

Report of Test

LLIA001148-001

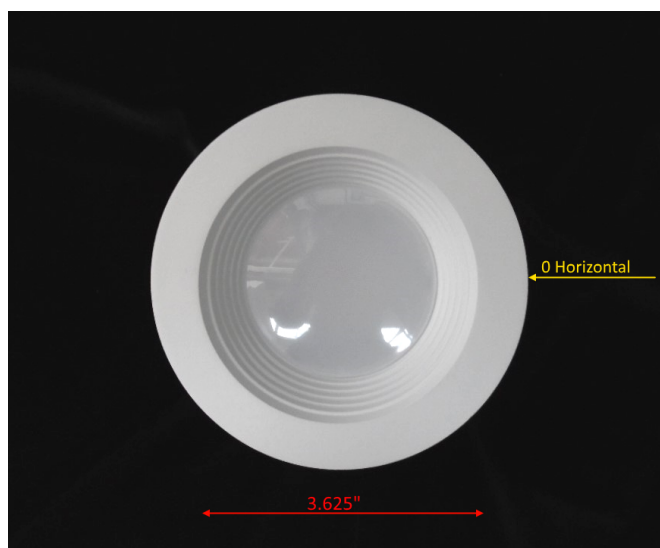
Indoor Distribution Photometry Test Report

Catalog Number: RTL/433WH/90/D-28

Recessed mounted, formed white aluminum housing, stepped white aluminum reflector, translucent white plastic enclosure.

20 white LEDs, one LT-2835201A LED board.

One LED driver.



Prepared For:

Topaz Lighting Corp

925 Waverly Avenue

Holtsville, NY 11742, USA

Performance Summary

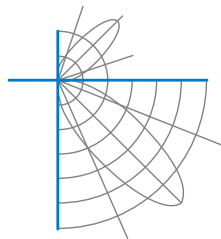
Input Voltage	120.0 V	Luminous Flux	652.6 Lumens
Input Current	0.0911 A	Total Efficacy	63.5 Lm/W
Input Power	10.28 W	Downward Flux	652.6 Lumens
Frequency	60.00 Hz	Downward Flux	100.0 % of Total
Power Factor	0.940		
Current THD	30.9 %		

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

Test date: 08/12/2019

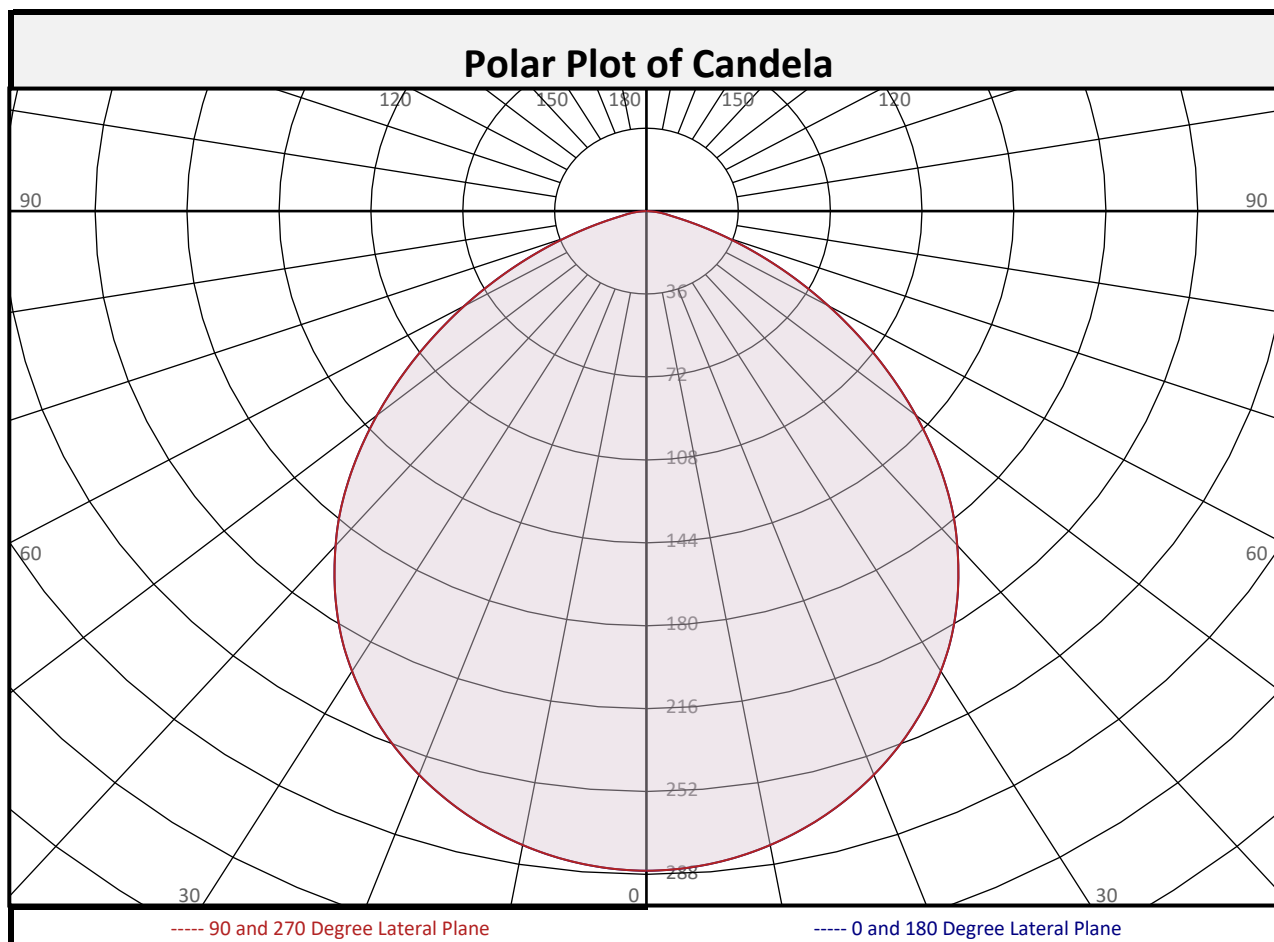
Report date: 08/12/2019

Signed: _____

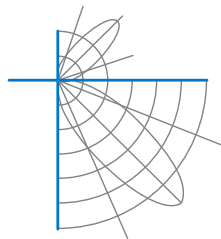


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Zonal Flux Summary										
Zone (Deg Vert)	Flux (Lumens)	Percent of Total		Zone (Deg Vert)	Flux (Lumens)	Percent of Total		Zone (Deg Vert)	Flux (Lumens)	Percent of Total
0-10	27.0	4.1%		90-100	0.0	0.0%		0-20	103.5	15.9%
10-20	76.5	11.7%		100-110	0.0	0.0%		0-30	217.2	33.3%
20-30	113.6	17.4%		110-120	0.0	0.0%		0-40	349.2	53.5%
30-40	132.1	20.2%		120-130	0.0	0.0%		0-60	574.2	88.0%
40-50	126.8	19.4%		130-140	0.0	0.0%		0-80	648.9	99.4%
50-60	98.1	15.0%		140-150	0.0	0.0%		10-90	625.5	95.9%
60-70	56.3	8.6%		150-160	0.0	0.0%		20-50	372.5	57.1%
70-80	18.4	2.8%		160-170	0.0	0.0%		40-90	303.3	46.5%
80-90	3.7	0.6%		170-180	0.0	0.0%		60-90	78.4	12.0%
0-90	652.6	100.0%		90-180	0.0	0.0%		0-180	652.6	100.0%

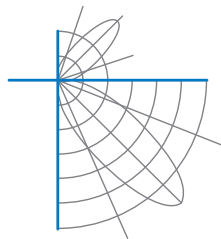


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Luminous Intensity (Candela) Table

	Lateral (C-Plane) Angles									
Vertical (Gamma) Angles		0	22.5	45	67.5	90	112.5	135	157.5	180
	0	286	286	286	286	286	286	286	286	286
	2.5	286	286	286	286	286	286	286	286	286
	5	285	285	285	285	285	285	285	285	285
	7.5	282	282	282	282	282	282	282	282	282
	10	279	279	279	279	279	279	279	279	279
	12.5	276	276	276	276	276	276	276	276	276
	15	271	271	271	271	271	271	271	271	271
	17.5	266	266	266	266	266	266	266	266	266
	20	260	260	260	260	260	260	260	260	260
	22.5	254	254	254	254	254	254	254	254	254
	25	247	247	247	247	247	247	247	247	247
	27.5	239	239	239	239	239	239	239	239	239
	30	231	231	231	231	231	231	231	231	231
	32.5	222	222	222	222	222	222	222	222	222
	35	212	212	212	212	212	212	212	212	212
	37.5	201	201	201	201	201	201	201	201	201
	40	190	190	190	190	190	190	190	190	190
	42.5	178	178	178	178	178	178	178	178	178
	45	165	165	165	165	165	165	165	165	165
	47.5	152	152	152	152	152	152	152	152	152
	50	138	138	138	138	138	138	138	138	138
	52.5	124	124	124	124	124	124	124	124	124
	55	110	110	110	110	110	110	110	110	110
	57.5	96	96	96	96	96	96	96	96	96
	60	82	82	82	82	82	82	82	82	82
	62.5	69	69	69	69	69	69	69	69	69
	65	57	57	57	57	57	57	57	57	57
	67.5	45	45	45	45	45	45	45	45	45
	70	34	34	34	34	34	34	34	34	34
	72.5	24	24	24	24	24	24	24	24	24
	75	16	16	16	16	16	16	16	16	16
	77.5	10	10	10	10	10	10	10	10	10
	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	

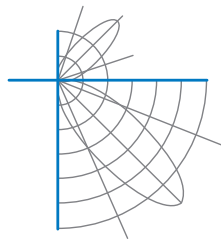


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Luminous Intensity (Candela) Table

	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		93	91	89	87
2	102	94	88	83		99	93	87	82		89	84	80		86	82	79		83	80	77	75
3	93	84	77	71		91	82	76	70		80	74	69		77	72	68		74	70	67	65
4	86	75	67	61		84	74	66	61		71	65	60		69	64	59		67	62	58	56
5	79	68	59	53		77	67	59	53		64	58	52		63	57	52		61	55	51	49
6	74	61	53	47		72	60	52	47		59	51	46		57	51	46		55	50	45	44
7	68	56	47	42		67	55	47	42		53	46	41		52	46	41		51	45	41	39
8	64	51	43	37		62	50	43	37		49	42	37		48	42	37		47	41	37	35
9	60	47	39	34		58	46	39	34		45	38	34		44	38	33		43	37	33	32
10	56	43	36	31		55	43	36	31		42	35	31		41	35	30		40	34	30	29

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.

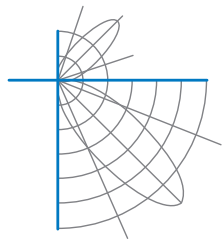
Circle of Light Plot

Height(ft)	Illuminance at Nadir (fc)	Ground-level distance to half-of-nadir illuminance (ft)	
		0-180 deg	90-270 deg
6.0	8.0	7.20	7.20
8.0	4.5	9.61	9.61
10.0	2.9	12.01	12.01
12.0	2.0	14.41	14.41
14.0	1.5	16.81	16.81
16.0	1.1	19.21	19.21

Average Luminance (cd/m ²)			
	0 deg Plane	45 deg Plane	90 deg Plane
0	43017	43017	43017
45	35036	35036	35036
55	28759	28759	28759
65	20118	20118	20118
75	9185	9185	9185
85	5465	5465	5465

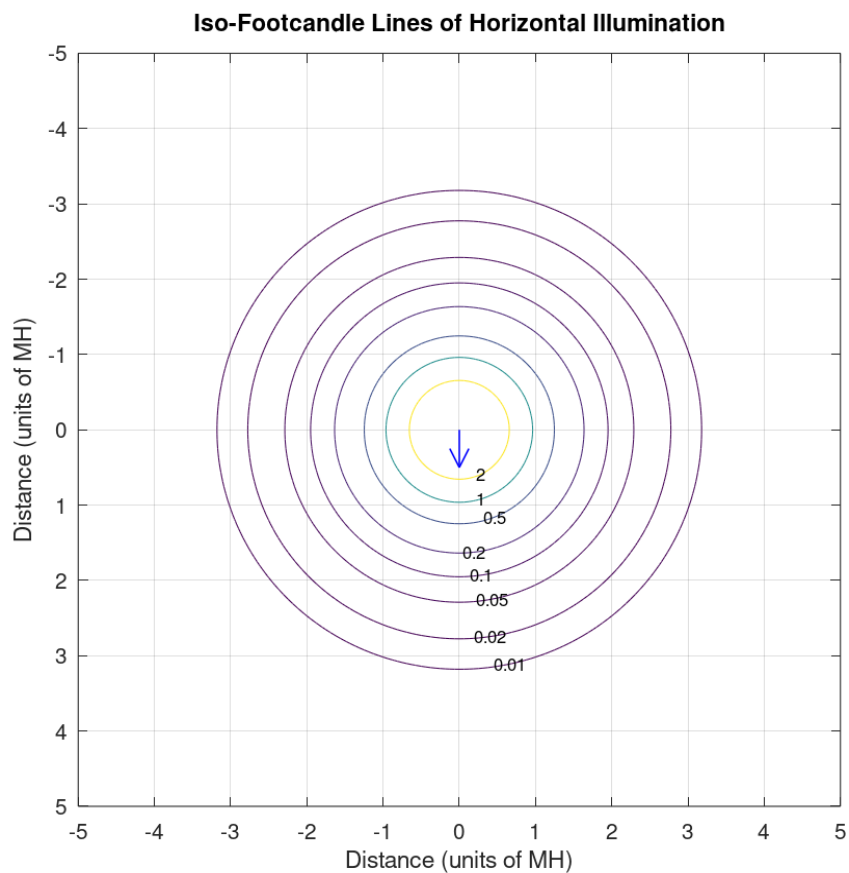
Spacing Criterion

Spacing Criterion: 1.2

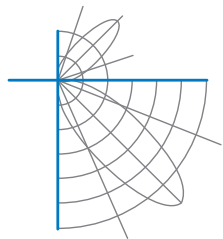


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Iso-Illuminance Plot



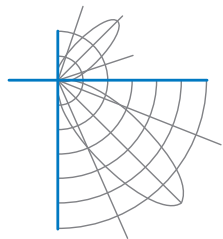
The isofootcandle values shown in the plot above are based on a mounting height of $h = 8.0$ feet. Grid values show multiples of mounting height. The isoilluminance contour lines are expressed in units of footcandles. The values expressed are based on the direct light from a single unit without the contribution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



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Additional Pictures of Test Subject





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Test Distance 9.5 m
Ambient Temperature 24.9 °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-79-08 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.