	1287	1280	1287	1301	1314	1318
12.5	1300	1292	1267	1239	1223	1239	1267	1292	1300
15	1278	1266	1225	1174	1150	1174	1225	1266	1278
17.5	1251	1234	1172	1097	1062	1097	1172	1234	1251
20	1221	1197	1109	1006	956	1006	1109	1197	1221
22.5	1187	1155	1040	901	841	901	1040	1155	1187
25	1150	1108	961	793	731	793	961	1108	1150
27.5	1109	1057	874	692	631	692	874	1057	1109
30	1064	1002	785	601	545	601	785	1002	1064
32.5	1016	943	699	523	473	523	699	943	1016
35	966	881	618	457	414	457	618	881	966
37.5	913	819	546	402	367	402	546	819	913
40	858	754	480	356	327	356	480	754	858
42.5	802	688	424	318	294	318	424	688	802
45	744	622	374	285	266	285	374	622	744
47.5	687	558	331	257	241	257	331	558	687
50	629	498	293	232	219	232	293	498	629
52.5	572	441	259	210	199	210	259	441	572
55	516	387	230	189	180	189	230	387	516
57.5	462	338	203	170	162	170	203	338	462
60	409	293	179	152	146	152	179	293	409
62.5	359	251	156	134	129	134	156	251	359
65	312	213	135	117	109	117	135	213	312
67.5	266	178	116	99	96	99	116	178	266
70	224	146	97	85	82	85	97	146	224
72.5	183	118	79	73	73	73	79	118	183
75	146	92	64	63	63	63	64	92	146
77.5	111	69	53	52	52	52	53	69	111
80	80	49	42	41	41	41	42	49	80
82.5	52	33	31	30	29	30	31	33	52
85	29	21	19	18	18	18	19	21	29
87.5	13	9	8	8	7	8	8	9	13
90	0	0	0	0	0	0	0	0	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
	90	0	0	0	0	0	0	0	0	0
	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	111	106	103	100		108	104	101	98		100	97	95		96	94	92		93	91	89	87
2	102	95	89	84		100	93	88	83		90	85	81		87	83	80		84	81	78	76
3	94	85	78	73		92	84	77	72		81	75	71		78	74	70		76	72	68	66
4	88	77	69	64		85	76	69	63		73	67	62		71	66	61		69	65	61	59
5	81	70	62	56		79	69	62	56		67	60	55		65	59	55		63	58	54	52
6	76	64	56	50		74	63	56	50		61	55	50		60	54	49		58	53	49	47
7	71	59	51	46		69	58	51	45		57	50	45		55	49	45		54	49	44	43
8	67	54	47	41		65	54	46	41		53	46	41		51	45	41		50	45	41	39
9	63	50	43	38		61	50	43	38		49	42	38		48	42	38		47	41	37	36
10	59	47	40	35		58	47	40	35		46	39	35		45	39	35		44	38	35	33

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	37.7	7.04	4.90
8.0	21.2	9.39	6.54
10.0	13.6	11.74	8.17
12.0	9.4	14.08	9.80
14.0	6.9	16.43	11.44
16.0	5.3	18.78	13.07

Average Luminance (cd/m^2)

	0 deg Plane	45 deg Plane	90 deg Plane
0	25015	25015	25015
45	19424	9757	6943
55	16592	7389	5793
65	13601	5913	4772
75	10399	4546	4475
85	6198	4122	3836

Spacing Criterion

0 degree plane:	1.2
90 degree plane:	0.8
180 degree plane:	1.2
270 degree plane:	0.8

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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	21.1	22.6	21.5	22.9	23.2	15.9	17.3	16.2	17.6	17.9
	3H	22.7	24.0	23.1	24.3	24.7	17.3	18.6	17.7	18.9	19.3
	4H	23.3	24.5	23.7	24.8	25.2	17.9	19.1	18.3	19.5	19.9
	6H	23.7	24.8	24.1	25.2	25.5	18.5	19.6	18.9	19.9	20.3
	8H	23.8	24.8	24.2	25.2	25.6	18.6	19.7	19.1	20.1	20.5
	12H	23.8	24.9	24.3	25.2	25.7	18.8	19.8	19.2	20.2	20.6
4H	2H	21.1	22.4	21.5	22.7	23.1	16.6	17.8	17.0	18.2	18.5
	3H	22.9	23.9	23.3	24.3	24.7	18.2	19.2	18.6	19.6	20.0
	4H	23.5	24.5	24.0	24.9	25.3	18.9	19.9	19.4	20.3	20.7
	6H	24.1	24.8	24.5	25.3	25.7	19.6	20.4	20.1	20.8	21.3
	8H	24.2	24.9	24.7	25.4	25.8	19.9	20.6	20.3	21.0	21.5
	12H	24.3	25.0	24.8	25.4	25.9	20.0	20.7	20.5	21.1	21.6
8H	4H	23.6	24.3	24.0	24.7	25.2	19.3	20.1	19.8	20.5	21.0
	6H	24.1	24.7	24.6	25.2	25.7	20.1	20.7	20.6	21.2	21.7
	8H	24.3	24.8	24.8	25.4	25.8	20.4	21.0	20.9	21.5	22.0
	12H	24.4	24.9	24.9	25.4	26.0	20.7	21.2	21.2	21.6	22.2
12H	4H	23.5	24.2	24.0	24.7	25.1	19.4	20.0	19.9	20.5	21.0
	6H	24.1	24.6	24.6	25.1	25.7	20.2	20.8	20.7	21.2	21.8
	8H	24.3	24.8	24.8	25.3	25.9	20.6	21.0	21.1	21.5	22.1

Maximum UGR = 26.0

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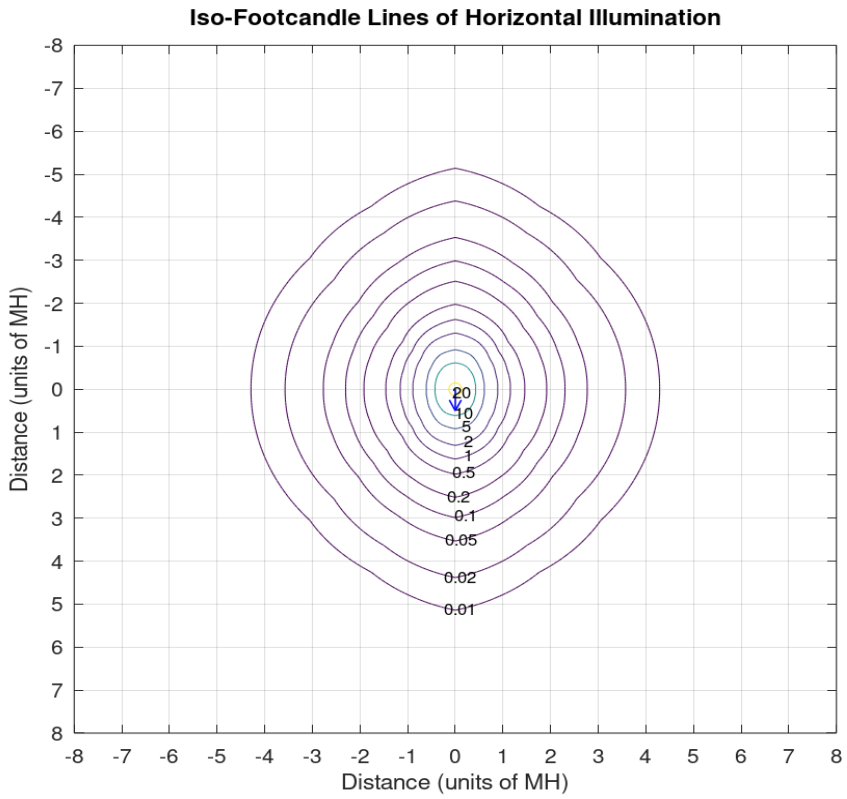
Iso-Illuminance Plot



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	25.5 °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.