



Report of Test

LLIA001289-002

Indoor Distribution Photometry Test Report

Catalog Number: P4217A-Lower Section Only

Pendant mounted, formed steel and aluminum housing, solid fabric outer enclosures with white plastic inner lining, translucent white plastic top and bottom enclosures.

72 white LEDs, three Samsung Electronics SI-B8V114280WW boards with 24 LEDs each.
One eldoLED SC 4202/L and one eldoLED DUALdrive DL75L-M2A0D1-A 350mA LOG LED driver



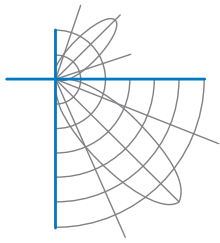
Prepared For:
Lumetta, Inc
33 Minnesota Avenue
Warwick, RI 02888, USA

Performance Summary			
Input Voltage	120.0 V	Luminous Flux	1018.7 Lumens
Input Current	0.3297 A	Total Efficacy	25.9 Lm/W
Input Power	39.32 W	Downward Flux	793.1 Lumens
Frequency	60.00 Hz	Downward Flux	77.9 % of Total
Power Factor	0.994		
Current THD	5.0 %		

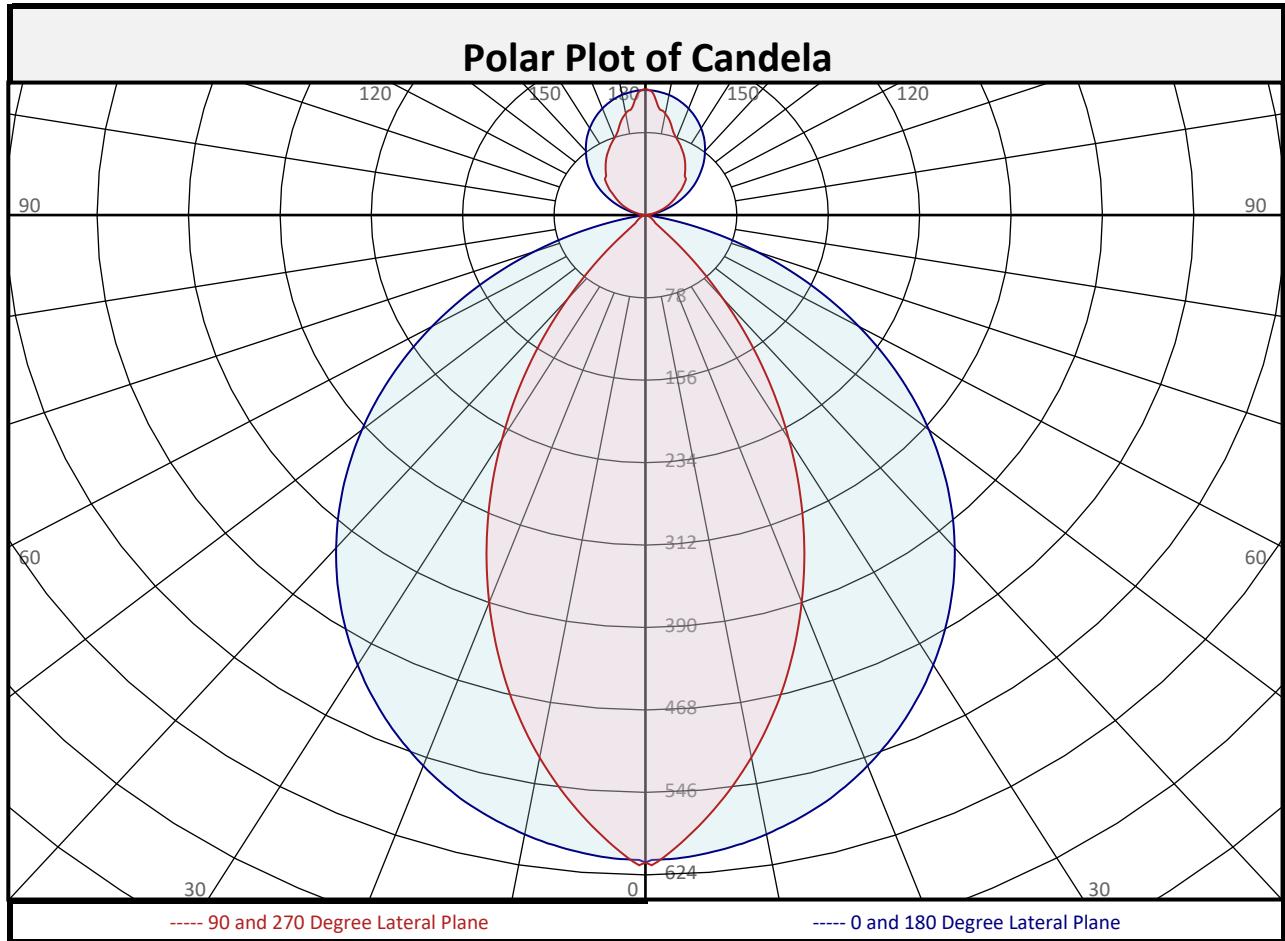
This test report was issued by LightLab International Allentown, LLC without alterations or erasures.

Test date: 07/31/2020
Report date: 08/04/2020

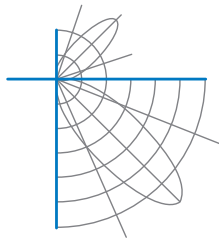
Signed: _____



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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	54.7	5.4%		90-100	1.9	0.2%		0-20	195.6	19.2%
10-20	140.9	13.8%		100-110	11.2	1.1%		0-30	377.9	37.1%
20-30	182.3	17.9%		110-120	23.6	2.3%		0-40	552.9	54.3%
30-40	175.0	17.2%		120-130	34.1	3.3%		0-60	749.7	73.6%
40-50	125.9	12.4%		130-140	40.0	3.9%		0-80	792.2	77.8%
50-60	70.9	7.0%		140-150	41.1	4.0%		10-90	738.4	72.5%
60-70	33.3	3.3%		150-160	36.7	3.6%		20-50	483.2	47.4%
70-80	9.3	0.9%		160-170	26.6	2.6%		40-90	240.2	23.6%
80-90	0.8	0.1%		170-180	10.4	1.0%		60-90	43.3	4.3%
0-90	793.1	77.9%		90-180	225.7	22.2%		0-180	1019	100.0%

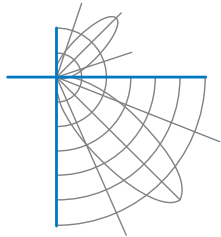


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Luminous Intensity (Candela) Table

		Lateral (C-Plane) Angles								
		0	22.5	45	67.5	90	112.5	135	157.5	180
Vertical (Gamma) Angles	0	612	612	612	612	612	612	612	612	612
	2.5	609	605	600	597	598	597	600	605	609
	5	606	594	582	575	575	575	582	594	606
	7.5	601	582	562	551	549	551	562	582	601
	10	595	567	541	524	521	524	541	567	595
	12.5	587	552	518	496	491	496	518	552	587
	15	578	535	494	466	459	466	494	535	578
	17.5	567	516	468	434	425	434	468	516	567
	20	554	497	441	401	390	401	441	497	554
	22.5	540	476	412	368	354	368	412	476	540
	25	525	453	383	333	318	333	383	453	525
	27.5	509	430	353	299	282	299	353	430	509
	30	491	407	322	264	245	264	322	407	491
	32.5	473	382	291	229	209	229	291	382	473
	35	453	356	260	195	173	195	260	356	453
	37.5	433	330	229	161	138	161	229	330	433
	40	411	303	198	127	103	127	198	303	411
	42.5	388	276	168	95	71	95	168	276	388
	45	365	249	137	65	40	65	137	249	365
	47.5	341	222	108	35	15	35	108	222	341
50	316	194	79	13	10	13	79	194	316	
52.5	290	167	53	10	9	10	53	167	290	
55	264	140	28	9	8	9	28	140	264	
57.5	237	114	11	7	7	7	11	114	237	
60	210	88	9	6	6	6	9	88	210	
62.5	183	64	7	5	5	5	7	64	183	
65	155	42	6	4	4	4	6	42	155	
67.5	128	24	5	4	3	4	5	24	128	
70	101	9	4	3	3	3	4	9	101	
72.5	75	5	3	2	2	2	3	5	75	
75	50	4	2	2	2	2	2	4	50	
77.5	28	3	2	1	1	1	2	3	28	
80	9	2	1	1	1	1	1	2	9	
82.5	1	1	1	1	1	1	1	1	1	
85	0	1	1	1	1	1	1	1	0	
87.5	0	0	0	0	0	0	0	0	0	
90	0	1	0	0	0	0	0	1	0	

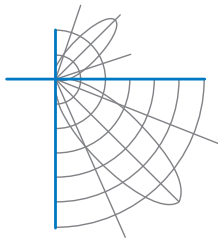


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Luminous Intensity (Candela) Table

		Lateral (C-Plane) Angles								
		0	22.5	45	67.5	90	112.5	135	157.5	180
Vertical (Gamma) Angles	90	0	1	0	0	0	0	0	1	0
	92.5	1	1	1	1	1	1	1	1	1
	95	2	2	1	1	1	1	1	2	2
	97.5	4	3	2	2	2	2	2	3	4
	100	7	6	4	4	4	4	4	6	7
	102.5	10	9	7	6	6	6	7	9	10
	105	14	11	10	9	9	9	10	11	14
	107.5	18	15	13	12	12	12	13	15	18
	110	23	19	16	15	15	15	16	19	23
	112.5	27	22	19	18	18	18	19	22	27
	115	32	25	22	21	21	21	22	25	32
	117.5	37	28	26	24	24	24	26	28	37
	120	42	31	31	28	27	28	31	31	42
	122.5	47	35	34	31	30	31	34	35	47
	125	52	38	38	35	33	35	38	38	52
	127.5	56	41	40	39	38	39	40	41	56
	130	61	44	42	43	42	43	42	44	61
	132.5	66	48	46	47	45	47	46	48	66
	135	70	51	49	48	49	48	49	51	70
	137.5	75	54	53	50	50	50	53	54	75
140	79	58	56	54	53	54	56	58	79	
142.5	83	63	59	57	56	57	59	63	83	
145	88	68	62	60	59	60	62	68	88	
147.5	91	73	65	63	62	63	65	73	91	
150	95	78	68	66	66	66	68	78	95	
152.5	98	82	71	69	69	69	71	82	98	
155	102	86	74	72	72	72	74	86	102	
157.5	105	89	78	75	74	75	78	89	105	
160	107	91	84	78	77	78	84	91	107	
162.5	110	94	89	83	81	83	89	94	110	
165	112	98	93	89	87	89	93	98	112	
167.5	114	104	97	94	93	94	97	104	114	
170	115	110	99	98	98	98	99	110	115	
172.5	116	114	105	101	100	101	105	114	116	
175	117	116	113	109	108	109	113	116	117	
177.5	118	118	117	117	117	117	117	118	118	
180	119	119	119	119	119	119	119	119	119	



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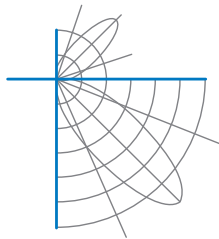
Coefficients of Utilization/Room Utilization - Zonal Cavity Method																						
Effective Floor Cavity Reflectance 0.20																						
RC	80					70					50				30				10			0
RW	70	50	30	10		70	50	30	10		50	30	10		50	30	10		50	30	10	0
RCR																						
0	114	114	114	114		109	109	109	109		99	99	99		90	90	90		82	82	82	78
1	106	103	100	97		102	98	96	93		90	88	86		83	81	80		76	75	74	70
2	99	93	87	83		94	89	84	80		82	78	75		76	73	70		70	68	66	63
3	92	84	77	72		88	80	75	70		75	70	66		69	66	62		64	61	59	56
4	85	76	69	64		82	73	67	62		68	63	59		63	59	56		59	56	53	50
5	80	69	62	56		76	67	60	55		62	57	53		58	54	50		54	51	48	45
6	74	63	56	51		71	61	54	50		57	52	47		54	49	45		50	46	43	41
7	69	58	51	46		67	56	50	45		53	47	43		50	45	41		47	43	40	38
8	65	54	47	42		62	52	45	41		49	43	39		46	41	38		44	39	36	35
9	61	50	43	38		59	48	42	37		46	40	36		43	38	35		41	37	34	32
10	58	46	40	35		55	45	39	34		43	37	33		40	36	32		38	34	31	29

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	17.0	7.19	4.60	
8.0	9.6	9.58	6.13	
10.0	6.1	11.98	7.67	
12.0	4.3	14.37	9.20	
14.0	3.1	16.77	10.74	
16.0	2.4	19.16	12.27	

Average Luminance (cd/m ²)			
	0 deg Plane	45 deg Plane	90 deg Plane
0	4843	4843	4843
45	4085	1536	452
55	3642	386	109
65	2908	114	76
75	1537	69	53
85	27	47	53

Spacing Criterion	
0 degree plane:	1.2
90 degree plane:	0.8
180 degree plane:	1.2
270 degree plane:	0.8



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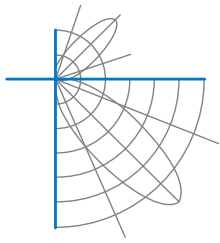
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UGR TABLE - CORRECTED

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

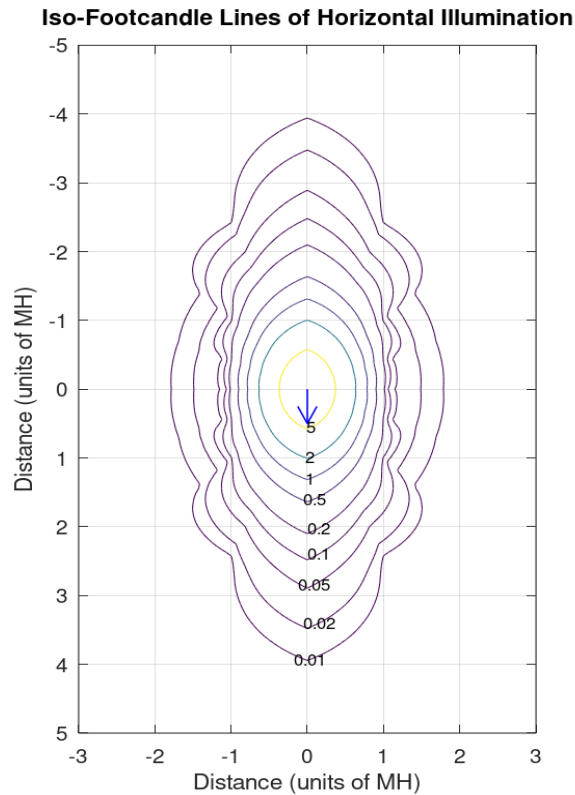
Room Size		UGR Viewed Crosswise					UGR Viewed Endwise				
X=2H	Y=2H	13.4	14.4	14.1	15.1	15.9	0.1	0.1	0.1	0.1	0.1
	3H	14.6	15.5	15.3	16.2	17.0	0.1	0.1	0.1	0.1	0.1
	4H	14.9	15.7	15.6	16.4	17.3	0.1	0.1	0.1	0.1	0.1
	6H	15.0	15.7	15.7	16.4	17.3	0.1	0.1	0.1	0.1	0.1
	8H	14.9	15.6	15.7	16.4	17.2	0.1	0.1	0.1	0.1	0.1
	12H	14.9	15.5	15.6	16.3	17.2	0.1	0.1	0.1	0.1	0.1
4H	2H	13.1	13.9	13.9	14.7	15.5	0.1	0.1	0.1	0.1	0.1
	3H	14.3	15.0	15.1	15.7	16.6	0.1	0.1	0.1	0.1	0.1
	4H	14.6	15.2	15.4	16.0	16.9	0.1	0.1	0.1	0.1	0.1
	6H	14.7	15.2	15.5	16.0	16.9	0.1	0.1	0.1	0.1	0.1
	8H	14.6	15.1	15.4	15.9	16.8	0.1	0.1	0.1	0.1	0.1
	12H	14.6	15.0	15.4	15.8	16.7	0.1	0.1	0.1	0.1	0.1
8H	4H	14.5	15.0	15.3	15.7	16.7	0.1	0.1	0.1	0.1	0.1
	6H	14.5	14.9	15.3	15.7	16.7	0.1	0.1	0.1	0.1	0.1
	8H	14.5	14.8	15.3	15.6	16.6	0.1	0.1	0.1	0.1	0.1
	12H	14.4	14.7	15.2	15.5	16.5	0.1	0.1	0.1	0.1	0.1
12H	4H	14.4	14.8	15.2	15.7	16.6	0.1	0.1	0.1	0.1	0.1
	6H	14.5	14.8	15.3	15.6	16.6	0.1	0.1	0.1	0.1	0.1
	8H	14.4	14.7	15.2	15.5	16.5	0.1	0.1	0.1	0.1	0.1

Maximum UGR = 17.3

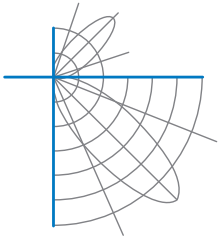


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Iso-Illuminance Plot



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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Additional Pictures of Test Subject





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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 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.