

Report of Test

LLIA001204-009

Indoor Distribution Photometry Test Report

Catalog Number: RDL/63RND/12HL/WH-97

LED indoor recessed downlight, formed steel housing, formed white aluminum trim with clear patterned plastic lens above translucent white plastic enclosure.

48 white LEDs

One internal LED driver



Prepared For:

Topaz Lighting Corp

925 Waverly Avenue

Holtsville, NY 11742, USA

Performance Summary

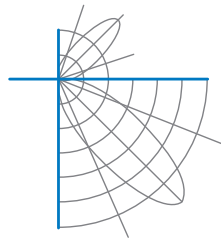
Input Voltage	120.0 V	Luminous Flux	1015.7 Lumens
Input Current	0.1335 A	Total Efficacy	84.7 Lm/W
Input Power	11.99 W	Downward Flux	1015.7 Lumens
Frequency	60.00 Hz	Downward Flux	100.0 % of Total
Power Factor	0.749		
Current THD	27.8 %		

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

Test date: 02/14/2020

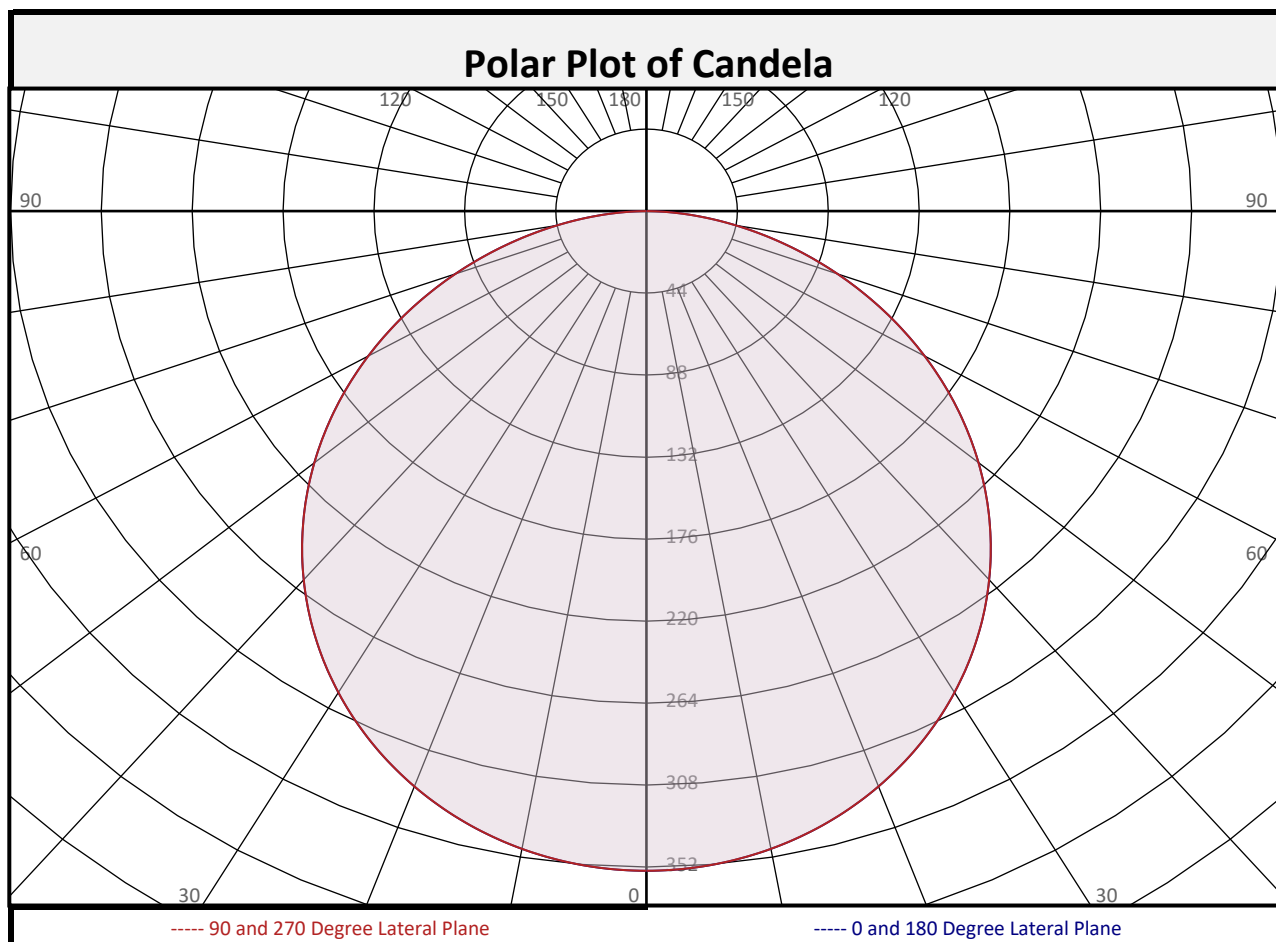
Report date: 02/17/2020

Signed: _____

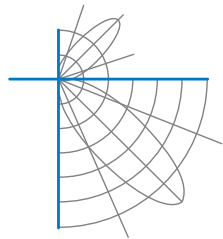


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Zonal Flux Summary										
Zone (Deg Vert)	Flux (Lumens)	Percent of Total		Zone (Deg Vert)	Flux (Lumens)	Percent of Total		Zone (Deg Vert)	Flux (Lumens)	Percent of Total
0-10	33.5	3.3%		90-100	0.0	0.0%		0-20	129.3	12.7%
10-20	95.8	9.4%		100-110	0.0	0.0%		0-30	274.4	27.0%
20-30	145.1	14.3%		110-120	0.0	0.0%		0-40	449.1	44.2%
30-40	174.7	17.2%		120-130	0.0	0.0%		0-60	794.0	78.2%
40-50	181.1	17.8%		130-140	0.0	0.0%		0-80	994.0	97.9%
50-60	163.7	16.1%		140-150	0.0	0.0%		10-90	982.2	96.7%
60-70	125.6	12.4%		150-160	0.0	0.0%		20-50	500.9	49.3%
70-80	74.4	7.3%		160-170	0.0	0.0%		40-90	566.6	55.8%
80-90	21.7	2.1%		170-180	0.0	0.0%		60-90	221.7	21.8%
0-90	1016	100.0%		90-180	0.0	0.0%		0-180	1016	100.0%

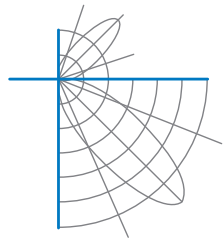


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Luminous Intensity (Candela) Table

	Lateral (C-Plane) Angles									
Vertical (Gamma) Angles		0	22.5	45	67.5	90	112.5	135	157.5	180
	0	354	354	354	354	354	354	354	354	354
	2.5	354	354	354	354	354	354	354	354	354
	5	352	352	352	352	352	352	352	352	352
	7.5	350	350	350	350	350	350	350	350	350
	10	348	348	348	348	348	348	348	348	348
	12.5	344	344	344	344	344	344	344	344	344
	15	340	340	340	340	340	340	340	340	340
	17.5	334	334	334	334	334	334	334	334	334
	20	329	329	329	329	329	329	329	329	329
	22.5	322	322	322	322	322	322	322	322	322
	25	315	315	315	315	315	315	315	315	315
	27.5	307	307	307	307	307	307	307	307	307
	30	298	298	298	298	298	298	298	298	298
	32.5	289	289	289	289	289	289	289	289	289
	35	279	279	279	279	279	279	279	279	279
	37.5	269	269	269	269	269	269	269	269	269
	40	258	258	258	258	258	258	258	258	258
	42.5	247	247	247	247	247	247	247	247	247
	45	235	235	235	235	235	235	235	235	235
	47.5	223	223	223	223	223	223	223	223	223
	50	210	210	210	210	210	210	210	210	210
	52.5	197	197	197	197	197	197	197	197	197
	55	183	183	183	183	183	183	183	183	183
	57.5	169	169	169	169	169	169	169	169	169
	60	156	156	156	156	156	156	156	156	156
	62.5	141	141	141	141	141	141	141	141	141
	65	127	127	127	127	127	127	127	127	127
	67.5	113	113	113	113	113	113	113	113	113
	70	98	98	98	98	98	98	98	98	98
	72.5	84	84	84	84	84	84	84	84	84
	75	70	70	70	70	70	70	70	70	70
	77.5	57	57	57	57	57	57	57	57	57
	80	44	44	44	44	44	44	44	44	44
	82.5	31	31	31	31	31	31	31	31	31
	85	19	19	19	19	19	19	19	19	19
	87.5	8	8	8	8	8	8	8	8	8
90	0	0	0	0	0	0	0	0	0	

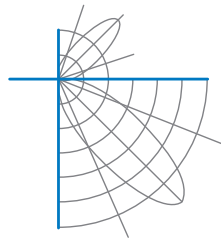


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Luminous Intensity (Candela) Table

Vertical (Gamma) Angles	Lateral (C-Plane) Angles									
		0	22.5	45	67.5	90	112.5	135	157.5	180
	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	91	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

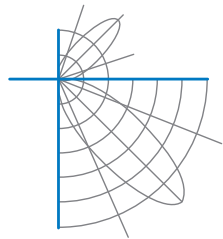
Height(ft)	Illuminance at Nadir (fc)	Ground-level distance to half-of-nadir illuminance (ft)	
		0-180 deg	90-270 deg
6.0	9.8	7.52	7.52
8.0	5.5	10.02	10.02
10.0	3.5	12.53	12.53
12.0	2.5	15.03	15.03
14.0	1.8	17.54	17.54
16.0	1.4	20.04	20.04

Average Luminance (cd/m²)

	0 deg Plane	45 deg Plane	90 deg Plane
0	27262	27262	27262
45	25582	25582	25582
55	24603	24603	24603
65	23136	23136	23136
75	20899	20899	20899
85	17042	17042	17042

Spacing Criterion

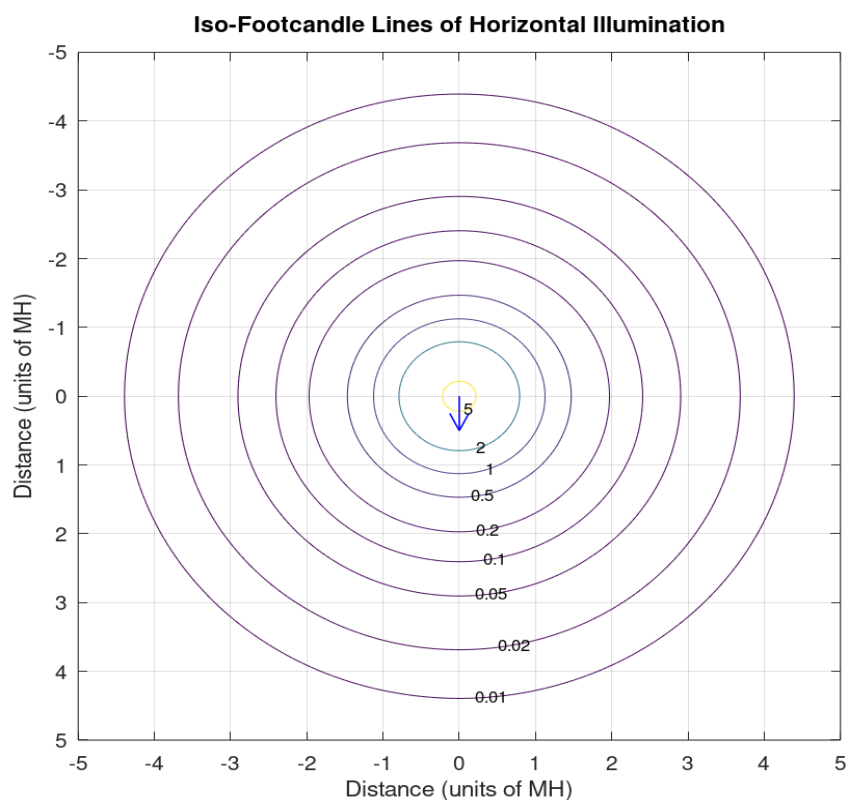
Spacing Criterion:	1.3
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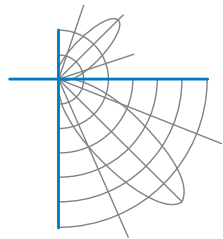
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Iso-Illuminance Plot



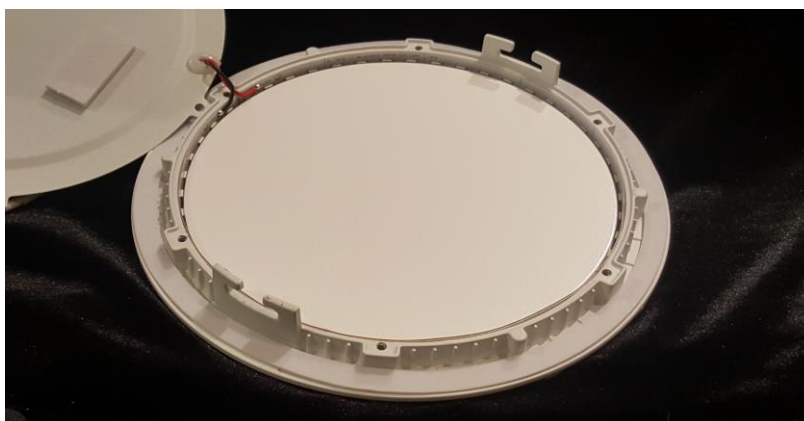
The isofootcandle values shown in the plot above are based on a mounting height of $h = 8.0$ feet. Grid values show multiples of mounting height. The isoilluminance contour lines are expressed in units of footcandles. The values expressed are based on the direct light from a single unit without the contribution 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-79-19 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.