

Report of Test

LLIA001204-001

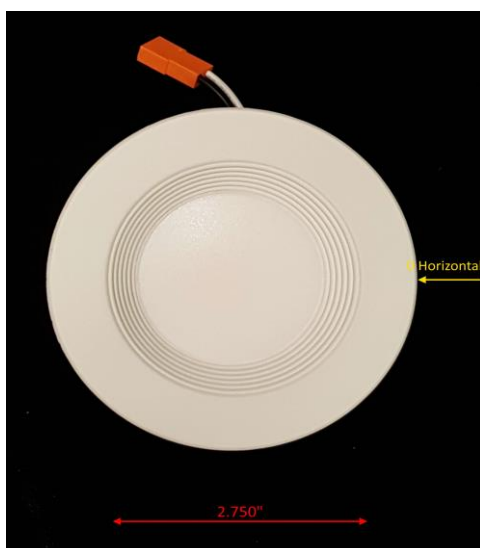
Indoor Distribution Photometry Test Report

Catalog Number: RTL/403WH/7W/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 AL19105C LED board

One internal LED driver



Prepared For:

Topaz Lighting Corp

925 Waverly Avenue

Holtsville, NY 11742, USA

Performance Summary

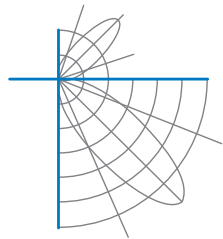
Input Voltage	120.0 V	Luminous Flux	610.7 Lumens
Input Current	0.0570 A	Total Efficacy	95.7 Lm/W
Input Power	6.38 W	Downward Flux	610.7 Lumens
Frequency	60.00 Hz	Downward Flux	100.0 % of Total
Power Factor	0.933		
Current THD	22.7 %		

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

Test date: 12/27/2019

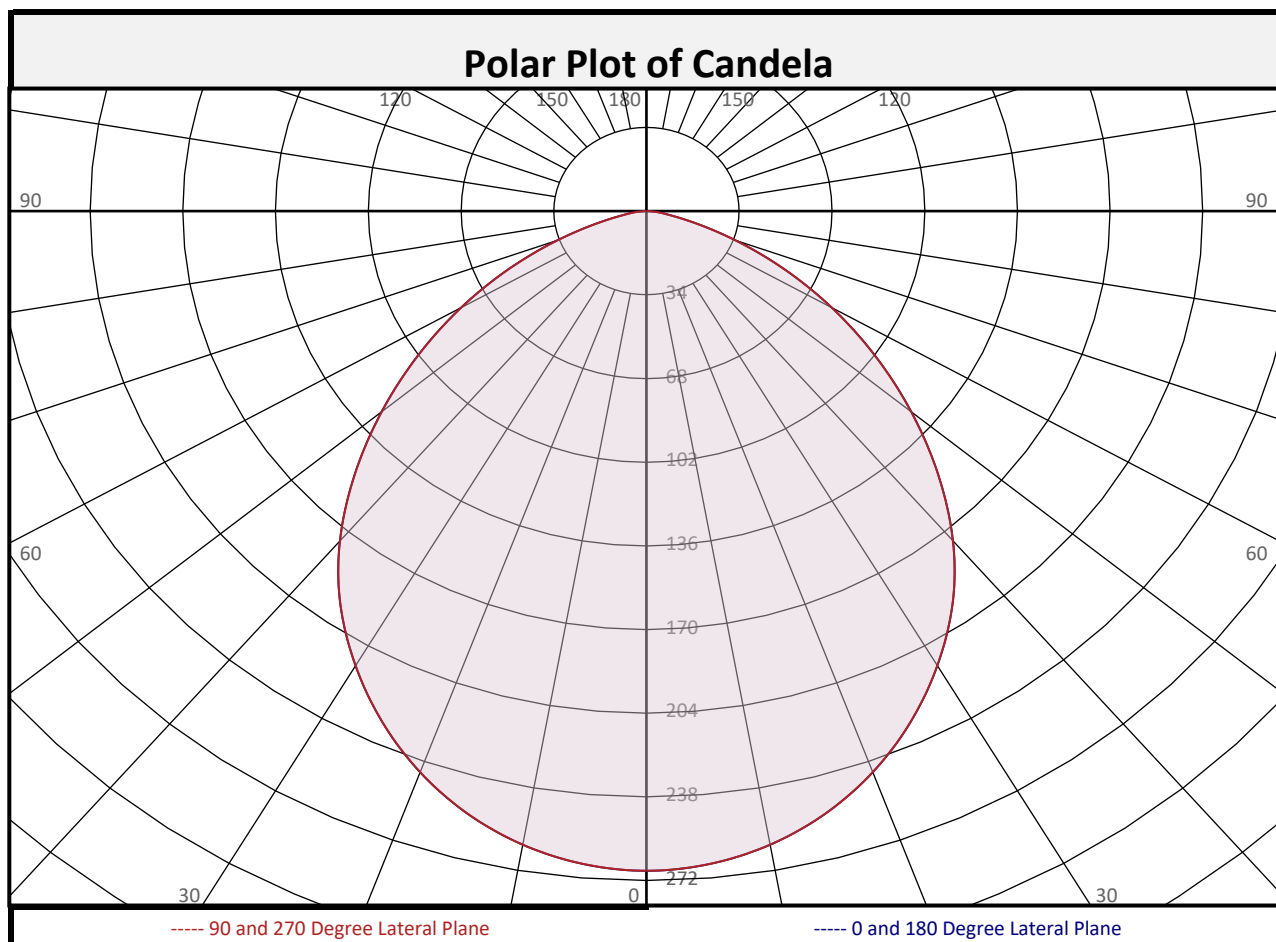
Report date: 12/27/2019

Signed: _____

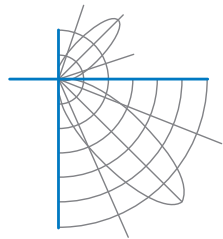


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Zonal Flux Summary										
Zone (Deg Vert)	Flux (Lumens)	Percent of Total		Zone (Deg Vert)	Flux (Lumens)	Percent of Total		Zone (Deg Vert)	Flux (Lumens)	Percent of Total
0-10	25.3	4.1%		90-100	0.0	0.0%		0-20	96.7	15.8%
10-20	71.4	11.7%		100-110	0.0	0.0%		0-30	202.1	33.1%
20-30	105.4	17.3%		110-120	0.0	0.0%		0-40	324.2	53.1%
30-40	122.0	20.0%		120-130	0.0	0.0%		0-60	532.0	87.1%
40-50	116.5	19.1%		130-140	0.0	0.0%		0-80	607.1	99.4%
50-60	91.4	15.0%		140-150	0.0	0.0%		10-90	585.4	95.9%
60-70	55.2	9.0%		150-160	0.0	0.0%		20-50	343.9	56.3%
70-80	19.8	3.2%		160-170	0.0	0.0%		40-90	286.5	46.9%
80-90	3.6	0.6%		170-180	0.0	0.0%		60-90	78.7	12.9%
0-90	610.7	100.0%		90-180	0.0	0.0%		0-180	610.7	100.0%

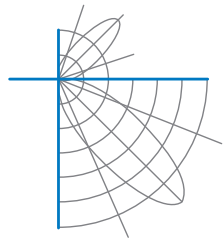


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Luminous Intensity (Candela) Table

	Lateral (C-Plane) Angles									
Vertical (Gamma) Angles		0	22.5	45	67.5	90	112.5	135	157.5	180
	0	268	268	268	268	268	268	268	268	268
	2.5	268	268	268	268	268	268	268	268	268
	5	266	266	266	266	266	266	266	266	266
	7.5	264	264	264	264	264	264	264	264	264
	10	261	261	261	261	261	261	261	261	261
	12.5	258	258	258	258	258	258	258	258	258
	15	253	253	253	253	253	253	253	253	253
	17.5	248	248	248	248	248	248	248	248	248
	20	243	243	243	243	243	243	243	243	243
	22.5	236	236	236	236	236	236	236	236	236
	25	229	229	229	229	229	229	229	229	229
	27.5	221	221	221	221	221	221	221	221	221
	30	213	213	213	213	213	213	213	213	213
	32.5	205	205	205	205	205	205	205	205	205
	35	196	196	196	196	196	196	196	196	196
	37.5	186	186	186	186	186	186	186	186	186
	40	175	175	175	175	175	175	175	175	175
	42.5	163	163	163	163	163	163	163	163	163
	45	151	151	151	151	151	151	151	151	151
	47.5	139	139	139	139	139	139	139	139	139
	50	127	127	127	127	127	127	127	127	127
	52.5	114	114	114	114	114	114	114	114	114
	55	102	102	102	102	102	102	102	102	102
	57.5	90	90	90	90	90	90	90	90	90
	60	79	79	79	79	79	79	79	79	79
	62.5	67	67	67	67	67	67	67	67	67
	65	56	56	56	56	56	56	56	56	56
	67.5	45	45	45	45	45	45	45	45	45
	70	35	35	35	35	35	35	35	35	35
	72.5	26	26	26	26	26	26	26	26	26
	75	18	18	18	18	18	18	18	18	18
	77.5	12	12	12	12	12	12	12	12	12
	80	8	8	8	8	8	8	8	8	8
	82.5	5	5	5	5	5	5	5	5	5
	85	3	3	3	3	3	3	3	3	3
	87.5	1	1	1	1	1	1	1	1	1
90	0	0	0	0	0	0	0	0	0	

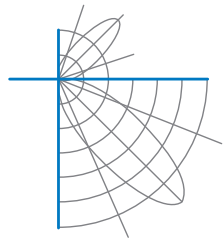


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Luminous Intensity (Candela) Table

	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	
	92.5	0	0	0	0	0	0	0	0	
	95	0	0	0	0	0	0	0	0	
	97.5	0	0	0	0	0	0	0	0	
	100	0	0	0	0	0	0	0	0	
	102.5	0	0	0	0	0	0	0	0	
	105	0	0	0	0	0	0	0	0	
	107.5	0	0	0	0	0	0	0	0	
	110	0	0	0	0	0	0	0	0	
	112.5	0	0	0	0	0	0	0	0	
	115	0	0	0	0	0	0	0	0	
	117.5	0	0	0	0	0	0	0	0	
	120	0	0	0	0	0	0	0	0	
	122.5	0	0	0	0	0	0	0	0	
	125	0	0	0	0	0	0	0	0	
	127.5	0	0	0	0	0	0	0	0	
	130	0	0	0	0	0	0	0	0	
	132.5	0	0	0	0	0	0	0	0	
	135	0	0	0	0	0	0	0	0	
	137.5	0	0	0	0	0	0	0	0	
	140	0	0	0	0	0	0	0	0	
	142.5	0	0	0	0	0	0	0	0	
	145	0	0	0	0	0	0	0	0	
	147.5	0	0	0	0	0	0	0	0	
	150	0	0	0	0	0	0	0	0	
	152.5	0	0	0	0	0	0	0	0	
	155	0	0	0	0	0	0	0	0	
	157.5	0	0	0	0	0	0	0	0	
	160	0	0	0	0	0	0	0	0	
	162.5	0	0	0	0	0	0	0	0	
	165	0	0	0	0	0	0	0	0	
	167.5	0	0	0	0	0	0	0	0	
	170	0	0	0	0	0	0	0	0	
	172.5	0	0	0	0	0	0	0	0	
	175	0	0	0	0	0	0	0	0	
	177.5	0	0	0	0	0	0	0	0	
	180	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	103	99		108	104	101	98		100	97	95		96	94	92		92	91	89	87
2	101	94	88	83		99	92	87	82		89	84	80		86	82	78		83	79	77	75
3	93	84	76	70		91	82	75	70		79	73	69		77	72	67		74	70	66	64
4	86	75	67	61		84	73	66	60		71	65	59		69	63	59		67	62	58	56
5	79	67	59	53		77	66	58	52		64	57	52		62	56	51		60	55	51	49
6	73	61	53	46		72	60	52	46		58	51	46		57	50	46		55	49	45	43
7	68	55	47	41		67	55	47	41		53	46	41		52	45	41		50	45	40	38
8	64	51	43	37		62	50	42	37		49	42	37		48	41	37		46	41	36	35
9	60	47	39	34		58	46	39	34		45	38	33		44	38	33		43	37	33	31
10	56	43	36	31		55	43	35	31		42	35	30		41	35	30		40	34	30	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

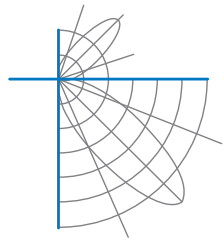
Height(ft)	Illuminance at Nadir (fc)	Ground-level distance to half-of-nadir illuminance (ft)	
		0-180 deg	90-270 deg
6.0	7.4	7.13	7.13
8.0	4.2	9.51	9.51
10.0	2.7	11.88	11.88
12.0	1.9	14.26	14.26
14.0	1.4	16.63	16.63
16.0	1.0	19.01	19.01

Average Luminance (cd/m²)

	0 deg Plane	45 deg Plane	90 deg Plane
0	69944	69944	69944
45	55816	55816	55816
55	46516	46516	46516
65	34345	34345	34345
75	17821	17821	17821
85	9425	9425	9425

Spacing Criterion

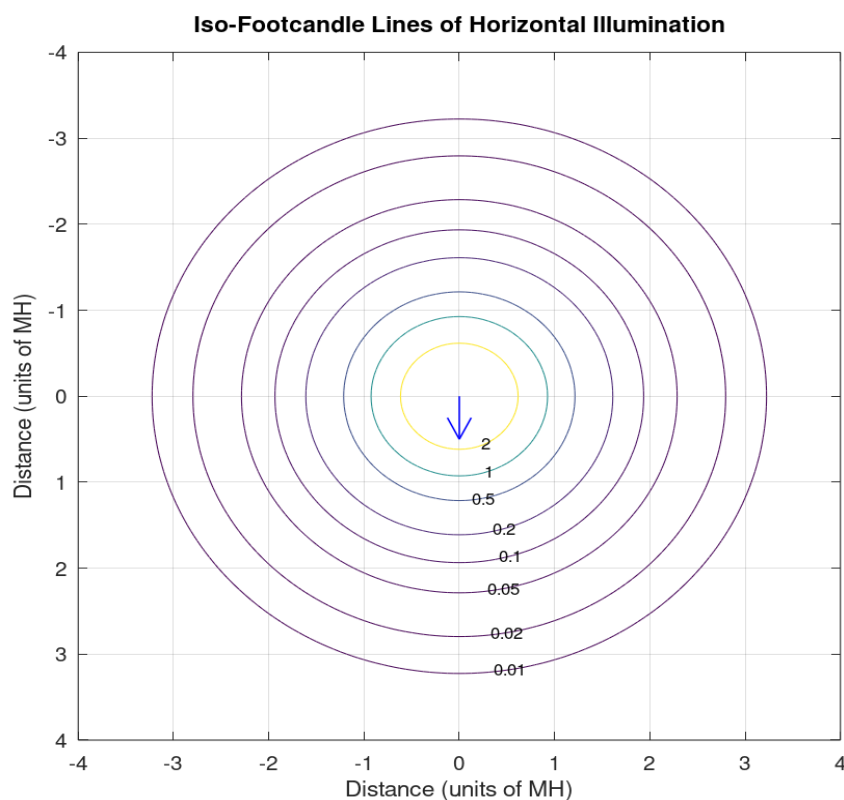
Spacing Criterion: 1.2



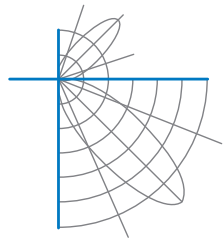
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Iso-Illuminance Plot



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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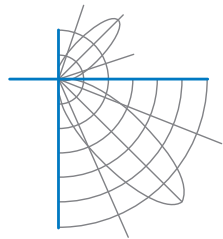


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Additional Pictures of Test Subject





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Test Distance 9.5 m
Ambient Temperature 25.0 °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.