



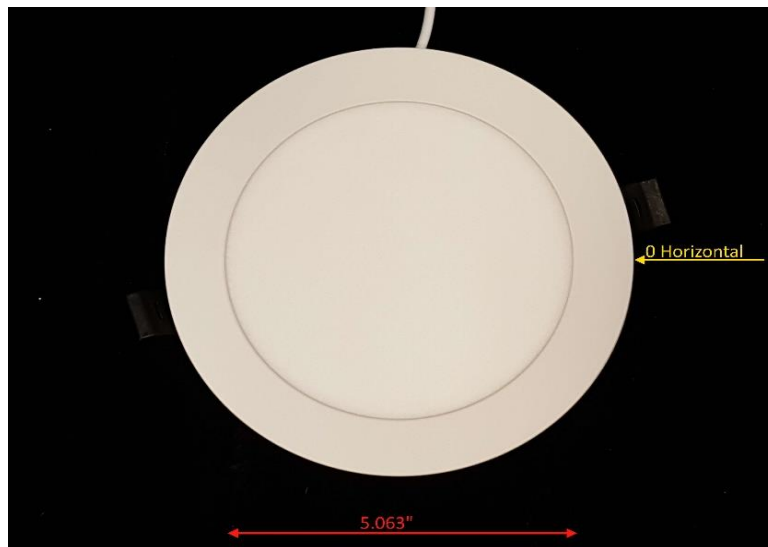
Report of Test

LLIA001204-005

Indoor Distribution Photometry Test Report

Catalog Number: RDL/6RND/12/5CTS - 3000K setting
LED indoor recessed downlight, formed steel housing, formed white aluminum trim with clear patterned plastic lens above translucent white plastic enclosure.

96 white LEDs
One internal LED driver



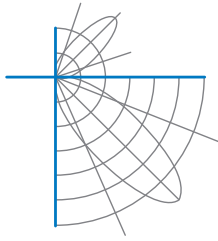
Prepared For:
Topaz Lighting Corp
925 Waverly Avenue
Holtsville, NY 11742, USA

Performance Summary			
Input Voltage	120.0 V	Luminous Flux	894.0 Lumens
Input Current	0.1347 A	Total Efficacy	73.2 Lm/W
Input Power	12.21 W	Downward Flux	894.0 Lumens
Frequency	60.00 Hz	Downward Flux	100.0 % of Total
Power Factor	0.755		
Current THD	31.3 %		

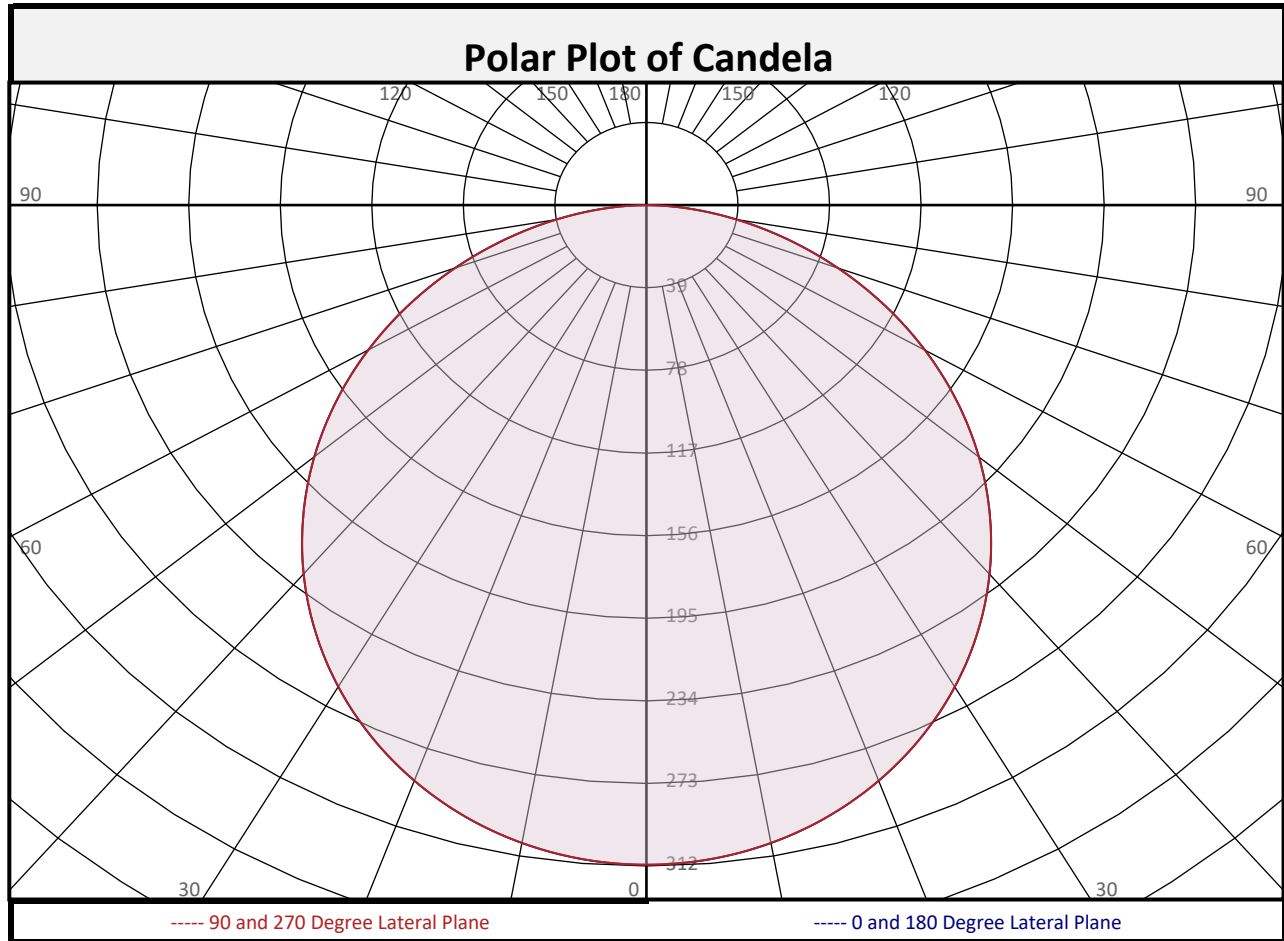
This test report was issued by LightLab International Allentown, LLC without alterations or erasures.

Test date: 12/26/2019
Report date: 12/27/2019

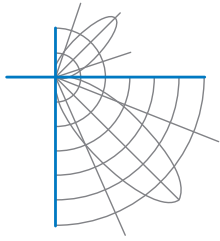
Signed: _____



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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	Zone (Deg Vert)	Flux (Lumens)	Percent of Total									
0-10	29.5	3.3%	90-100	0.0	0.0%	0-20	113.8	12.7%	10-20	84.3	9.4%	100-110	0.0	0.0%	0-30	241.4	27.0%			
20-30	127.6	14.3%	110-120	0.0	0.0%	0-40	395.2	44.2%	30-40	153.8	17.2%	120-130	0.0	0.0%	0-60	698.7	78.2%	40-50	159.4	17.8%
50-60	144.1	16.1%	130-140	0.0	0.0%	0-80	874.8	97.9%	60-70	110.6	12.4%	140-150	0.0	0.0%	0-90	894.0	100.0%	70-80	65.5	7.3%
80-90	19.2	2.1%	150-160	0.0	0.0%	10-90	864.5	96.7%	80-90	19.2	2.1%	160-170	0.0	0.0%	20-50	440.8	49.3%	90-180	0.0	0.0%
			170-180	0.0	0.0%	40-90	498.8	55.8%				60-90	195.3	21.8%						
						0-180	894.0	100.0%												

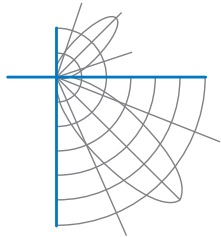


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Luminous Intensity (Candela) Table

		Lateral (C-Plane) Angles								
		0	22.5	45	67.5	90	112.5	135	157.5	180
Vertical (Gamma) Angles	0	311	311	311	311	311	311	311	311	311
	2.5	311	311	311	311	311	311	311	311	311
	5	310	310	310	310	310	310	310	310	310
	7.5	308	308	308	308	308	308	308	308	308
	10	306	306	306	306	306	306	306	306	306
	12.5	303	303	303	303	303	303	303	303	303
	15	299	299	299	299	299	299	299	299	299
	17.5	294	294	294	294	294	294	294	294	294
	20	289	289	289	289	289	289	289	289	289
	22.5	283	283	283	283	283	283	283	283	283
	25	277	277	277	277	277	277	277	277	277
	27.5	270	270	270	270	270	270	270	270	270
	30	263	263	263	263	263	263	263	263	263
	32.5	254	254	254	254	254	254	254	254	254
	35	246	246	246	246	246	246	246	246	246
	37.5	237	237	237	237	237	237	237	237	237
	40	227	227	227	227	227	227	227	227	227
	42.5	217	217	217	217	217	217	217	217	217
	45	207	207	207	207	207	207	207	207	207
	47.5	196	196	196	196	196	196	196	196	196
50	185	185	185	185	185	185	185	185	185	
52.5	173	173	173	173	173	173	173	173	173	
55	161	161	161	161	161	161	161	161	161	
57.5	149	149	149	149	149	149	149	149	149	
60	137	137	137	137	137	137	137	137	137	
62.5	124	124	124	124	124	124	124	124	124	
65	112	112	112	112	112	112	112	112	112	
67.5	99	99	99	99	99	99	99	99	99	
70	87	87	87	87	87	87	87	87	87	
72.5	74	74	74	74	74	74	74	74	74	
75	62	62	62	62	62	62	62	62	62	
77.5	50	50	50	50	50	50	50	50	50	
80	39	39	39	39	39	39	39	39	39	
82.5	28	28	28	28	28	28	28	28	28	
85	17	17	17	17	17	17	17	17	17	
87.5	7	7	7	7	7	7	7	7	7	
90	0	0	0	0	0	0	0	0	0	

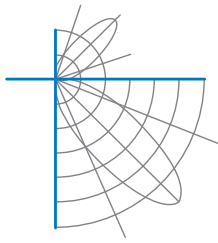


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Luminous Intensity (Candela) Table

		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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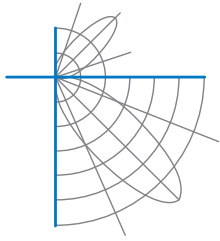
Coefficients of Utilization/Room Utilization - Zonal Cavity Method																						
Effective Floor Cavity Reflectance 0.20																						
RC	80					70					50				30				10			0
RW	70	50	30	10		70	50	30	10		50	30	10		50	30	10		50	30	10	0
RCR																						
0	119	119	119	119		116	116	116	116		111	111	111		106	106	106		102	102	102	100
1	109	104	99	95		106	101	97	94		97	94	91		93	90	88		90	87	85	83
2	99	90	83	77		96	88	82	76		85	79	75		81	77	73		78	75	71	69
3	90	79	71	64		87	77	70	64		74	68	62		72	66	61		69	64	60	58
4	82	70	61	54		80	69	60	54		66	59	53		64	57	52		62	56	52	49
5	75	62	53	47		73	61	53	46		59	52	46		57	51	45		55	50	45	43
6	70	56	47	41		68	55	47	40		53	46	40		52	45	40		50	44	39	37
7	65	51	42	36		63	50	42	36		49	41	35		47	40	35		46	40	35	33
8	60	46	38	32		59	46	38	32		44	37	32		43	36	31		42	36	31	29
9	56	43	34	29		55	42	34	29		41	34	29		40	33	28		39	33	28	26
10	53	39	31	26		51	39	31	26		38	31	26		37	30	26		36	30	26	24

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	8.7	7.52	7.52	
8.0	4.9	10.03	10.03	
10.0	3.1	12.53	12.53	
12.0	2.2	15.04	15.04	
14.0	1.6	17.55	17.55	
16.0	1.2	20.05	20.05	

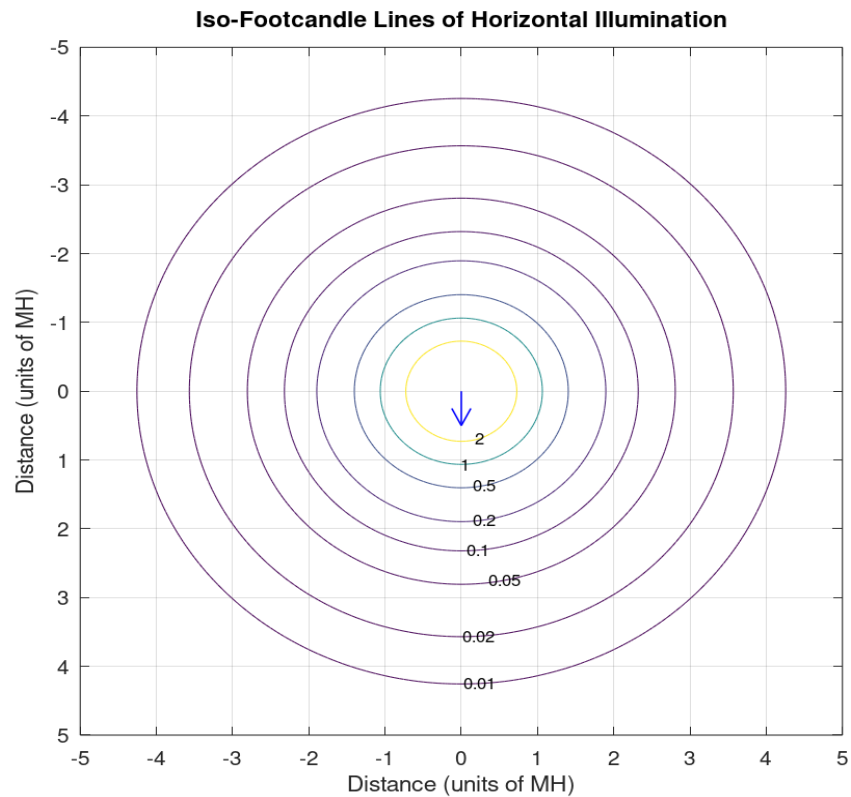
Average Luminance (cd/m ²)			
	0 deg Plane	45 deg Plane	90 deg Plane
0	23980	23980	23980
45	22508	22508	22508
55	21647	21647	21647
65	20369	20369	20369
75	18421	18421	18421
85	15103	15103	15103

Spacing Criterion	
Spacing Criterion:	1.3

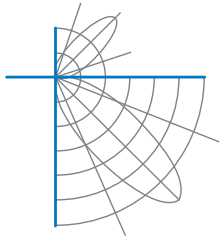


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Iso-Illuminance Plot

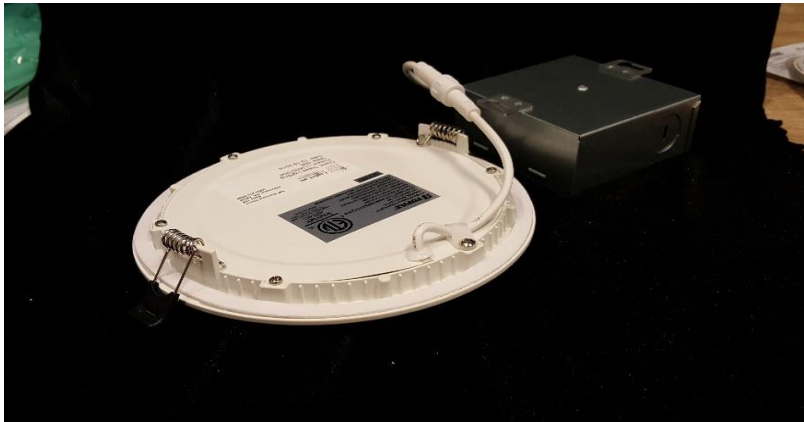
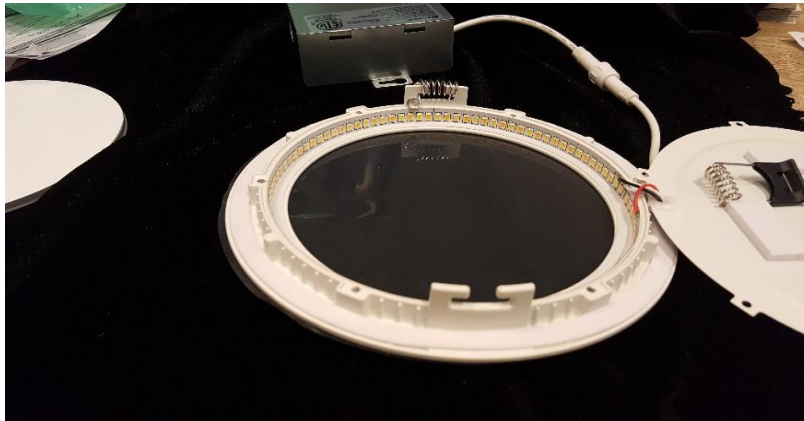


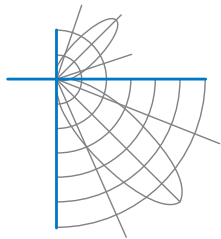
The isofootcandle values shown in the plot above are based on a mounting height of $h = 8.0$ feet. Grid values show multiples of mounting height. The isoilluminance contour lines are expressed in units of footcandles. The values expressed are based on the direct light from a single unit without the contribution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



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Additional Pictures of Test Subject





Report of Test

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Test Distance 9.5 m
Ambient Temperature 25.1 °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.