

Report of Test

LLIA001187-003

Indoor Distribution Photometry Test Report

Catalog Number: F-L14/30/CTS/D/BL-86 - 3500K Setting
Recessed ceiling, formed and extruded aluminum housing,
white reflector above LEDs, translucent white plastic enclosure.
96 white LEDs, 48 unenergized and 48 energized LEDs
One LED driver



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

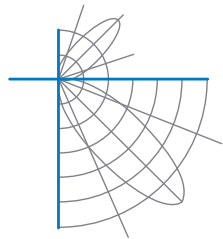
Performance Summary			
Input Voltage	120.0 V	Luminous Flux	3781.7 Lumens
Input Current	0.2548 A	Total Efficacy	125.5 Lm/W
Input Power	30.14 W	Downward Flux	3781.6 Lumens
Frequency	60.00 Hz	Downward Flux	100.0 % of Total
Power Factor	0.986		
Current THD	7.5 %		

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

Test date: 11/22/2019

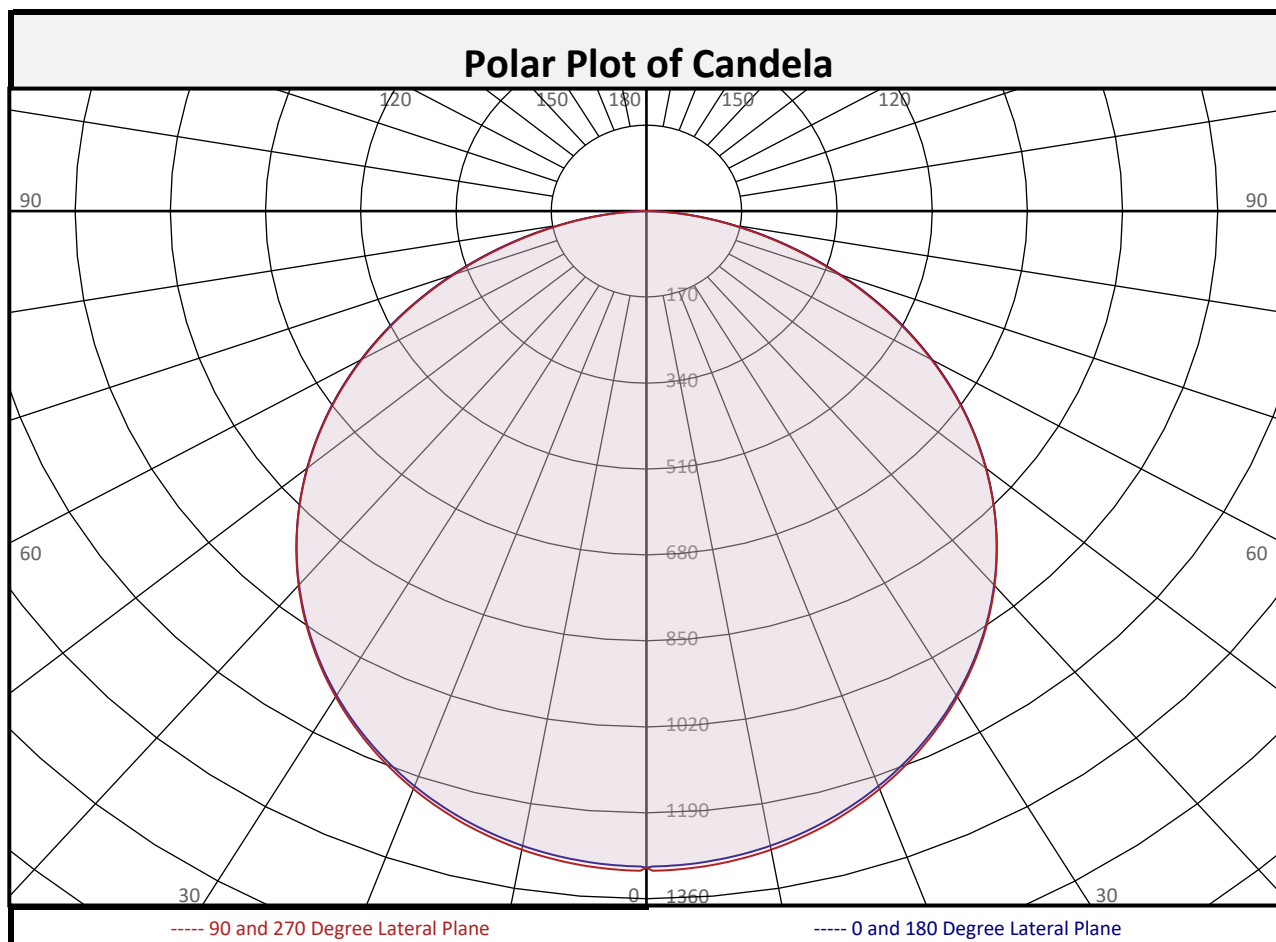
Report date: 11/25/2019

Signed: _____

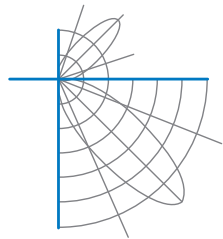


Report of Test

LLIA001187-003



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	123.0	3.3%		90-100	0.1	0.0%		0-20	475.8	12.6%	
10-20	352.8	9.3%		100-110	0.0	0.0%		0-30	1013	26.8%	
20-30	536.8	14.2%		110-120	0.0	0.0%		0-40	1664	44.0%	
30-40	650.9	17.2%		120-130	0.0	0.0%		0-60	2962	78.3%	
40-50	679.9	18.0%		130-140	0.0	0.0%		0-80	3707	98.0%	
50-60	618.3	16.4%		140-150	0.0	0.0%		10-90	3659	96.8%	
60-70	473.2	12.5%		150-160	0.0	0.0%		20-50	1868	49.4%	
70-80	272.1	7.2%		160-170	0.0	0.0%		40-90	2118	56.0%	
80-90	74.6	2.0%		170-180	0.0	0.0%		60-90	819.9	21.7%	
0-90	3782	100.0%		90-180	0.1	0.0%		0-180	3782	100.0%	

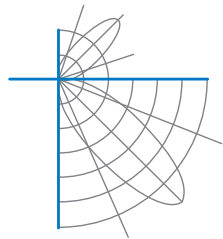


Report of Test

LLIA001187-003

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	1299	1299	1299	1299	1299	1299	1299	1299	1299
	2.5	1295	1295	1296	1300	1303	1300	1296	1295	1295
	5	1291	1291	1292	1296	1299	1296	1292	1291	1291
	7.5	1284	1284	1285	1289	1292	1289	1285	1284	1284
	10	1275	1275	1275	1279	1283	1279	1275	1275	1275
	12.5	1263	1263	1263	1267	1270	1267	1263	1263	1263
	15	1248	1248	1248	1252	1255	1252	1248	1248	1248
	17.5	1230	1231	1231	1234	1237	1234	1231	1231	1230
	20	1210	1211	1211	1214	1216	1214	1211	1211	1210
	22.5	1188	1188	1188	1191	1194	1191	1188	1188	1188
	25	1163	1164	1163	1166	1168	1166	1163	1164	1163
	27.5	1136	1136	1136	1138	1140	1138	1136	1136	1136
	30	1106	1106	1106	1108	1110	1108	1106	1106	1106
	32.5	1075	1075	1074	1076	1077	1076	1074	1075	1075
	35	1040	1040	1040	1041	1043	1041	1040	1040	1040
	37.5	1004	1004	1003	1004	1006	1004	1003	1004	1004
	40	965	965	964	965	967	965	964	965	965
	42.5	925	925	924	924	925	924	924	925	925
	45	882	882	881	882	882	882	881	882	882
	47.5	838	837	837	837	837	837	837	837	838
	50	791	791	790	790	791	790	790	791	791
	52.5	743	742	742	742	742	742	742	742	743
	55	693	693	692	692	692	692	692	693	693
	57.5	642	641	641	640	640	640	641	641	642
	60	589	589	588	587	587	587	588	589	589
	62.5	535	534	533	533	532	533	533	534	535
	65	480	480	479	478	477	478	479	480	480
	67.5	424	424	423	422	421	422	423	424	424
	70	369	368	367	366	365	366	367	368	369
	72.5	313	313	312	310	309	310	312	313	313
	75	258	258	257	255	255	255	257	258	258
	77.5	206	206	204	203	202	203	204	206	206
	80	156	156	154	153	152	153	154	156	156
	82.5	109	109	108	107	106	107	108	109	109
	85	66	66	65	64	64	64	65	66	66
	87.5	27	27	27	28	27	28	27	27	27
90	1	1	1	2	2	2	1	1	1	

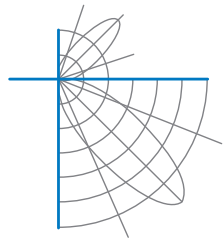


Report of Test

LLIA001187-003

Luminous Intensity (Candela) Table

	Lateral (C-Plane) Angles									
		0	22.5	45	67.5	90	112.5	135	157.5	180
	90	1	1	1	2	2	2	1	1	1
Vertical (Gamma) Angles	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

LLIA001187-003

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	88	86	83			
2	99	90	83	77		96	88	82	77		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	49	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		48	41	35		47	40	35		46	40	35	33			
8	60	46	38	32		58	46	37	32		44	37	32		43	36	31		42	36	31	29			
9	56	43	34	29		55	42	34	29		41	34	28		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.

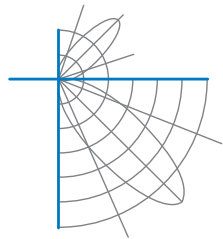
Circle of Light Plot

Height(ft)	Illuminance at Nadir (fc)	Ground-level distance to half-of-nadir illuminance (ft)	
		0-180 deg	90-270 deg
6.0	36.1	7.60	7.61
8.0	20.3	10.13	10.15
10.0	13.0	12.66	12.69
12.0	9.0	15.19	15.23
14.0	6.6	17.73	17.76
16.0	5.1	20.26	20.30

Average Luminance (cd/m ²)			
	0 deg Plane	45 deg Plane	90 deg Plane
0	4671	4671	4671
45	4486	4481	4486
55	4347	4338	4338
65	4085	4072	4062
75	3591	3570	3539
85	2714	2682	2629

Spacing Criterion

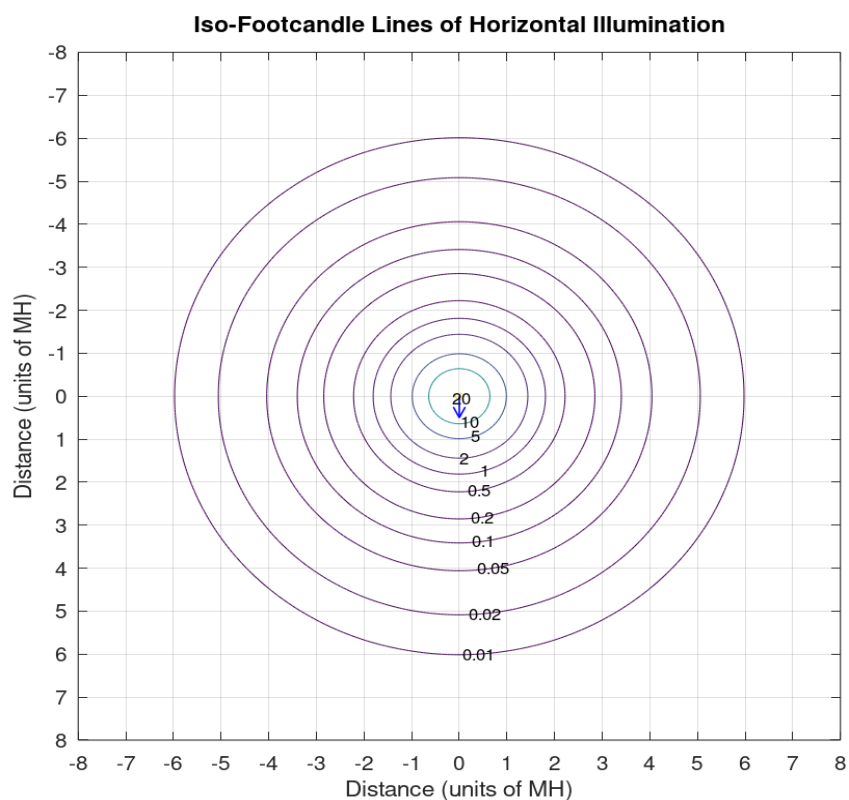
0 degree plane:	1.3
90 degree plane:	1.3
180 degree plane:	1.3
270 degree plane:	1.3



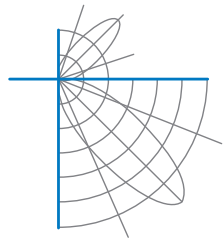
Report of Test

LLIA001187-003

Iso-Illuminance Plot



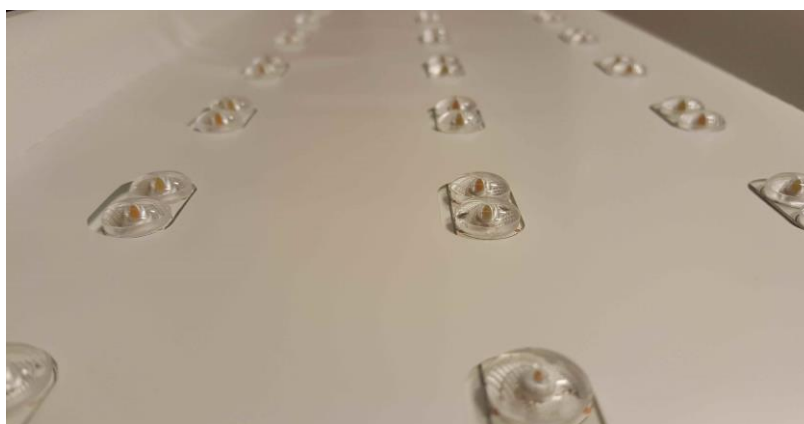
The isofootcandle values shown in the plot above are based on a mounting height of $h = 8.0$ feet. Grid values show multiples of mounting height. The isoilluminance contour lines are expressed in units of footcandles. The values expressed are based on the direct light from a single unit without the contribution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

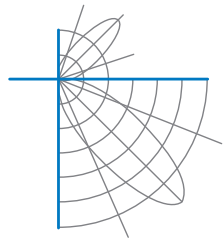


Report of Test

LLIA001187-003

Additional Pictures of Test Subject





Report of Test

LLIA001187-003

Test Distance 9.5 m
Ambient Temperature 24.6 °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.