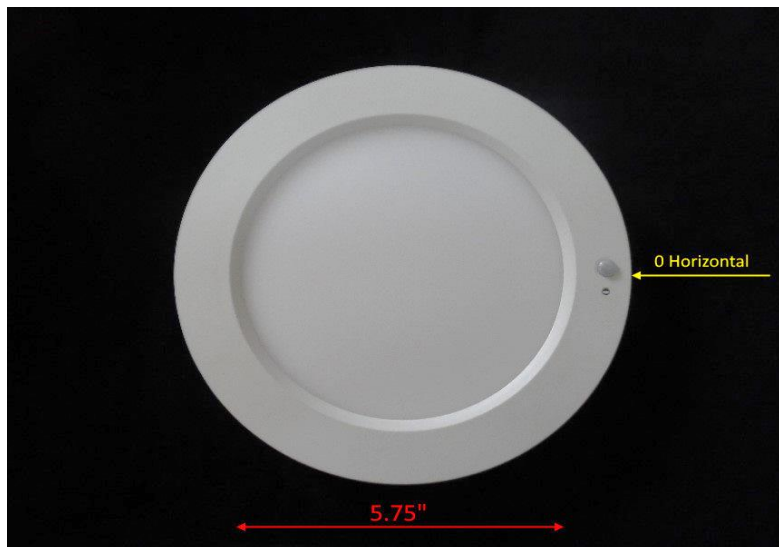


## Report of Test

LLIA001491-001

Indoor Distribution Photometry Test Report

Catalog Number: SMD7/RND/13/CTS/MS - 3000K Setting  
Surface mounted downlight, molded plastic housing, white film reflector above clear patterned plastic and translucent white plastic enclosures.  
96 LEDs, 48 cool white and 48 warm white LEDs  
One internal CQC15134130628 LED driver



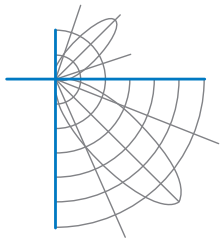
Prepared For:  
Topaz Lighting Corp  
925 Waverly Avenue  
Holtsville, NY 11742, USA

Performance Summary			
Input Voltage	120.0 V	Luminous Flux	1145.2 Lumens
Input Current	0.1142 A	Total Efficacy	87.1 Lm/W
Input Power	13.15 W	Downward Flux	1145.2 Lumens
Frequency	60.00 Hz	Downward Flux	100.0 % of Total
Power Factor	0.960		
Current THD	20.8 %		

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

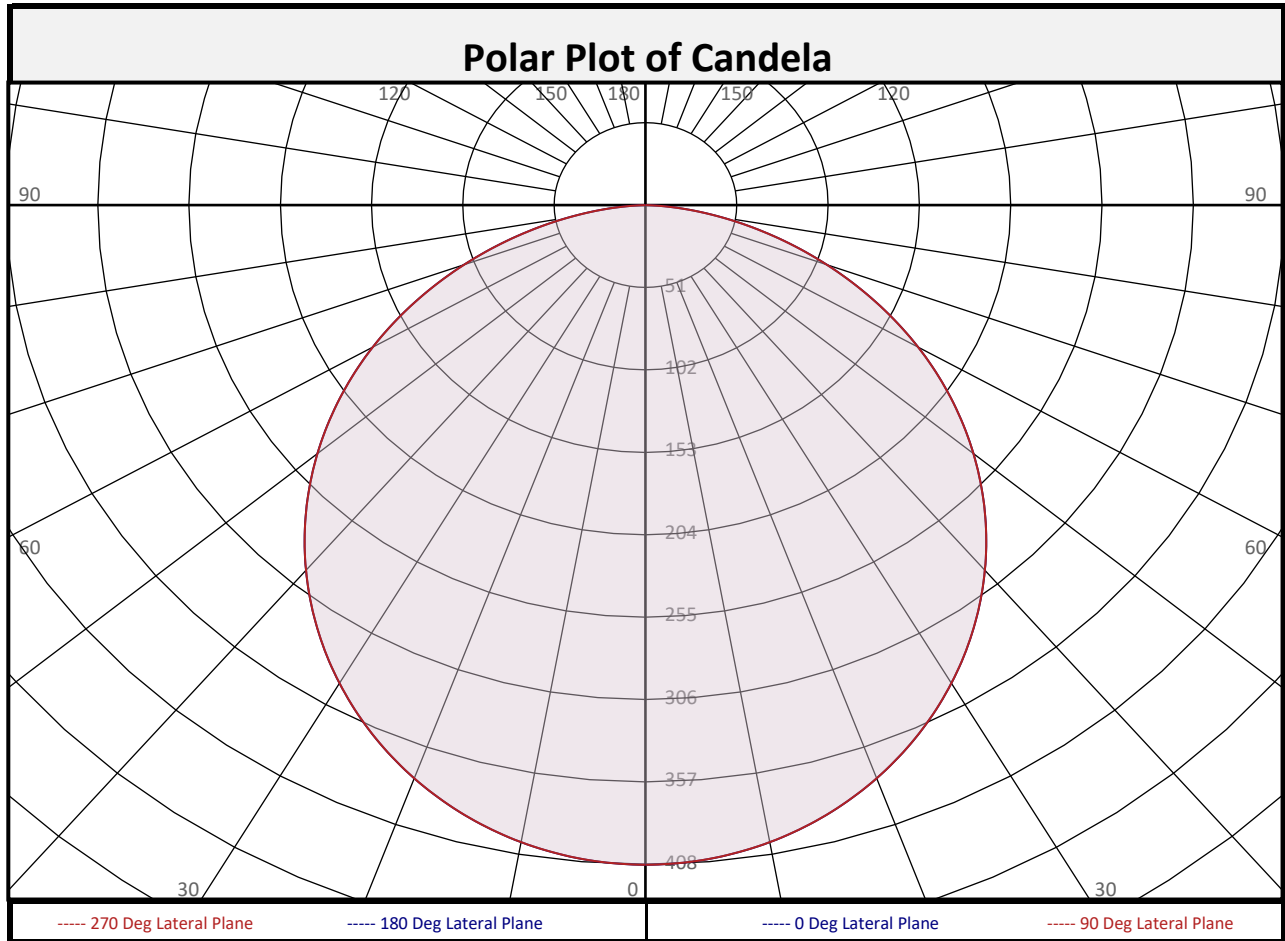
Test date: 07/07/2021  
Report date: 07/07/2021

Signed: \_\_\_\_\_



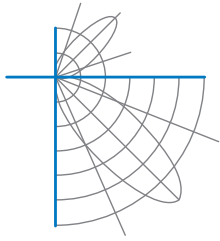
## Report of Test

LLIA001491-001



### 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	38.6	3.4%	90-100	0.0	0.0%	0-20	148.9	13.0%
10-20	110.2	9.6%	100-110	0.0	0.0%	0-30	315.3	27.5%
20-30	166.4	14.5%	110-120	0.0	0.0%	0-40	515.1	45.0%
30-40	199.9	17.5%	120-130	0.0	0.0%	0-60	907.8	79.3%
40-50	206.7	18.0%	130-140	0.0	0.0%	0-80	1127	98.4%
50-60	186.0	16.2%	140-150	0.0	0.0%	10-90	1107	96.7%
60-70	140.4	12.3%	150-160	0.0	0.0%	20-50	573.0	50.0%
70-80	78.5	6.9%	160-170	0.0	0.0%	40-90	630.1	55.0%
80-90	18.5	1.6%	170-180	0.0	0.0%	60-90	237.4	20.7%
0-90	1145	100.0%	90-180	0.0	0.0%	0-180	1145	100.0%

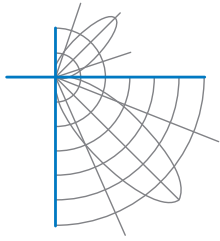


## Report of Test

### LLIA001491-001

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	408	408	408	408	408	408	408	408	408
	2.5	408	408	408	408	408	408	408	408	408
	5	406	406	406	406	406	406	406	406	406
	7.5	404	404	404	404	404	404	404	404	404
	10	400	400	400	400	400	400	400	400	400
	12.5	396	396	396	396	396	396	396	396	396
	15	391	391	391	391	391	391	391	391	391
	17.5	385	385	385	385	385	385	385	385	385
	20	378	378	378	378	378	378	378	378	378
	22.5	370	370	370	370	370	370	370	370	370
	25	361	361	361	361	361	361	361	361	361
	27.5	352	352	352	352	352	352	352	352	352
	30	342	342	342	342	342	342	342	342	342
	32.5	331	331	331	331	331	331	331	331	331
	35	320	320	320	320	320	320	320	320	320
	37.5	308	308	308	308	308	308	308	308	308
	40	295	295	295	295	295	295	295	295	295
	42.5	282	282	282	282	282	282	282	282	282
	45	268	268	268	268	268	268	268	268	268
	47.5	254	254	254	254	254	254	254	254	254
50	239	239	239	239	239	239	239	239	239	
52.5	224	224	224	224	224	224	224	224	224	
55	208	208	208	208	208	208	208	208	208	
57.5	192	192	192	192	192	192	192	192	192	
60	176	176	176	176	176	176	176	176	176	
62.5	159	159	159	159	159	159	159	159	159	
65	142	142	142	142	142	142	142	142	142	
67.5	125	125	125	125	125	125	125	125	125	
70	108	108	108	108	108	108	108	108	108	
72.5	91	91	91	91	91	91	91	91	91	
75	74	74	74	74	74	74	74	74	74	
77.5	58	58	58	58	58	58	58	58	58	
80	43	43	43	43	43	43	43	43	43	
82.5	29	29	29	29	29	29	29	29	29	
85	15	15	15	15	15	15	15	15	15	
87.5	4	4	4	4	4	4	4	4	4	
90	0	0	0	0	0	0	0	0	0	

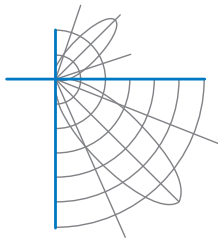


## Report of Test

LLIA001491-001

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

LLIA001491-001

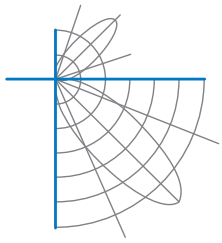
Coefficients of Utilization/Room Utilization - Zonal Cavity Method																						
Effective Floor Cavity Reflectance 0.20																						
RC	80					70					50				30				10			0
RW	70	50	30	10		70	50	30	10		50	30	10		50	30	10		50	30	10	0
RCR																						
0	119	119	119	119		116	116	116	116		111	111	111		106	106	106		102	102	102	100
1	109	104	100	96		106	102	98	94		98	94	91		94	91	89		90	88	86	84
2	99	91	84	78		96	89	83	77		85	80	75		82	78	74		79	75	72	70
3	90	80	71	65		88	78	70	64		75	69	63		72	67	62		70	65	61	59
4	83	71	62	55		80	69	61	55		67	59	54		64	58	53		62	57	52	50
5	76	63	54	47		74	62	53	47		60	52	47		58	51	46		56	50	45	43
6	70	57	48	41		68	56	47	41		54	46	41		52	45	40		51	45	40	38
7	65	51	43	36		63	51	42	36		49	41	36		48	41	36		46	40	35	33
8	60	47	38	32		59	46	38	32		45	37	32		44	37	32		42	36	32	30
9	56	43	35	29		55	42	35	29		41	34	29		40	34	29		39	33	29	27
10	53	40	32	26		52	39	32	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	11.3	7.47	7.47	
8.0	6.4	9.96	9.96	
10.0	4.1	12.45	12.45	
12.0	2.8	14.94	14.94	
14.0	2.1	17.43	17.43	
16.0	1.6	19.92	19.92	

Average Luminance (cd/m <sup>2</sup> )			
	0 deg Plane	45 deg Plane	90 deg Plane
0	24374	24374	24374
45	22623	22623	22623
55	21675	21675	21675
65	20047	20047	20047
75	17086	17086	17086
85	10514	10514	10514

Spacing Criterion	
Spacing Criterion:	1.2



## Report of Test

LLIA001491-001

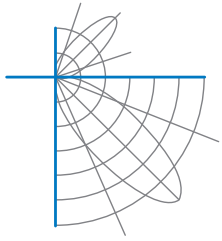
### UGR TABLE - CORRECTED

**Reflectances**

Ceiling Cavity	70	70	50	50	30	70	70	50	50	30
Walls	50	30	50	30	30	50	30	50	30	30
Floor Cavity	20	20	20	20	20	20	20	20	20	20

Room Size		UGR Viewed Crosswise					UGR Viewed Endwise				
X=2H	Y=2H	22.0	23.7	22.4	24.0	24.3	22.0	23.7	22.4	24.0	24.3
	3H	23.8	25.3	24.2	25.6	26.0	23.8	25.3	24.2	25.6	26.0
	4H	24.5	25.9	24.9	26.2	26.6	24.5	25.9	24.9	26.2	26.6
	6H	24.9	26.2	25.3	26.6	27.0	24.9	26.2	25.3	26.6	27.0
	8H	25.0	26.3	25.5	26.7	27.1	25.0	26.3	25.5	26.7	27.1
	12H	25.1	26.3	25.5	26.7	27.1	25.1	26.3	25.5	26.7	27.1
4H	2H	22.7	24.1	23.1	24.4	24.8	22.7	24.1	23.1	24.4	24.8
	3H	24.7	25.8	25.1	26.2	26.6	24.7	25.8	25.1	26.2	26.6
	4H	25.4	26.5	25.9	26.9	27.3	25.4	26.5	25.9	26.9	27.3
	6H	26.0	26.9	26.5	27.4	27.8	26.0	26.9	26.5	27.4	27.8
	8H	26.2	27.0	26.6	27.5	27.9	26.2	27.0	26.6	27.5	27.9
	12H	26.3	27.1	26.8	27.5	28.0	26.3	27.1	26.8	27.5	28.0
8H	4H	25.7	26.6	26.2	27.0	27.5	25.7	26.6	26.2	27.0	27.5
	6H	26.4	27.1	26.9	27.6	28.1	26.4	27.1	26.9	27.6	28.1
	8H	26.6	27.3	27.2	27.8	28.3	26.6	27.3	27.2	27.8	28.3
	12H	26.8	27.4	27.3	27.9	28.4	26.8	27.4	27.3	27.9	28.4
12H	4H	25.8	26.5	26.2	27.0	27.5	25.8	26.5	26.2	27.0	27.5
	6H	26.5	27.1	27.0	27.6	28.1	26.5	27.1	27.0	27.6	28.1
	8H	26.7	27.3	27.2	27.8	28.3	26.7	27.3	27.2	27.8	28.3

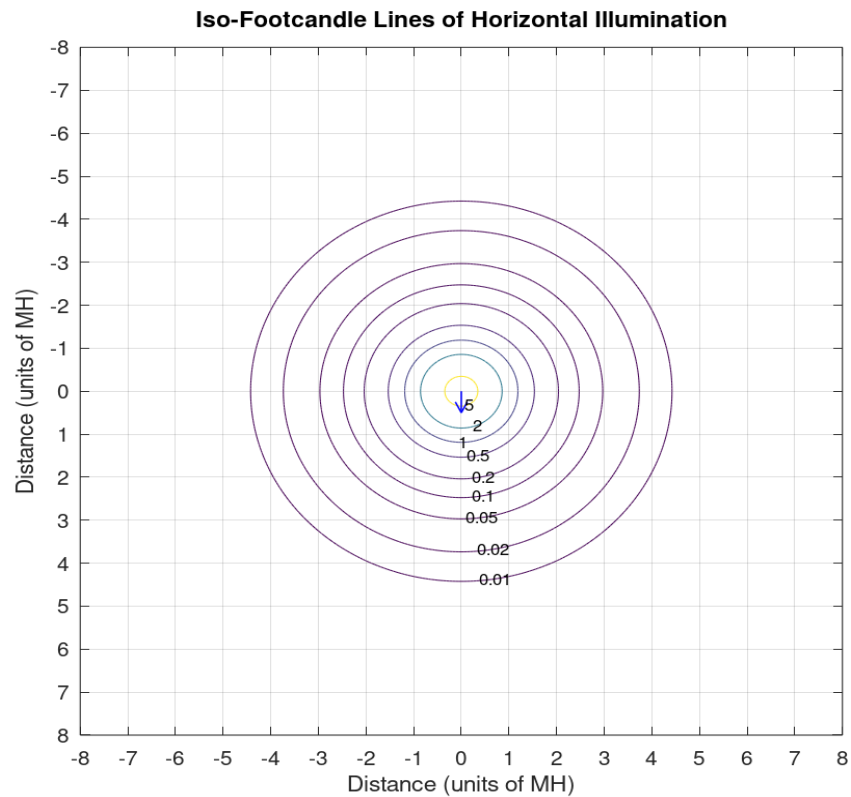
Maximum UGR = 28.4



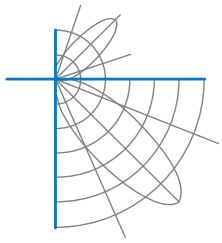
## Report of Test

LLIA001491-001

### 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

### LLIA001491-001

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 IES LM-79-19. 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.