

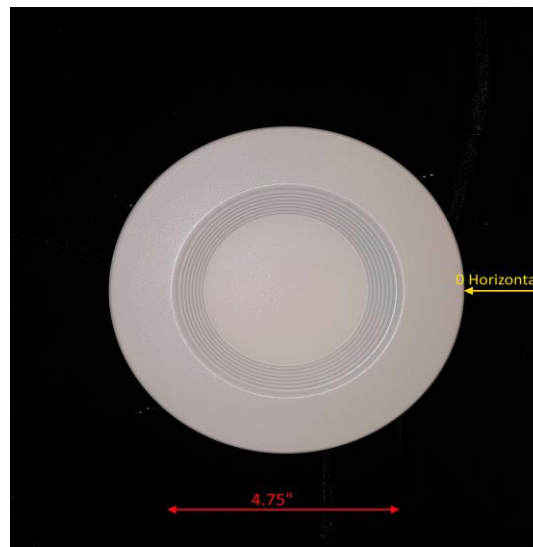


## Report of Test

**LLIA001204-003**

Indoor Distribution Photometry Test Report

Catalog Number: RTL/603WH/9W/CTS-46 - 3000K Setting  
Recessed mounted, formed white plastic housing with lower stepped section,  
upper white plastic reflector, translucent white plastic enclosure.  
26 white LEDs, one AL19110D LED board  
One internal LED driver



Prepared For:  
Topaz Lighting Corp  
925 Waverly Avenue  
Holtsville, NY 11742, USA

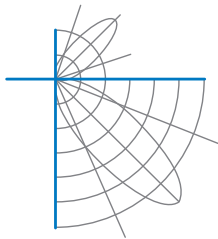
Performance Summary			
Input Voltage	120.0 V	Luminous Flux	883.0 Lumens
Input Current	0.0767 A	Total Efficacy	101.0 Lm/W
Input Power	8.74 W	Downward Flux	883.0 Lumens
Frequency	60.00 Hz	Downward Flux	100.0 % of Total
Power Factor	0.949		
Current THD	18.9 %		

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

Test date: 12/27/2019

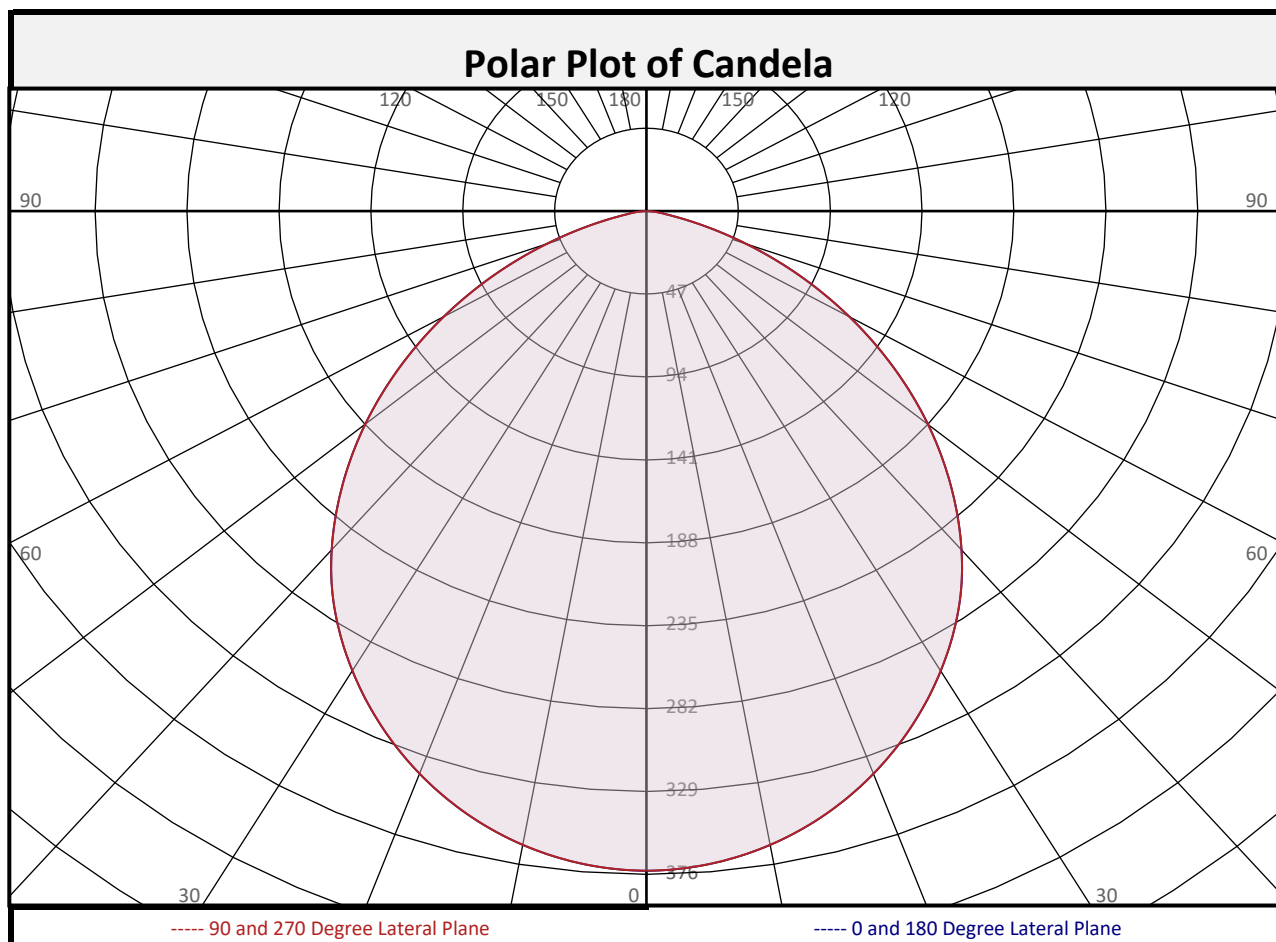
Report date: 12/27/2019

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



## Report of Test

### LLIA001204-003



### 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	35.3	4.0%	90-100	0.0	0.0%	0-20	135.0	15.3%
10-20	99.8	11.3%	100-110	0.0	0.0%	0-30	283.1	32.1%
20-30	148.1	16.8%	110-120	0.0	0.0%	0-40	456.5	51.7%
30-40	173.4	19.6%	120-130	0.0	0.0%	0-60	763.5	86.5%
40-50	169.5	19.2%	130-140	0.0	0.0%	0-80	878.5	99.5%
50-60	137.5	15.6%	140-150	0.0	0.0%	10-90	847.8	96.0%
60-70	85.4	9.7%	150-160	0.0	0.0%	20-50	491.0	55.6%
70-80	29.7	3.4%	160-170	0.0	0.0%	40-90	426.6	48.3%
80-90	4.5	0.5%	170-180	0.0	0.0%	60-90	119.6	13.5%
0-90	883.0	100.0%	90-180	0.0	0.0%	0-180	883.0	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	374	374	374	374	374	374	374	374	374
	2.5	373	373	373	373	373	373	373	373	373
	5	372	372	372	372	372	372	372	372	372
	7.5	369	369	369	369	369	369	369	369	369
	10	365	365	365	365	365	365	365	365	365
	12.5	360	360	360	360	360	360	360	360	360
	15	354	354	354	354	354	354	354	354	354
	17.5	347	347	347	347	347	347	347	347	347
	20	339	339	339	339	339	339	339	339	339
	22.5	331	331	331	331	331	331	331	331	331
	25	322	322	322	322	322	322	322	322	322
	27.5	312	312	312	312	312	312	312	312	312
	30	301	301	301	301	301	301	301	301	301
	32.5	290	290	290	290	290	290	290	290	290
	35	278	278	278	278	278	278	278	278	278
	37.5	265	265	265	265	265	265	265	265	265
	40	251	251	251	251	251	251	251	251	251
	42.5	236	236	236	236	236	236	236	236	236
	45	220	220	220	220	220	220	220	220	220
	47.5	204	204	204	204	204	204	204	204	204
50	188	188	188	188	188	188	188	188	188	
52.5	171	171	171	171	171	171	171	171	171	
55	154	154	154	154	154	154	154	154	154	
57.5	137	137	137	137	137	137	137	137	137	
60	120	120	120	120	120	120	120	120	120	
62.5	103	103	103	103	103	103	103	103	103	
65	86	86	86	86	86	86	86	86	86	
67.5	70	70	70	70	70	70	70	70	70	
70	54	54	54	54	54	54	54	54	54	
72.5	39	39	39	39	39	39	39	39	39	
75	26	26	26	26	26	26	26	26	26	
77.5	16	16	16	16	16	16	16	16	16	
80	10	10	10	10	10	10	10	10	10	
82.5	7	7	7	7	7	7	7	7	7	
85	4	4	4	4	4	4	4	4	4	
87.5	1	1	1	1	1	1	1	1	1	
90	0	0	0	0	0	0	0	0	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	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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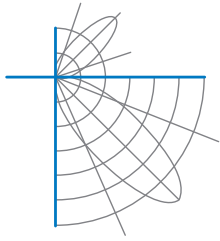
Coefficients of Utilization/Room Utilization - Zonal Cavity Method																						
Effective Floor Cavity Reflectance 0.20																						
RC	80					70					50				30				10			0
RW	70	50	30	10		70	50	30	10		50	30	10		50	30	10		50	30	10	0
RCR																						
0	119	119	119	119		116	116	116	116		111	111	111		106	106	106		102	102	102	100
1	110	106	102	99		108	104	100	97		100	97	94		96	94	91		92	90	89	87
2	101	94	88	82		99	92	86	82		88	84	80		85	81	78		82	79	76	74
3	93	83	76	70		90	82	75	69		79	73	68		76	71	67		74	69	66	64
4	85	74	66	60		83	73	65	59		71	64	59		68	63	58		66	61	57	55
5	79	67	58	52		77	66	58	52		64	57	51		62	55	51		60	54	50	48
6	73	60	52	46		71	59	51	46		58	50	45		56	50	45		54	49	44	42
7	68	55	46	41		66	54	46	40		53	45	40		51	45	40		50	44	40	38
8	63	50	42	36		62	50	42	36		48	41	36		47	41	36		46	40	36	34
9	59	46	38	33		58	46	38	33		44	38	33		43	37	32		42	37	32	31
10	55	43	35	30		54	42	35	30		41	34	30		40	34	30		39	34	29	28

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.

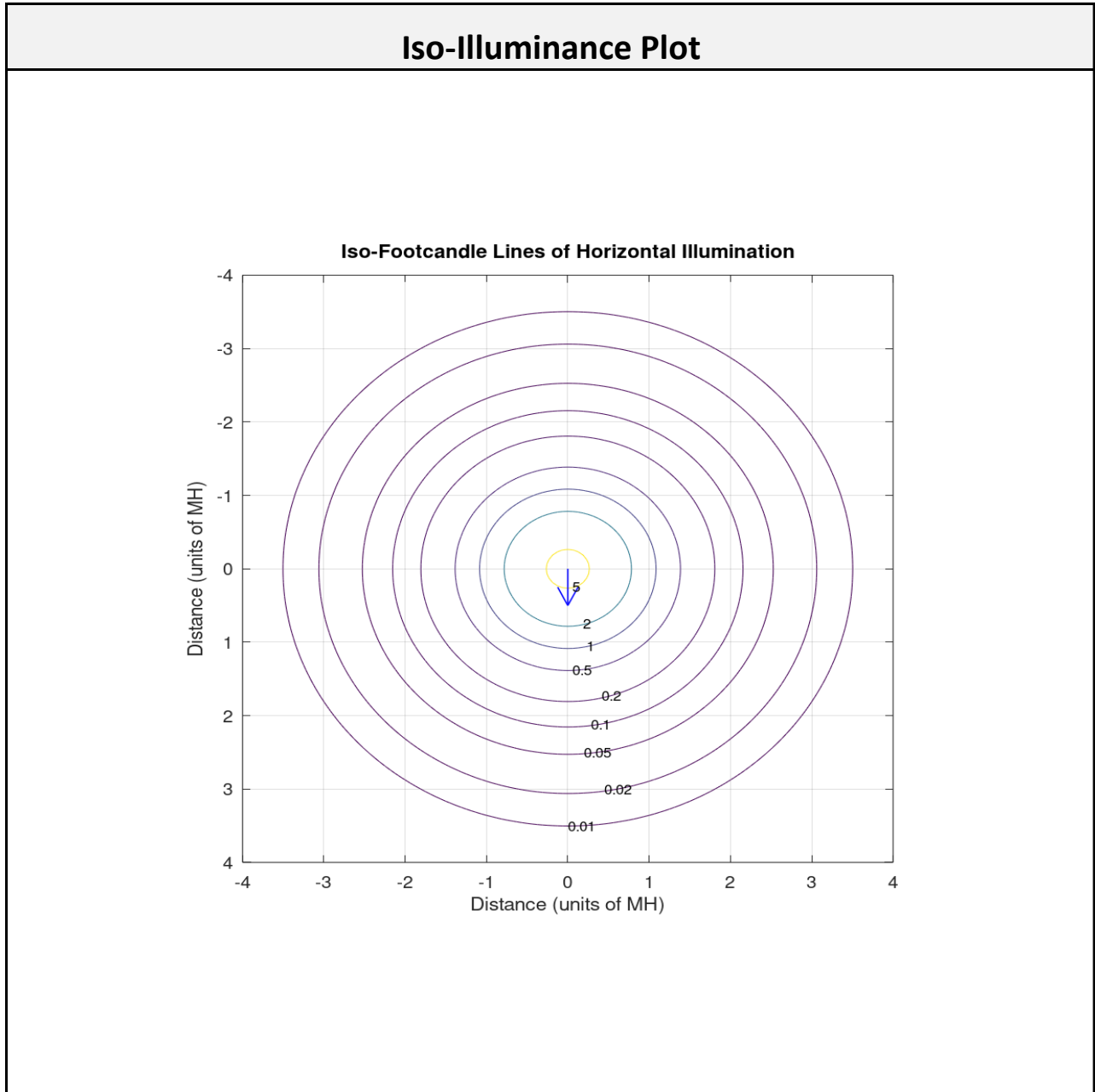
Circle of Light Plot				
Height(ft)	Illuminance at Nadir (fc)	Ground-level distance to half-of-nadir illuminance (ft)		
		0-180 deg	90-270 deg	
6.0	10.4	7.20	7.20	
8.0	5.8	9.60	9.60	
10.0	3.7	12.00	12.00	
12.0	2.6	14.40	14.40	
14.0	1.9	16.80	16.80	
16.0	1.5	19.20	19.20	

Average Luminance (cd/m <sup>2</sup> )			
	0 deg Plane	45 deg Plane	90 deg Plane
0	97587	97587	97587
45	81219	81219	81219
55	70047	70047	70047
65	53227	53227	53227
75	26553	26553	26553
85	11876	11876	11876

Spacing Criterion	
Spacing Criterion:	1.2



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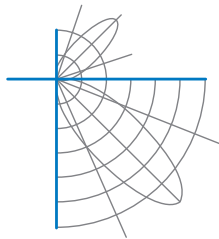
The isofootcandle values shown in the plot above are based on a mounting height of  $h = 8.0$  feet. Grid values show multiples of mounting height. The isoilluminance contour lines are expressed in units of footcandles. The values expressed are based on the direct light from a single unit without the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



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**Additional Pictures of Test Subject**





## Report of Test

### LLIA001204-003

Test Distance                    9.5 m  
Ambient Temperature        24.8 °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.