

Report of Test

LLIA001204-008

Indoor Distribution Photometry Test Report

Catalog Number: RDL/63RND/12/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

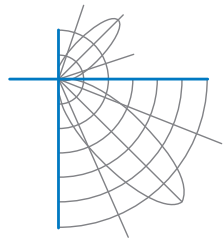
Input Voltage	120.0 V	Luminous Flux	896.9 Lumens
Input Current	0.1335 A	Total Efficacy	74.4 Lm/W
Input Power	12.06 W	Downward Flux	896.9 Lumens
Frequency	60.00 Hz	Downward Flux	100.0 % of Total
Power Factor	0.753		
Current THD	32.1 %		

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

Test date: 02/14/2020

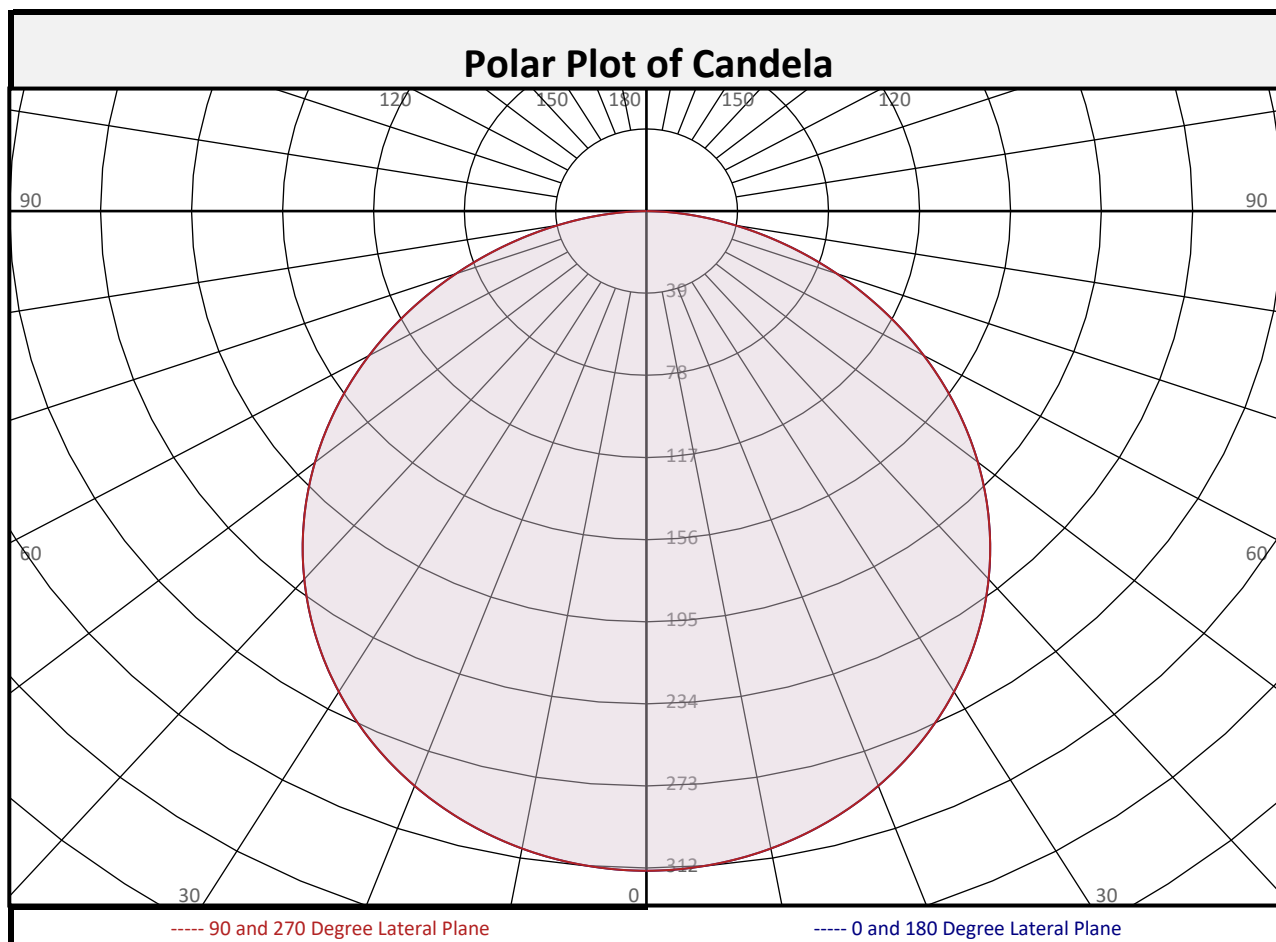
Report date: 02/17/2020

Signed: _____

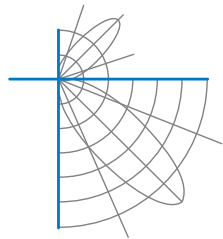


Report of Test

LLIA001204-008



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	29.6	3.3%		90-100	0.0	0.0%		0-20	114.4	12.8%
10-20	84.7	9.4%		100-110	0.0	0.0%		0-30	242.6	27.0%
20-30	128.2	14.3%		110-120	0.0	0.0%		0-40	397.0	44.3%
30-40	154.4	17.2%		120-130	0.0	0.0%		0-60	701.5	78.2%
40-50	160.0	17.8%		130-140	0.0	0.0%		0-80	877.8	97.9%
50-60	144.6	16.1%		140-150	0.0	0.0%		10-90	867.2	96.7%
60-70	110.8	12.4%		150-160	0.0	0.0%		20-50	442.6	49.3%
70-80	65.5	7.3%		160-170	0.0	0.0%		40-90	499.9	55.7%
80-90	19.0	2.1%		170-180	0.0	0.0%		60-90	195.3	21.8%
0-90	896.9	100.0%		90-180	0.0	0.0%		0-180	896.9	100.0%

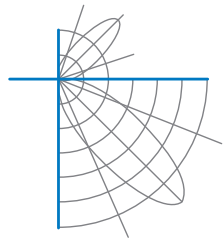


Report of Test

LLIA001204-008

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	313	313	313	313	313	313	313	313	313
	2.5	313	313	313	313	313	313	313	313	313
	5	312	312	312	312	312	312	312	312	312
	7.5	310	310	310	310	310	310	310	310	310
	10	307	307	307	307	307	307	307	307	307
	12.5	304	304	304	304	304	304	304	304	304
	15	300	300	300	300	300	300	300	300	300
	17.5	296	296	296	296	296	296	296	296	296
	20	290	290	290	290	290	290	290	290	290
	22.5	285	285	285	285	285	285	285	285	285
	25	278	278	278	278	278	278	278	278	278
	27.5	271	271	271	271	271	271	271	271	271
	30	264	264	264	264	264	264	264	264	264
	32.5	255	255	255	255	255	255	255	255	255
	35	247	247	247	247	247	247	247	247	247
	37.5	238	238	238	238	238	238	238	238	238
	40	228	228	228	228	228	228	228	228	228
	42.5	218	218	218	218	218	218	218	218	218
	45	208	208	208	208	208	208	208	208	208
	47.5	197	197	197	197	197	197	197	197	197
	50	185	185	185	185	185	185	185	185	185
	52.5	174	174	174	174	174	174	174	174	174
	55	162	162	162	162	162	162	162	162	162
	57.5	150	150	150	150	150	150	150	150	150
	60	137	137	137	137	137	137	137	137	137
	62.5	125	125	125	125	125	125	125	125	125
	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	38	38	38	38	38	38	38	38	38
	82.5	27	27	27	27	27	27	27	27	27
	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	

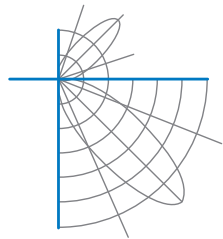


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Luminous Intensity (Candela) Table

	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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LLIA001204-008

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	58	52		62	56	52	50
5	76	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	41		53	46	40		52	45	40		50	44	39	37
7	65	51	42	36		63	50	42	36		49	41	36		47	40	35		46	40	35	33
8	60	46	38	32		59	46	38	32		44	37	32		43	36	32		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.

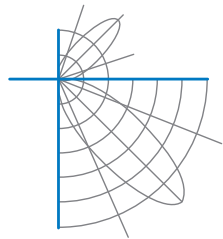
Circle of Light Plot

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	7.51	7.51
8.0	4.9	10.01	10.01
10.0	3.1	12.51	12.51
12.0	2.2	15.01	15.01
14.0	1.6	17.52	17.52
16.0	1.2	20.02	20.02

Average Luminance (cd/m ²)			
	0 deg Plane	45 deg Plane	90 deg Plane
0	24127	24127	24127
45	22597	22597	22597
55	21719	21719	21719
65	20409	20409	20409
75	18398	18398	18398
85	14915	14915	14915

Spacing Criterion

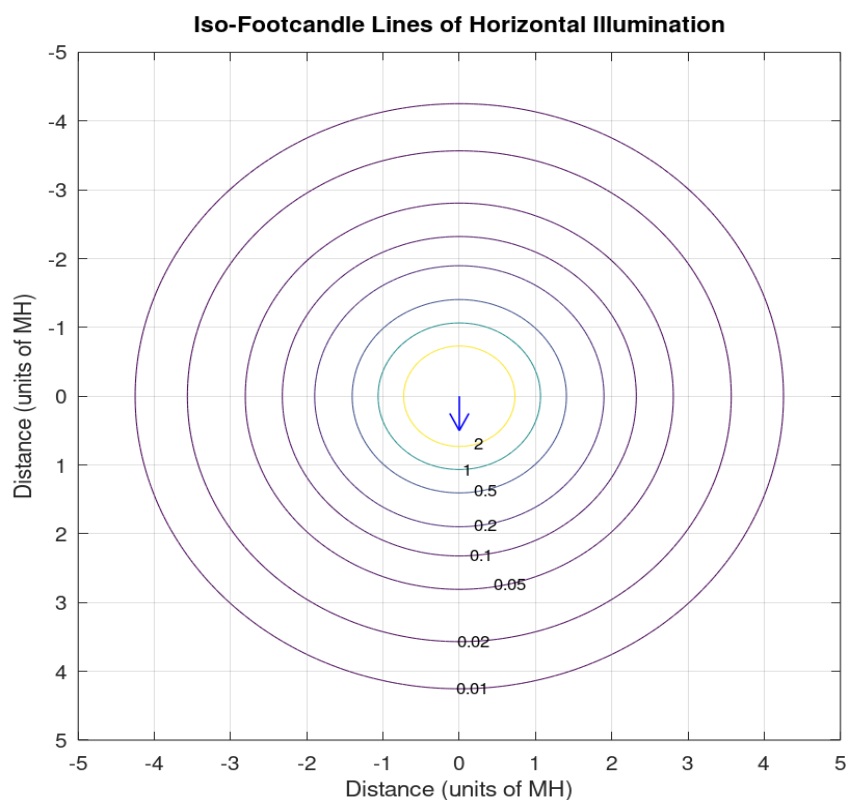
Spacing Criterion: 1.3



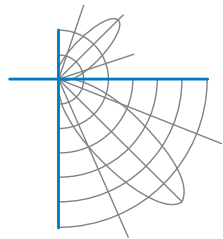
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LLIA001204-008

Iso-Illuminance Plot

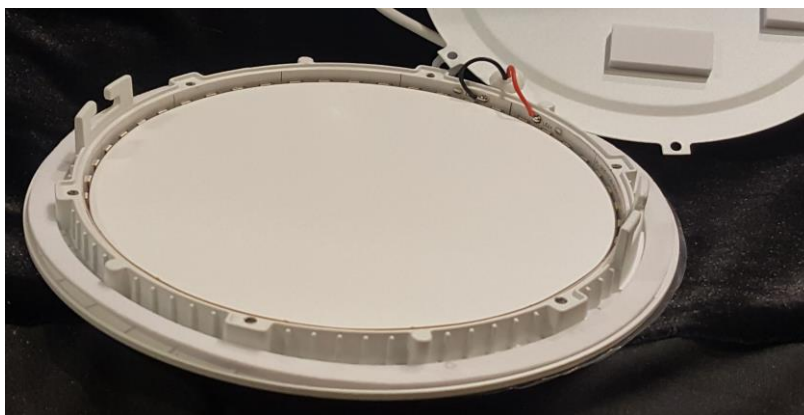


The isofootcandle values shown in the plot above are based on a mounting height of $h = 8.0$ feet. Grid values show multiples of mounting height. The isoilluminance contour lines are expressed in units of footcandles. The values expressed are based on the direct light from a single unit without the contribution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



Report of Test LLIA001204-008

Additional Pictures of Test Subject



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Test Distance 9.5 m
Ambient Temperature 25.3 °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.