

## Report of Test

**LLIA001208-006**

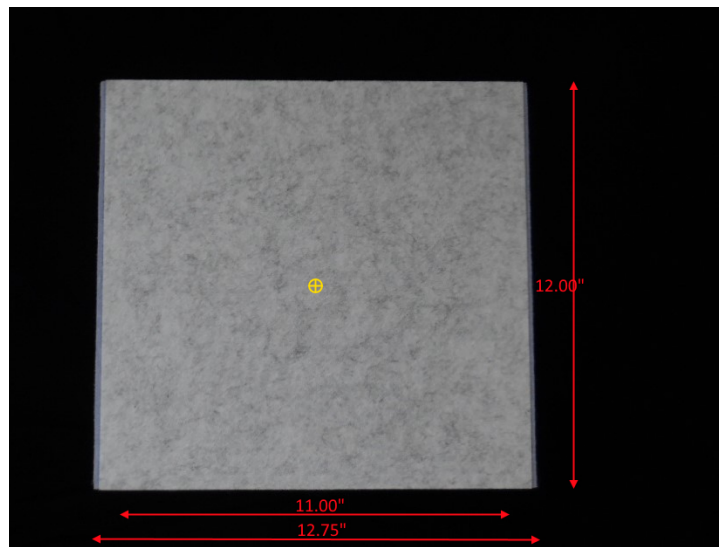
Indoor Distribution Photometry Test Report

Catalog Number: P1248A

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

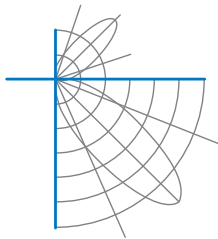
Performance Summary			
Input Voltage	120.0 V	Luminous Flux	4873.8 Lumens
Input Current	0.6254 A	Total Efficacy	65.1 Lm/W
Input Power	74.82 W	Downward Flux	3356.3 Lumens
Frequency	60.00 Hz	Downward Flux	68.9 % of Total
Power Factor	0.997		
Current THD	7.0 %		

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

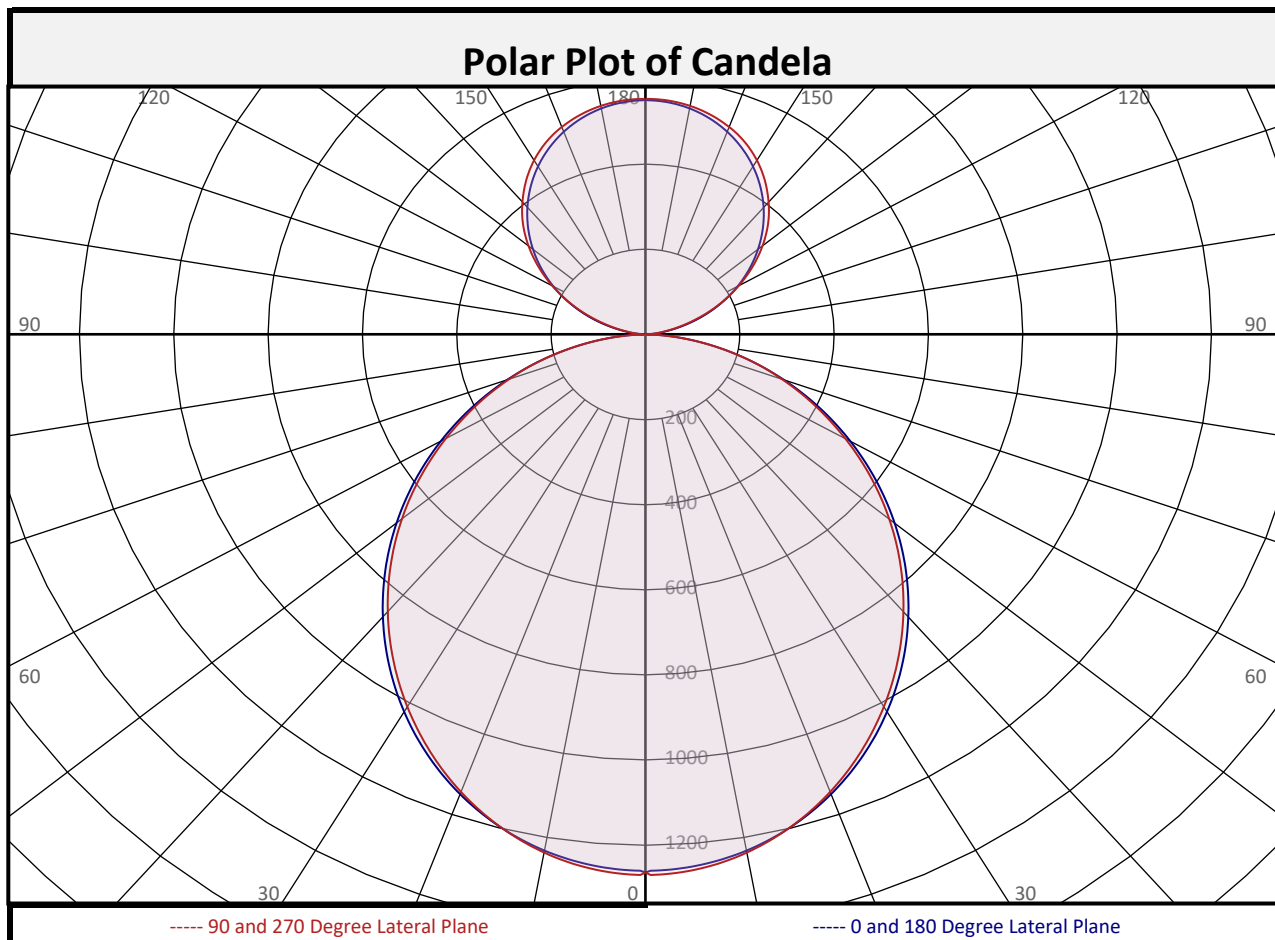
Test date: 01/03/2020

Report date: 01/08/2020

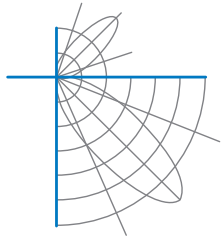
Signed: \_\_\_\_\_



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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
0-10	119.3	2.4%		90-100	22.7	0.5%		0-20	456.3	9.4%
10-20	337.0	6.9%		100-110	92.8	1.9%		0-30	956.1	19.6%
20-30	499.8	10.3%		110-120	179.6	3.7%		0-40	1543	31.7%
30-40	587.4	12.1%		120-130	246.0	5.0%		0-60	2663	54.6%
40-50	594.3	12.2%		130-140	278.0	5.7%		0-80	3293	67.6%
50-60	525.6	10.8%		140-150	270.9	5.6%		10-90	3237	66.4%
60-70	396.6	8.1%		150-160	225.9	4.6%		20-50	1681	34.5%
70-80	232.8	4.8%		160-170	149.3	3.1%		40-90	1813	37.2%
80-90	63.6	1.3%		170-180	52.2	1.1%		60-90	693.0	14.2%
0-90	3356	68.9%		90-180	1518	31.1%		0-180	4874	100.0%

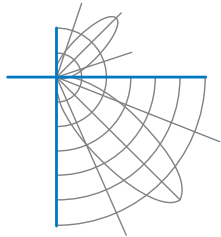


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Luminous Intensity (Candela) Table

		Lateral (C-Plane) Angles								
		0	22.5	45	67.5	90	112.5	135	157.5	180
Vertical (Gamma) Angles	0	1265	1265	1265	1265	1265	1265	1265	1265	1265
	2.5	1259	1260	1261	1266	1268	1266	1261	1260	1259
	5	1253	1254	1255	1259	1262	1259	1255	1254	1253
	7.5	1244	1245	1246	1249	1251	1249	1246	1245	1244
	10	1232	1232	1232	1235	1237	1235	1232	1232	1232
	12.5	1216	1216	1215	1217	1218	1217	1215	1216	1216
	15	1197	1196	1195	1195	1197	1195	1195	1196	1197
	17.5	1175	1174	1171	1171	1172	1171	1171	1174	1175
	20	1150	1148	1145	1143	1144	1143	1145	1148	1150
	22.5	1122	1120	1116	1113	1114	1113	1116	1120	1122
	25	1092	1089	1084	1081	1082	1081	1084	1089	1092
	27.5	1059	1056	1051	1047	1047	1047	1051	1056	1059
	30	1024	1021	1015	1010	1010	1010	1015	1021	1024
	32.5	987	984	977	972	973	972	977	984	987
	35	948	945	938	933	933	933	938	945	948
	37.5	908	905	898	893	892	893	898	905	908
	40	866	863	856	851	850	851	856	863	866
	42.5	824	820	813	808	808	808	813	820	824
	45	780	776	769	764	764	764	769	776	780
	47.5	735	731	725	720	720	720	725	731	735
50	689	686	679	675	674	675	679	686	689	
52.5	642	639	633	629	628	629	633	639	642	
55	595	593	587	583	582	583	587	593	595	
57.5	548	545	541	537	535	537	541	545	548	
60	501	498	494	490	489	490	494	498	501	
62.5	453	451	447	443	442	443	447	451	453	
65	406	404	400	397	397	397	400	404	406	
67.5	358	357	353	352	352	352	353	357	358	
70	312	310	308	308	308	308	308	310	312	
72.5	266	265	263	265	266	265	263	265	266	
75	220	219	219	222	222	222	219	219	220	
77.5	176	176	177	178	178	178	177	176	176	
80	133	133	135	135	135	135	135	133	133	
82.5	92	93	94	94	94	94	94	93	92	
85	53	54	55	55	56	55	55	54	53	
87.5	17	18	20	21	21	21	20	18	17	
90	2	4	6	8	8	8	6	4	2	



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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	2	4	6	8	8	8	6	4	2
	92.5	8	9	9	9	9	9	9	9	8
	95	17	17	19	21	22	21	19	17	17
	97.5	31	30	29	31	33	31	29	30	31
	100	48	48	46	45	44	45	46	48	48
	102.5	68	69	65	64	63	64	65	69	68
	105	89	90	87	84	84	84	87	90	89
	107.5	112	114	110	107	106	107	110	114	112
	110	135	137	134	131	130	131	134	137	135
	112.5	158	161	158	156	154	156	158	161	158
	115	180	184	183	180	179	180	183	184	180
	117.5	203	207	207	205	204	205	207	207	203
	120	226	229	231	230	228	230	231	229	226
	122.5	248	252	255	254	253	254	255	252	248
	125	270	273	278	278	277	278	278	273	270
	127.5	291	295	299	301	301	301	299	295	291
	130	311	316	321	324	324	324	321	316	311
	132.5	332	336	341	346	346	346	341	336	332
	135	352	355	362	366	368	366	362	355	352
	137.5	371	374	381	386	387	386	381	374	371
140	390	393	400	404	406	404	400	393	390	
142.5	407	410	417	422	424	422	417	410	407	
145	424	427	434	439	441	439	434	427	424	
147.5	440	443	450	455	457	455	450	443	440	
150	456	458	464	470	472	470	464	458	456	
152.5	470	472	478	483	486	483	478	472	470	
155	483	486	490	495	498	495	490	486	483	
157.5	495	498	501	506	509	506	501	498	495	
160	506	508	512	515	519	515	512	508	506	
162.5	516	518	521	524	527	524	521	518	516	
165	525	526	529	532	534	532	529	526	525	
167.5	533	534	536	538	540	538	536	534	533	
170	539	540	541	543	545	543	541	540	539	
172.5	544	544	546	547	549	547	546	544	544	
175	547	548	549	550	551	550	549	548	547	
177.5	549	550	550	552	553	552	550	550	549	
180	551	551	551	551	551	551	551	551	551	



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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	112	112	112	112		105	105	105	105		94	94	94		83	83	83		73	73	73	69
1	102	97	93	90		96	92	89	85		82	79	77		73	71	69		65	63	62	58
2	93	85	79	73		87	80	75	70		72	67	64		64	61	58		57	54	52	48
3	85	75	67	61		79	71	64	58		63	58	53		57	52	49		50	47	44	41
4	77	66	58	51		73	63	55	49		56	50	46		50	46	42		45	41	38	35
5	71	59	50	44		67	56	48	43		50	44	39		45	40	36		40	36	33	30
6	66	53	45	38		62	50	43	37		46	39	34		41	36	32		37	32	29	26
7	61	48	40	34		57	46	38	33		41	35	30		37	32	28		34	29	26	23
8	56	44	36	30		53	42	34	29		38	32	27		34	29	25		31	26	23	21
9	53	40	32	27		50	38	31	26		35	29	24		31	26	23		28	24	21	19
10	49	37	29	24		46	35	28	23		32	26	22		29	24	20		26	22	19	17

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	35.1	7.24	7.16	
8.0	19.8	9.66	9.55	
10.0	12.6	12.07	11.93	
12.0	8.8	14.49	14.32	
14.0	6.5	16.90	16.70	
16.0	4.9	19.32	19.09	

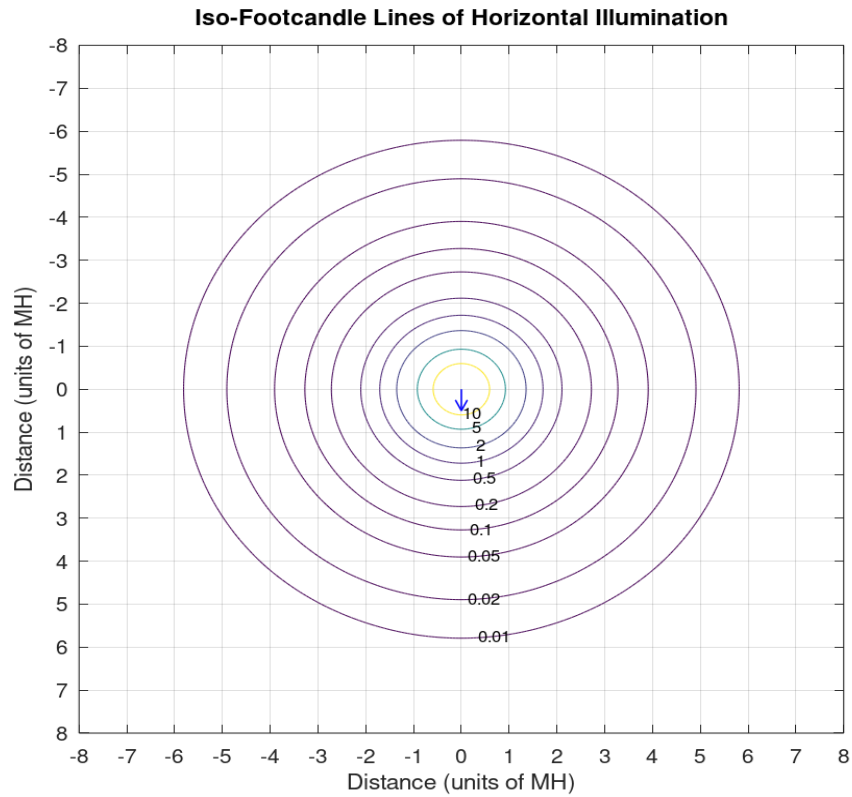
Average Luminance (cd/m <sup>2</sup> )			
	0 deg Plane	45 deg Plane	90 deg Plane
0	3791	3791	3791
45	3306	3262	3239
55	3112	3069	3042
65	2877	2838	2815
75	2552	2539	2566
85	1830	1889	1916

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

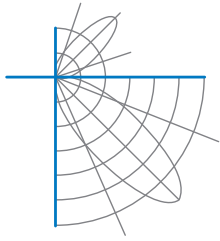


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**Iso-Illuminance Plot**



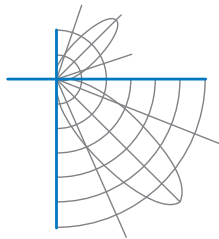
The isofootcandle values shown in the plot above are based on a mounting height of  $h = 8.0$  feet. Grid values show multiples of mounting height. The isoilluminance contour lines are expressed in units of footcandles. The values expressed are based on the direct light from a single unit without the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



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**Additional Pictures of Test Subject**





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Test Distance                    9.5 m  
Ambient Temperature        24.7 °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 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.