



## Report of Test

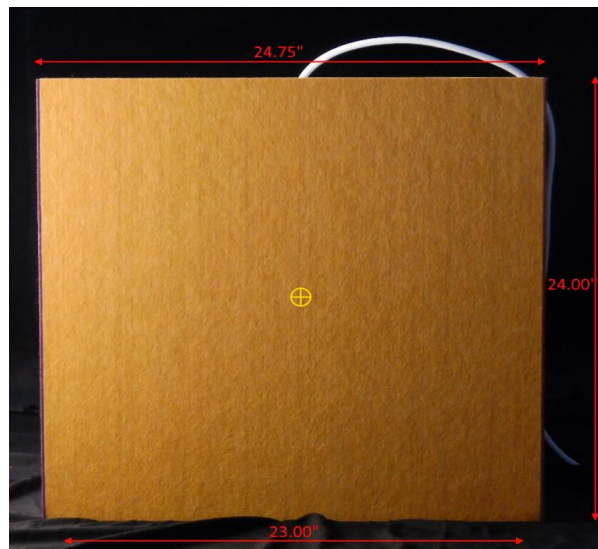
**LLIA001208-004**

Indoor Distribution Photometry Test Report

Catalog Number: P2448A

Pendant mounted, formed steel and aluminum housing, solid fabric outer enclosures with white plastic inner lining, translucent white plastic top and bottom enclosures.

192 white LEDs, four Samsung Electronics SI-B8V172560WW LT-562C-G2 boards with 48 LEDs each.  
One Advance Xitanium XI075C200V054BST1 LED driver



Prepared For:  
Lumetta, Inc  
33 Minnesota Avenue  
Warwick, RI 02888, USA

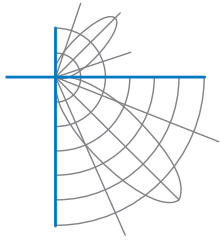
Performance Summary			
Input Voltage	120.0 V	Luminous Flux	4995.0 Lumens
Input Current	0.6248 A	Total Efficacy	66.8 Lm/W
Input Power	74.76 W	Downward Flux	4098.8 Lumens
Frequency	60.00 Hz	Downward Flux	82.1 % of Total
Power Factor	0.997		
Current THD	6.8 %		

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

Test date: 01/08/2020

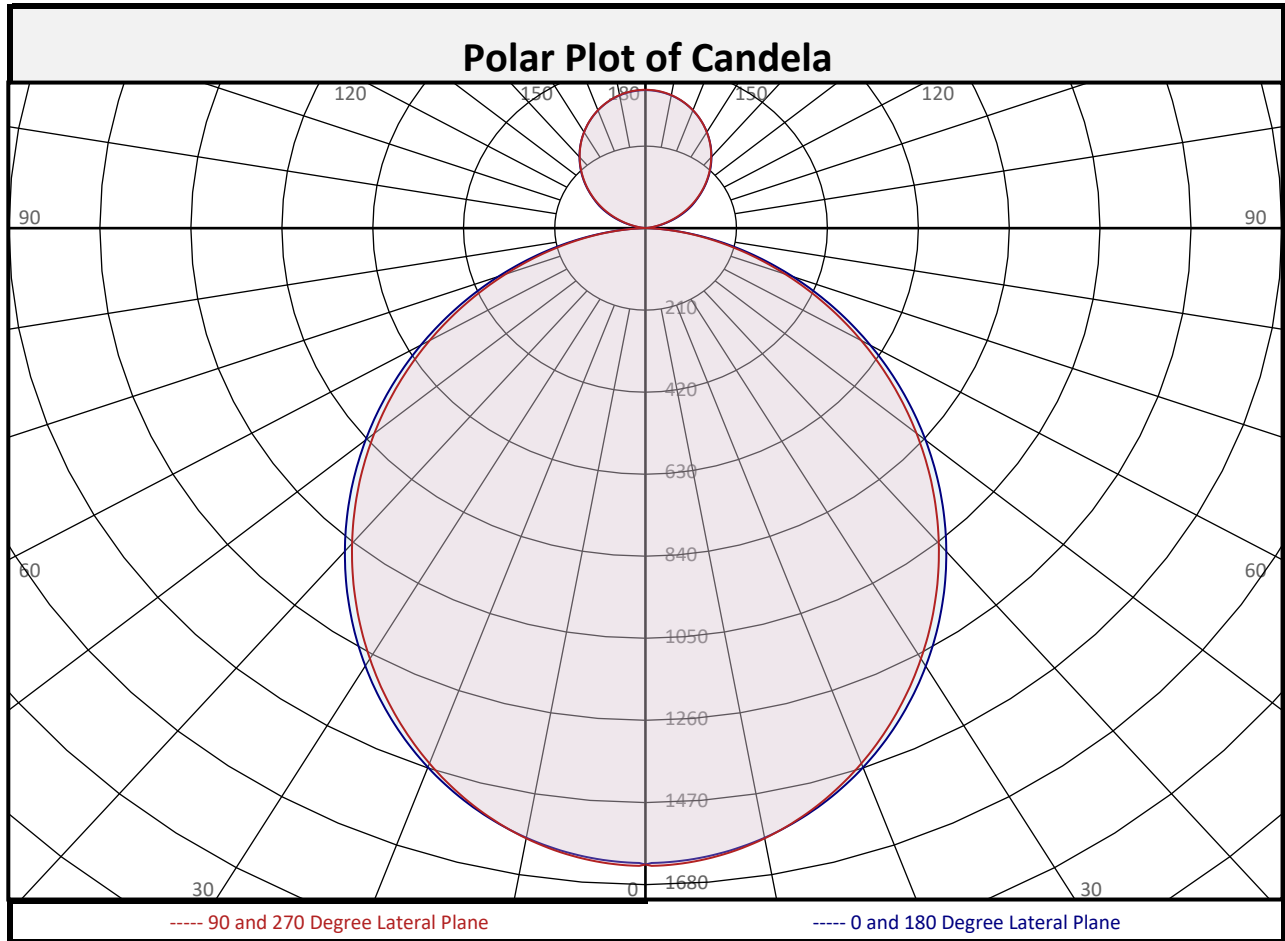
Report date: 01/09/2020

Signed: \_\_\_\_\_

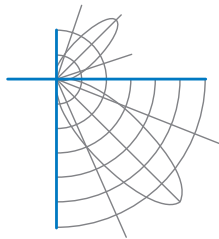


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Zonal Flux Summary																	
Zone (Deg Vert)	Flux (Lumens)	Percent of Total	Zone (Deg Vert)	Flux (Lumens)	Percent of Total	Zone (Deg Vert)	Flux (Lumens)	Percent of Total	Zone (Deg Vert)	Flux (Lumens)	Percent of Total						
0-10	153.5	3.1%	90-100	10.3	0.2%	0-20	585.4	11.7%	10-20	431.9	8.6%	100-110	49.7	1.0%	0-30	1220	24.4%
20-30	635.0	12.7%	110-120	100.9	2.0%	0-40	1957	39.2%	30-40	736.9	14.8%	120-130	140.9	2.8%	0-60	3324	66.5%
40-50	732.8	14.7%	130-140	163.4	3.3%	0-80	4041	80.9%	40-50	732.8	14.7%	140-150	163.5	3.3%	0-90	4099	82.1%
50-60	633.6	12.7%	150-160	139.8	2.8%	10-90	3945	79.0%	50-60	633.6	12.7%	160-170	94.3	1.9%	20-50	2105	42.1%
60-70	462.5	9.3%	170-180	33.4	0.7%	40-90	2142	42.9%	60-70	462.5	9.3%	180-190	10.3	0.2%	40-90	2142	42.9%
70-80	255.3	5.1%	90-180	896.2	17.9%	60-90	775.3	15.5%	70-80	255.3	5.1%	0-180	4995	100.0%	80-90	57.4	1.1%
80-90	57.4	1.1%															

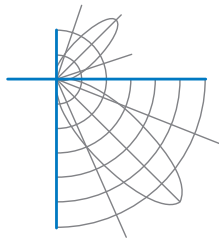


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Luminous Intensity (Candela) Table

		Lateral (C-Plane) Angles								
		0	22.5	45	67.5	90	112.5	135	157.5	180
Vertical (Gamma) Angles	0	1629	1629	1629	1629	1629	1629	1629	1629	1629
	2.5	1623	1624	1626	1629	1630	1629	1626	1624	1623
	5	1615	1616	1618	1620	1621	1620	1618	1616	1615
	7.5	1602	1603	1604	1606	1606	1606	1604	1603	1602
	10	1585	1585	1585	1586	1586	1586	1585	1585	1585
	12.5	1562	1562	1562	1561	1561	1561	1562	1562	1562
	15	1535	1535	1533	1532	1531	1532	1533	1535	1535
	17.5	1504	1503	1500	1498	1497	1498	1500	1503	1504
	20	1469	1467	1464	1460	1458	1460	1464	1467	1469
	22.5	1430	1428	1423	1418	1416	1418	1423	1428	1430
	25	1388	1385	1379	1374	1371	1374	1379	1385	1388
	27.5	1343	1340	1333	1326	1324	1326	1333	1340	1343
	30	1295	1291	1283	1276	1273	1276	1283	1291	1295
	32.5	1244	1240	1232	1224	1221	1224	1232	1240	1244
	35	1191	1187	1178	1170	1167	1170	1178	1187	1191
	37.5	1137	1133	1123	1114	1111	1114	1123	1133	1137
	40	1081	1076	1066	1057	1054	1057	1066	1076	1081
	42.5	1023	1018	1009	999	996	999	1009	1018	1023
	45	964	960	950	940	938	940	950	960	964
	47.5	905	900	890	881	878	881	890	900	905
50	844	840	830	821	818	821	830	840	844	
52.5	783	778	769	760	757	760	769	778	783	
55	722	717	708	700	696	700	708	717	722	
57.5	661	656	648	639	636	639	648	656	661	
60	599	595	587	579	576	579	587	595	599	
62.5	538	534	526	519	516	519	526	534	538	
65	478	474	467	460	457	460	467	474	478	
67.5	419	415	408	401	399	401	408	415	419	
70	360	357	350	344	342	344	350	357	360	
72.5	304	300	294	289	287	289	294	300	304	
75	248	245	240	236	234	236	240	245	248	
77.5	195	193	188	185	184	185	188	193	195	
80	144	142	139	137	136	137	139	142	144	
82.5	96	94	91	90	90	90	91	94	96	
85	48	47	46	45	45	45	46	47	48	
87.5	5	5	6	6	6	6	6	5	5	
90	0	1	2	2	2	2	2	1	0	



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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	0	1	2	2	2	2	2	1	0
	92.5	4	4	4	3	2	3	4	4	4
	95	8	8	8	9	8	9	8	8	8
	97.5	15	14	14	14	14	14	14	14	15
	100	24	23	23	23	22	23	23	23	24
	102.5	35	35	34	34	32	34	34	35	35
	105	48	48	47	46	44	46	47	48	48
	107.5	62	62	60	59	57	59	60	62	62
	110	76	76	74	73	71	73	74	76	76
	112.5	90	90	88	87	85	87	88	90	90
	115	104	104	102	101	99	101	102	104	104
	117.5	118	117	116	115	113	115	116	117	118
	120	130	131	131	129	127	129	131	131	130
	122.5	143	144	145	143	142	143	145	144	143
	125	157	158	159	157	155	157	159	158	157
	127.5	171	172	172	171	170	171	172	172	171
	130	185	186	186	185	183	185	186	186	185
	132.5	198	199	199	199	197	199	199	199	198
	135	212	212	213	212	210	212	213	212	212
	137.5	224	225	225	225	224	225	225	225	224
140	237	238	238	238	236	238	238	238	237	
142.5	249	250	250	250	249	250	250	250	249	
145	261	262	262	262	261	262	262	262	261	
147.5	273	273	273	273	272	273	273	273	273	
150	283	284	284	284	283	284	284	284	283	
152.5	294	294	294	294	294	294	294	294	294	
155	303	303	304	304	304	304	304	303	303	
157.5	312	312	313	313	313	313	313	312	312	
160	320	321	321	321	321	321	321	321	320	
162.5	328	328	328	328	328	328	328	328	328	
165	334	335	335	335	335	335	335	335	334	
167.5	340	340	340	341	341	341	340	340	340	
170	344	345	345	345	345	345	345	345	344	
172.5	348	348	349	349	349	349	349	348	348	
175	351	351	352	352	352	352	352	351	351	
177.5	352	353	353	353	353	353	353	353	352	
180	354	354	354	354	354	354	354	354	354	



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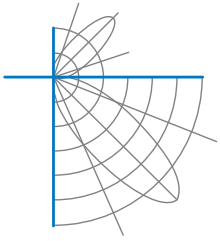
Coefficients of Utilization/Room Utilization - Zonal Cavity Method																						
Effective Floor Cavity Reflectance 0.20																						
RC	80					70					50				30				10			0
RW	70	50	30	10		70	50	30	10		50	30	10		50	30	10		50	30	10	0
RCR																						
0	115	115	115	115		110	110	110	110		101	101	101		93	93	93		86	86	86	82
1	105	101	97	93		101	97	93	90		89	86	84		82	80	78		76	74	73	69
2	96	88	82	76		92	85	79	74		78	74	70		72	69	65		67	64	61	58
3	88	78	70	64		84	75	68	62		69	63	59		64	59	55		59	56	52	49
4	80	69	61	54		77	66	59	53		62	55	50		57	52	48		53	49	45	43
5	74	62	53	47		71	59	52	46		55	49	44		52	46	41		48	43	39	37
6	68	55	47	41		65	54	46	40		50	43	38		47	41	37		44	39	35	33
7	63	50	42	36		60	49	41	35		46	39	34		43	37	32		40	35	31	29
8	59	46	38	32		56	44	37	32		42	35	30		39	33	29		37	32	28	26
9	55	42	34	29		53	41	33	28		38	32	27		36	30	26		34	29	25	23
10	52	39	31	26		49	38	31	26		36	29	25		33	28	24		31	27	23	21

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	45.3	7.12	7.02	
8.0	25.5	9.50	9.36	
10.0	16.3	11.87	11.70	
12.0	11.3	14.24	14.04	
14.0	8.3	16.62	16.38	
16.0	6.4	18.99	18.72	

Average Luminance (cd/m <sup>2</sup> )			
	0 deg Plane	45 deg Plane	90 deg Plane
0	2336	2336	2336
45	1955	1926	1901
55	1805	1771	1741
65	1622	1583	1550
75	1376	1330	1298
85	793	755	748

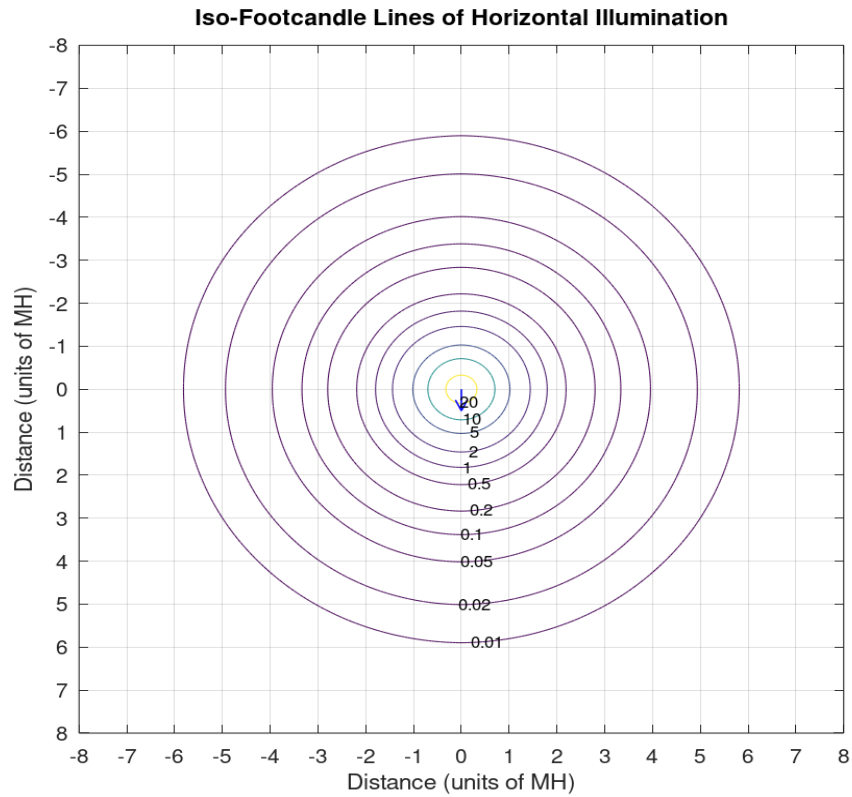
Spacing Criterion	
0 degree plane:	1.2
90 degree plane:	1.2
180 degree plane:	1.2
270 degree plane:	1.2



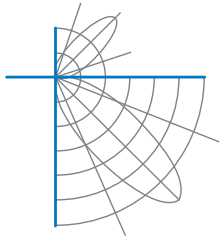
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### Iso-Illuminance Plot

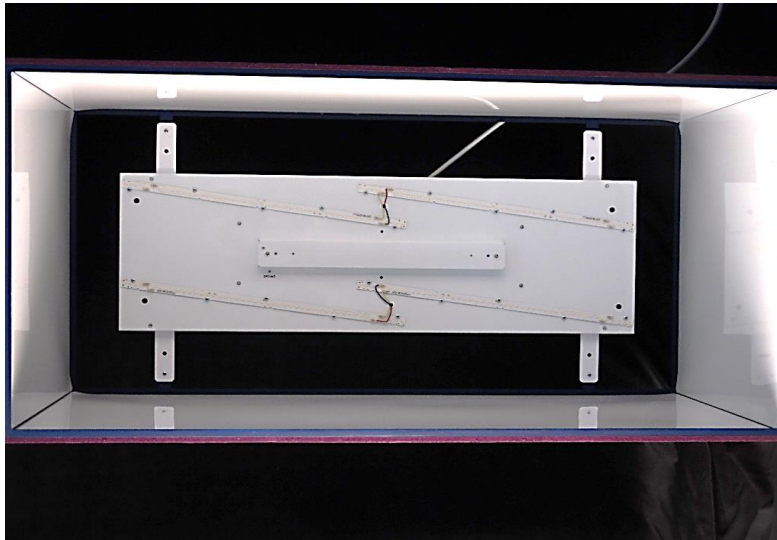


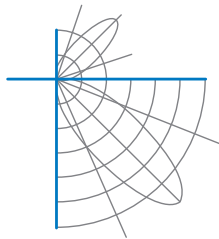
The isofootcandle values shown in the plot above are based on a mounting height of  $h = 8.0$  feet. Grid values show multiples of mounting height. The isoilluminance contour lines are expressed in units of footcandles. The values expressed are based on the direct light from a single unit without the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



## Report of Test LLIA001208-004

### Additional Pictures of Test Subject





## Report of Test

### LLIA001208-004

Test Distance                    9.5 m  
Ambient Temperature        24.4 °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 publications: IES LM-79-19 and ANSI C82.77-10:2014. 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.