

Report of Test

LLIA001426-002

Indoor Distribution Photometry Test Report

Catalog Number: RDL/8RND/18/5CTS - 3000K Setting
Recessed mounted, cast aluminum housing, clear patterned
plastic enclosure above translucent white plastic enclosure.
144 white LEDs, one PL-220-CW-WW-12C6B LED board
One LED driver



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

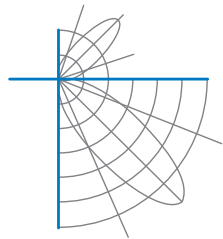
Performance Summary			
Input Voltage	120.0 V	Luminous Flux	1408.5 Lumens
Input Current	0.1523 A	Total Efficacy	78.3 Lm/W
Input Power	17.98 W	Downward Flux	1408.5 Lumens
Frequency	60.00 Hz	Downward Flux	100.0 % of Total
Power Factor	0.984		
Current THD	14.4 %		

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

Test date: 03/16/2021

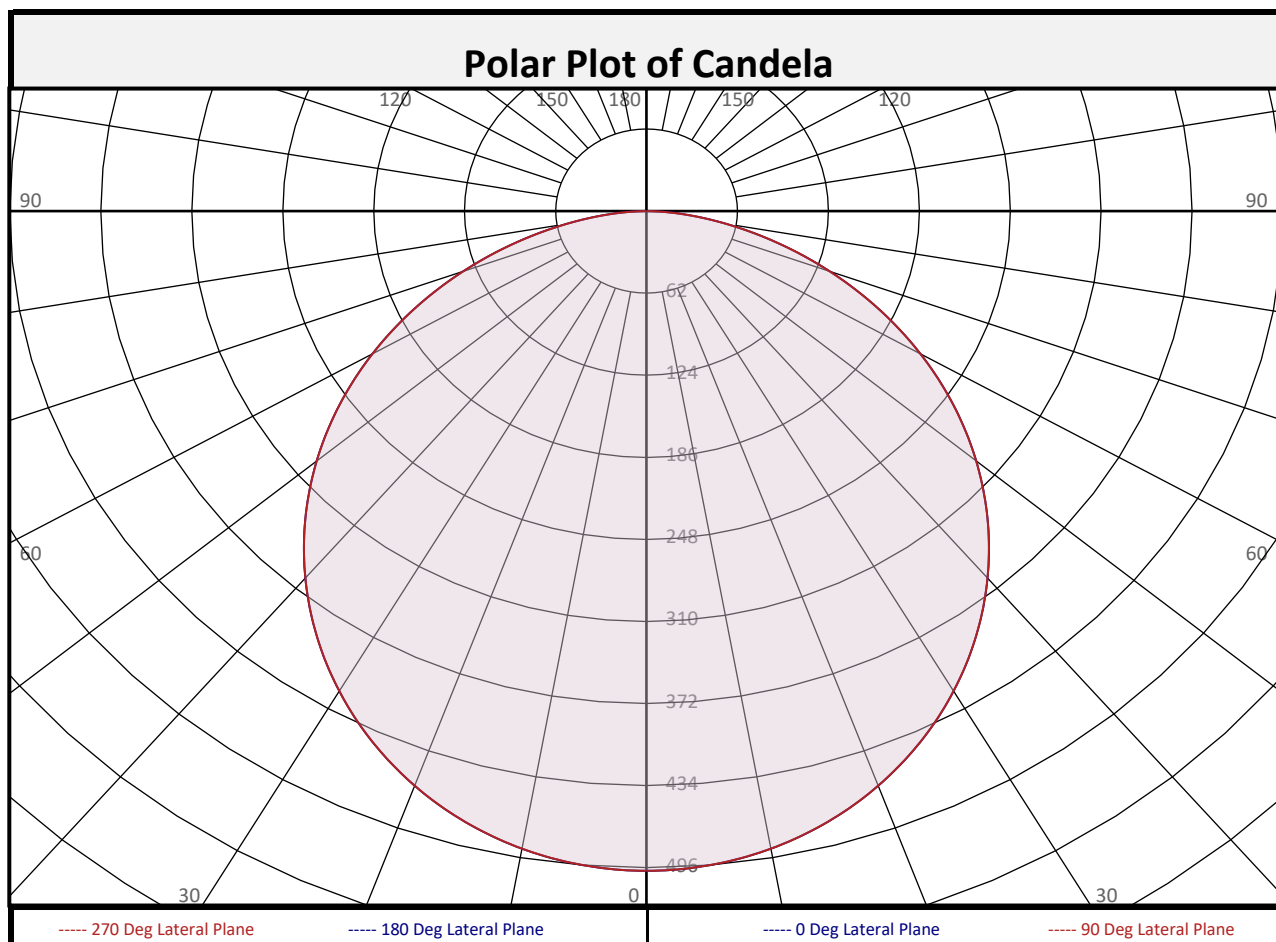
Report date: 03/19/2021

Signed: _____

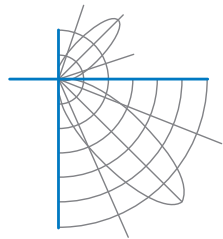


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Zonal Flux Summary											
Zone (Deg Vert)	Flux (Lumens)	Percent of Total		Zone (Deg Vert)	Flux (Lumens)	Percent of Total		Zone (Deg Vert)	Flux (Lumens)	Percent of Total	
0-10	47.2	3.4%		90-100	0.0	0.0%		0-20	181.9	12.9%	
10-20	134.8	9.6%		100-110	0.0	0.0%		0-30	385.7	27.4%	
20-30	203.8	14.5%		110-120	0.0	0.0%		0-40	630.7	44.8%	
30-40	245.0	17.4%		120-130	0.0	0.0%		0-60	1112	79.0%	
40-50	253.4	18.0%		130-140	0.0	0.0%		0-80	1382	98.1%	
50-60	228.1	16.2%		140-150	0.0	0.0%		10-90	1361	96.6%	
60-70	172.4	12.2%		150-160	0.0	0.0%		20-50	702.2	49.9%	
70-80	97.6	6.9%		160-170	0.0	0.0%		40-90	777.8	55.2%	
80-90	26.3	1.9%		170-180	0.0	0.0%		60-90	296.3	21.0%	
0-90	1408	100.0%		90-180	0.0	0.0%		0-180	1408	100.0%	

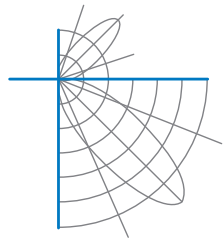


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Luminous Intensity (Candela) Table

	Lateral (C-Plane) Angles									
Vertical (Gamma) Angles		0	22.5	45	67.5	90	112.5	135	157.5	180
	0	498	498	498	498	498	498	498	498	498
	2.5	498	498	498	498	498	498	498	498	498
	5	496	496	496	496	496	496	496	496	496
	7.5	493	493	493	493	493	493	493	493	493
	10	489	489	489	489	489	489	489	489	489
	12.5	484	484	484	484	484	484	484	484	484
	15	478	478	478	478	478	478	478	478	478
	17.5	470	470	470	470	470	470	470	470	470
	20	462	462	462	462	462	462	462	462	462
	22.5	453	453	453	453	453	453	453	453	453
	25	442	442	442	442	442	442	442	442	442
	27.5	431	431	431	431	431	431	431	431	431
	30	419	419	419	419	419	419	419	419	419
	32.5	406	406	406	406	406	406	406	406	406
	35	392	392	392	392	392	392	392	392	392
	37.5	377	377	377	377	377	377	377	377	377
	40	362	362	362	362	362	362	362	362	362
	42.5	345	345	345	345	345	345	345	345	345
	45	329	329	329	329	329	329	329	329	329
	47.5	311	311	311	311	311	311	311	311	311
	50	293	293	293	293	293	293	293	293	293
	52.5	275	275	275	275	275	275	275	275	275
	55	255	255	255	255	255	255	255	255	255
	57.5	236	236	236	236	236	236	236	236	236
	60	215	215	215	215	215	215	215	215	215
	62.5	195	195	195	195	195	195	195	195	195
	65	174	174	174	174	174	174	174	174	174
	67.5	153	153	153	153	153	153	153	153	153
	70	133	133	133	133	133	133	133	133	133
	72.5	112	112	112	112	112	112	112	112	112
	75	92	92	92	92	92	92	92	92	92
	77.5	73	73	73	73	73	73	73	73	73
	80	55	55	55	55	55	55	55	55	55
	82.5	38	38	38	38	38	38	38	38	38
	85	23	23	23	23	23	23	23	23	23
	87.5	10	10	10	10	10	10	10	10	10
90	0	0	0	0	0	0	0	0	0	

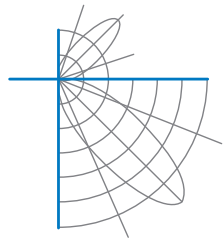


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Luminous Intensity (Candela) Table

	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	100	96		106	102	98	94		97	94	91		93	91	88		90	88	86	84
2	99	91	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	67	62		70	65	61	59
4	82	70	62	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		51	45	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

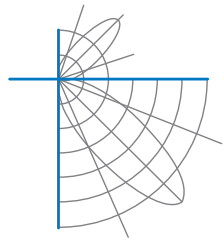
Height(ft)	Illuminance at Nadir (fc)	Ground-level distance to half-of-nadir illuminance (ft)	
		0-180 deg	90-270 deg
6.0	13.8	7.49	7.49
8.0	7.8	9.99	9.99
10.0	5.0	12.49	12.49
12.0	3.5	14.99	14.99
14.0	2.5	17.49	17.49
16.0	1.9	19.98	19.98

Average Luminance (cd/m²)

	0 deg Plane	45 deg Plane	90 deg Plane
0	194307	194307	194307
45	20902	20902	20902
55	20016	20016	20016
65	18541	18541	18541
75	15987	15987	15987
85	11760	11760	11760

Spacing Criterion

Spacing Criterion:	1.2
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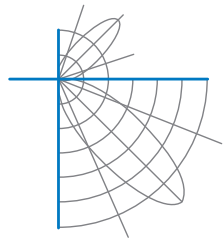
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UGR TABLE - CORRECTED

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	21.7	23.4	22.1	23.7	24.0	21.7	23.4	22.1	23.7	24.0
	3H	23.5	25.0	23.9	25.3	25.7	23.5	25.0	23.9	25.3	25.7
	4H	24.2	25.6	24.6	25.9	26.3	24.2	25.6	24.6	25.9	26.3
	6H	24.7	25.9	25.1	26.3	26.7	24.7	25.9	25.1	26.3	26.7
	8H	24.8	26.0	25.2	26.4	26.8	24.8	26.0	25.2	26.4	26.8
	12H	24.9	26.1	25.3	26.5	26.9	24.9	26.1	25.3	26.5	26.9
4H	2H	22.4	23.8	22.8	24.1	24.5	22.4	23.8	22.8	24.1	24.5
	3H	24.4	25.5	24.8	25.9	26.3	24.4	25.5	24.8	25.9	26.3
	4H	25.2	26.2	25.6	26.6	27.1	25.2	26.2	25.6	26.6	27.1
	6H	25.8	26.7	26.2	27.1	27.6	25.8	26.7	26.2	27.1	27.6
	8H	25.9	26.8	26.4	27.3	27.7	25.9	26.8	26.4	27.3	27.7
	12H	26.1	26.9	26.6	27.3	27.8	26.1	26.9	26.6	27.3	27.8
8H	4H	25.5	26.3	25.9	26.8	27.2	25.5	26.3	25.9	26.8	27.2
	6H	26.2	26.9	26.7	27.4	27.9	26.2	26.9	26.7	27.4	27.9
	8H	26.4	27.1	27.0	27.6	28.1	26.4	27.1	27.0	27.6	28.1
	12H	26.6	27.2	27.1	27.7	28.3	26.6	27.2	27.1	27.7	28.3
12H	4H	25.5	26.3	26.0	26.7	27.2	25.5	26.3	26.0	26.7	27.2
	6H	26.3	26.9	26.8	27.4	27.9	26.3	26.9	26.8	27.4	27.9
	8H	26.5	27.1	27.0	27.6	28.2	26.5	27.1	27.0	27.6	28.2

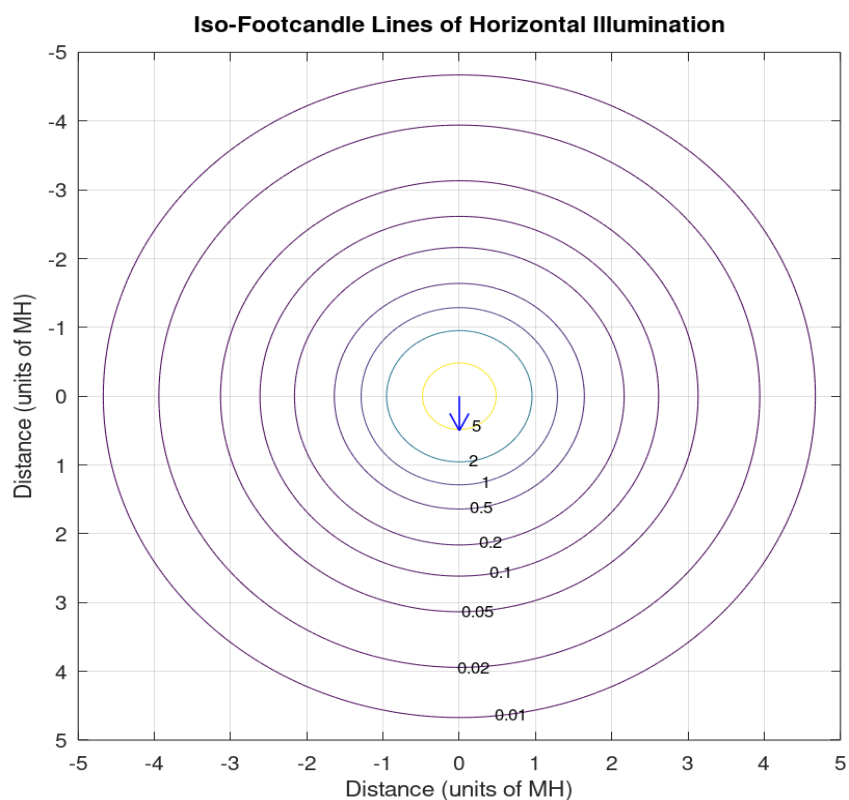
Maximum UGR = 28.3



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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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Test Distance 9.5 m
Ambient Temperature 25.0 °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.