

Report of Test

LLIA001204-004

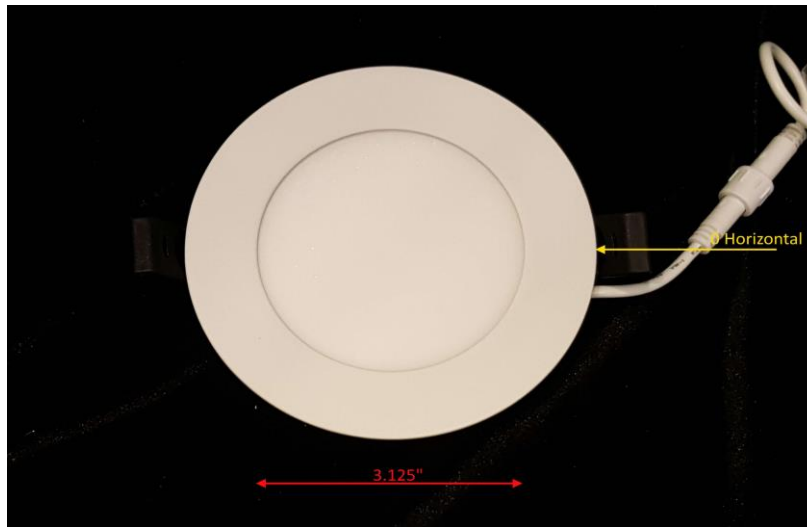
Indoor Distribution Photometry Test Report

Catalog Number: RDL/4RND/9/5CTS - 3000K Setting

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

72 white LEDs

One internal LED driver



Prepared For:

Topaz Lighting Corp

925 Waverly Avenue

Holtsville, NY 11742, USA

Performance Summary

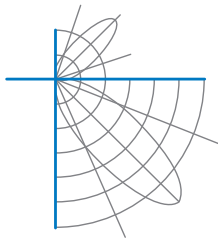
Input Voltage	120.0 V	Luminous Flux	668.5 Lumens
Input Current	0.0985 A	Total Efficacy	75.1 Lm/W
Input Power	8.90 W	Downward Flux	668.5 Lumens
Frequency	60.00 Hz	Downward Flux	100.0 % of Total
Power Factor	0.753		
Current THD	37.4 %		

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

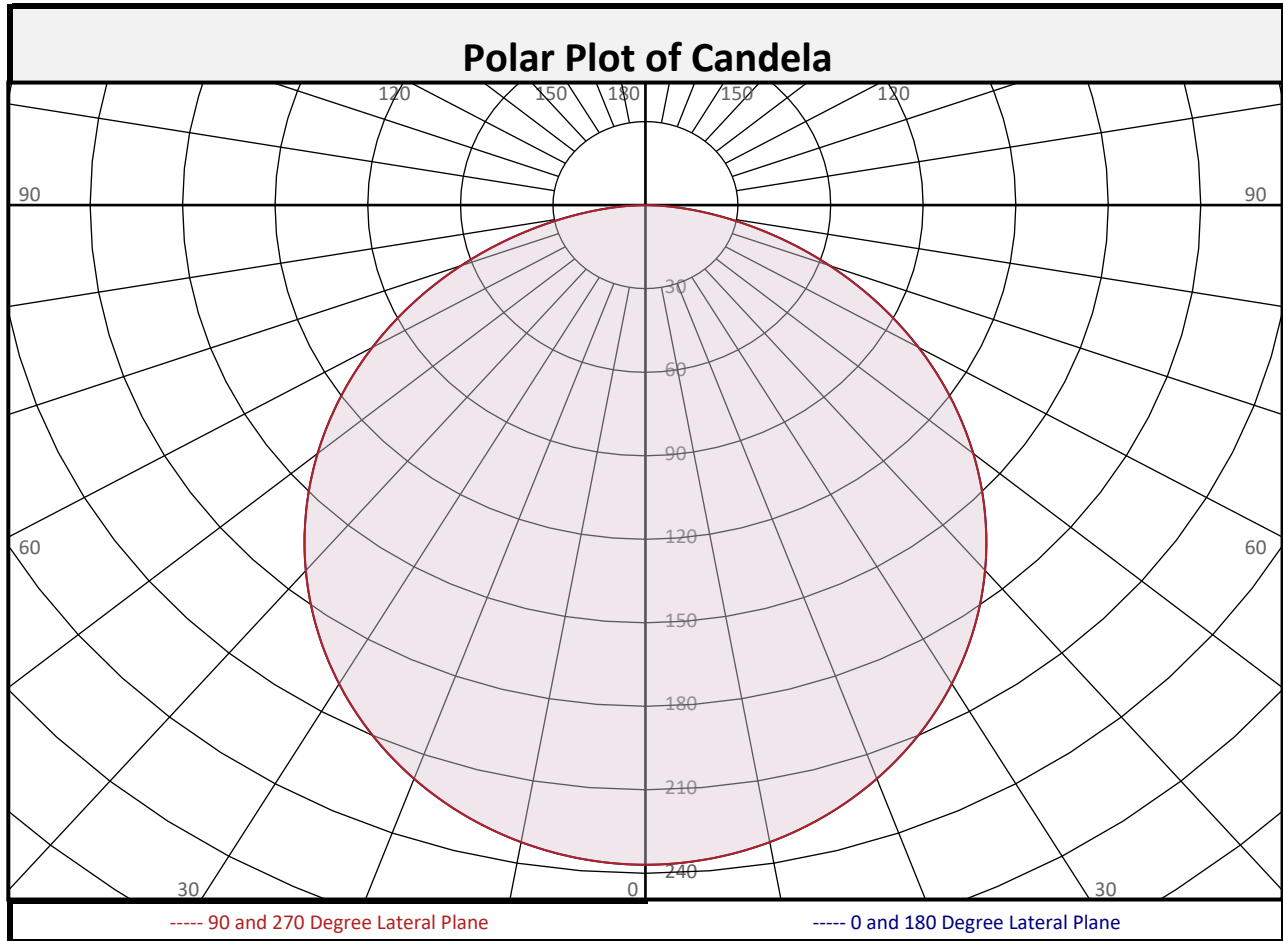
Test date: 12/27/2019

Report date: 12/27/2019

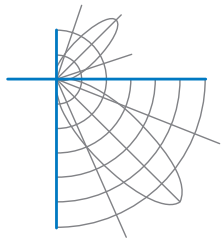
Signed: _____



Report of Test
LLIA001204-004



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	22.4	3.4%		90-100	0.0	0.0%		0-20	86.4	12.9%
10-20	64.0	9.6%		100-110	0.0	0.0%		0-30	183.1	27.4%
20-30	96.7	14.5%		110-120	0.0	0.0%		0-40	299.1	44.7%
30-40	116.1	17.4%		120-130	0.0	0.0%		0-60	527.0	78.8%
40-50	119.9	17.9%		130-140	0.0	0.0%		0-80	655.9	98.1%
50-60	107.9	16.1%		140-150	0.0	0.0%		10-90	646.1	96.6%
60-70	82.0	12.3%		150-160	0.0	0.0%		20-50	332.7	49.8%
70-80	46.9	7.0%		160-170	0.0	0.0%		40-90	369.4	55.3%
80-90	12.6	1.9%		170-180	0.0	0.0%		60-90	141.6	21.2%
0-90	668.5	100.0%		90-180	0.0	0.0%		0-180	668.5	100.0%

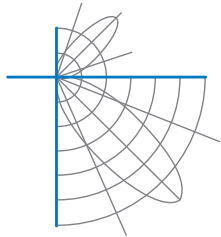


Report of Test

LLIA001204-004

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	237	237	237	237	237	237	237	237	237
	2.5	237	237	237	237	237	237	237	237	237
	5	236	236	236	236	236	236	236	236	236
	7.5	234	234	234	234	234	234	234	234	234
	10	232	232	232	232	232	232	232	232	232
	12.5	230	230	230	230	230	230	230	230	230
	15	227	227	227	227	227	227	227	227	227
	17.5	223	223	223	223	223	223	223	223	223
	20	219	219	219	219	219	219	219	219	219
	22.5	215	215	215	215	215	215	215	215	215
	25	210	210	210	210	210	210	210	210	210
	27.5	204	204	204	204	204	204	204	204	204
	30	199	199	199	199	199	199	199	199	199
	32.5	192	192	192	192	192	192	192	192	192
	35	186	186	186	186	186	186	186	186	186
	37.5	179	179	179	179	179	179	179	179	179
	40	171	171	171	171	171	171	171	171	171
	42.5	164	164	164	164	164	164	164	164	164
	45	155	155	155	155	155	155	155	155	155
	47.5	147	147	147	147	147	147	147	147	147
50	139	139	139	139	139	139	139	139	139	
52.5	130	130	130	130	130	130	130	130	130	
55	121	121	121	121	121	121	121	121	121	
57.5	112	112	112	112	112	112	112	112	112	
60	102	102	102	102	102	102	102	102	102	
62.5	93	93	93	93	93	93	93	93	93	
65	83	83	83	83	83	83	83	83	83	
67.5	73	73	73	73	73	73	73	73	73	
70	63	63	63	63	63	63	63	63	63	
72.5	54	54	54	54	54	54	54	54	54	
75	44	44	44	44	44	44	44	44	44	
77.5	35	35	35	35	35	35	35	35	35	
80	26	26	26	26	26	26	26	26	26	
82.5	18	18	18	18	18	18	18	18	18	
85	11	11	11	11	11	11	11	11	11	
87.5	5	5	5	5	5	5	5	5	5	
90	0	0	0	0	0	0	0	0	0	

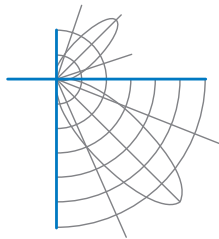


Report of Test

LLIA001204-004

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	



Report of Test

LLIA001204-004

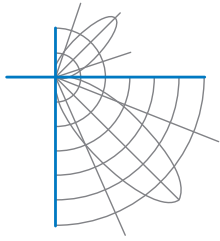
Coefficients of Utilization/Room Utilization - Zonal Cavity Method																						
Effective Floor Cavity Reflectance 0.20																						
RC	80					70					50				30				10			0
RW	70	50	30	10		70	50	30	10		50	30	10		50	30	10		50	30	10	0
RCR																						
0	119	119	119	119		116	116	116	116		111	111	111		106	106	106		102	102	102	100
1	109	104	100	96		106	102	98	94		97	94	91		93	91	88		90	88	86	84
2	99	90	84	78		96	89	82	77		85	80	75		82	77	73		79	75	72	70
3	90	79	71	65		88	78	70	64		75	68	63		72	66	62		69	65	61	59
4	82	70	61	55		80	69	61	54		66	59	54		64	58	53		62	57	52	50
5	76	63	54	47		74	62	53	47		60	52	46		58	51	46		56	50	45	43
6	70	57	48	41		68	56	47	41		54	46	41		52	45	40		50	44	40	38
7	65	51	42	36		63	50	42	36		49	41	36		47	41	36		46	40	35	33
8	60	47	38	32		59	46	38	32		45	37	32		43	37	32		42	36	32	30
9	56	43	35	29		55	42	34	29		41	34	29		40	33	29		39	33	29	27
10	53	40	32	26		52	39	31	26		38	31	26		37	31	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	6.6	7.48	7.48	
8.0	3.7	9.97	9.97	
10.0	2.4	12.46	12.46	
12.0	1.6	14.95	14.95	
14.0	1.2	17.45	17.45	
16.0	0.9	19.94	19.94	

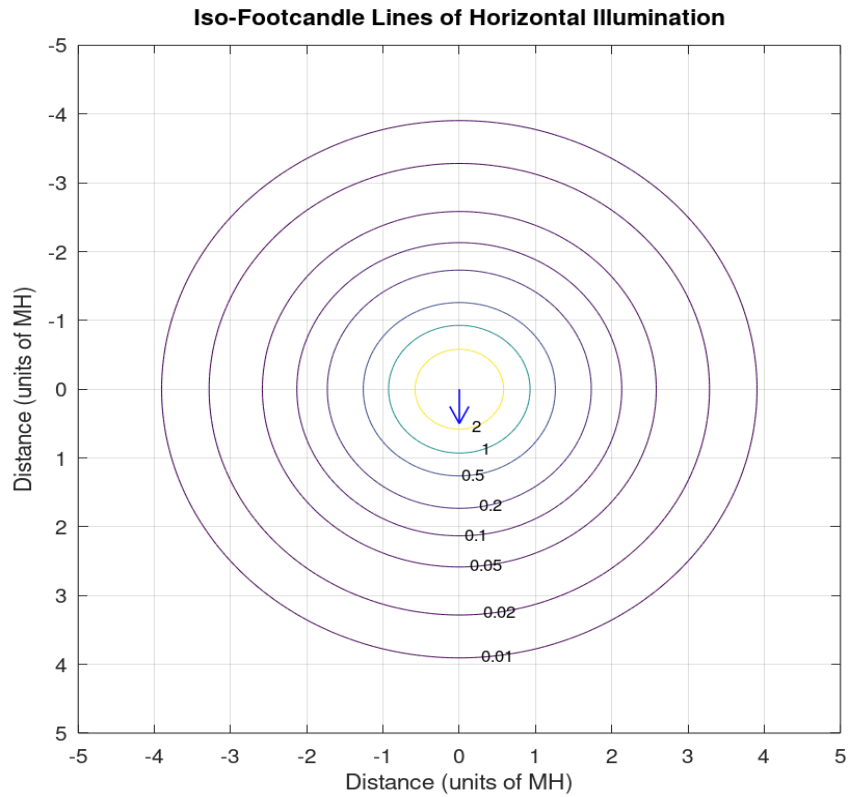
Average Luminance (cd/m ²)			
	0 deg Plane	45 deg Plane	90 deg Plane
0	47880	47880	47880
45	44441	44441	44441
55	42548	42548	42548
65	39662	39662	39662
75	34582	34582	34582
85	25438	25438	25438

Spacing Criterion	
Spacing Criterion:	1.2

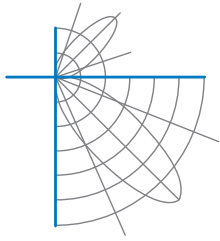


Report of Test
LLIA001204-004

Iso-Illuminance Plot

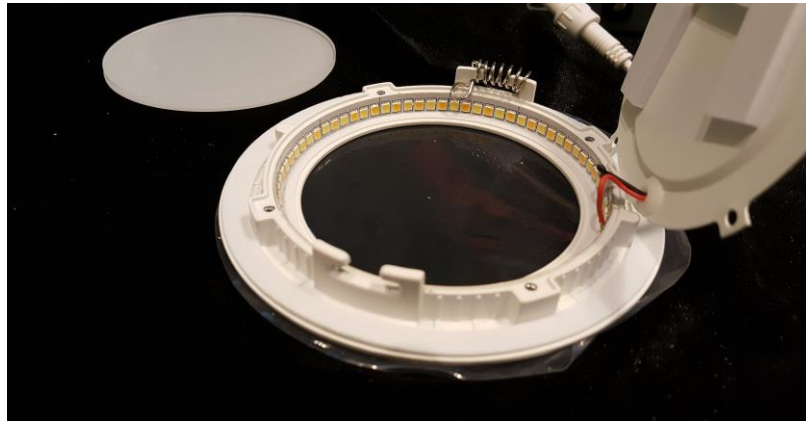


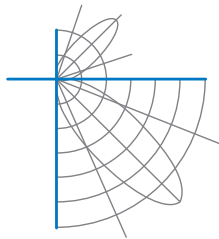
The isofootcandle values shown in the plot above are based on a mounting height of $h = 8.0$ feet. Grid values show multiples of mounting height. The isoilluminance contour lines are expressed in units of footcandles. The values expressed are based on the direct light from a single unit without the contribution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



Report of Test
LLIA001204-004

Additional Pictures of Test Subject





Report of Test

LLIA001204-004

Test Distance 9.5 m
Ambient Temperature 24.7 °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.