



Report of Test

LLIA002196-002

Indoor Distribution Photometry Test Report

Catalog Number: LWRAP2-25-40K-D

Surface mounted, formed white painted steel housing/reflector, diffuse white plastic enclosure.

180 white LEDs on one board with clear plastic enclosure.

One BL-A25W-60V-G420L LED driver



Prepared For:

Topaz Lighting, A Southwire Company
925 Waverly Avenue
Holtsville, NY 11742, USA

Performance Summary			
Input Voltage	120.0 Vac	Luminous Flux	2945.9 Lumens
Input Current	0.2072 A	Total Efficacy	120.2 Lm/W
Input Power	24.50 W	Downward Flux	2936.6 Lumens
Frequency	60.00 Hz	Downward Flux	99.7 % of Total
Power Factor	0.986		
Current THD	8.0 %		

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

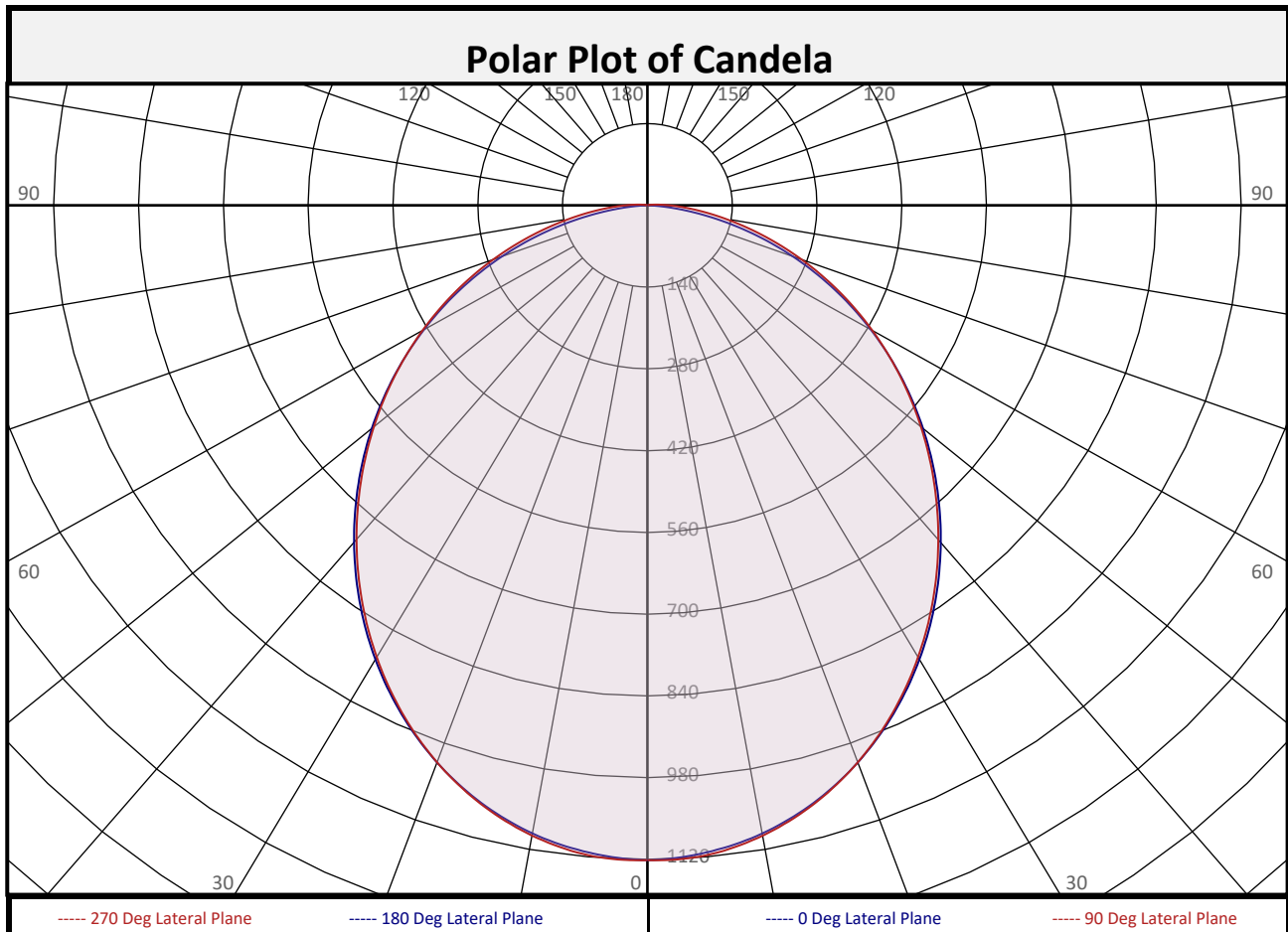
Test date: 08/18/2023

Report date: 08/29/2023

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	105.8	3.6%	90-100	8.3	0.3%	0-20	404.5	13.7%
10-20	298.7	10.1%	100-110	1.0	0.0%	0-30	846.2	28.7%
20-30	441.8	15.0%	110-120	0.0	0.0%	0-40	1362	46.2%
30-40	516.2	17.5%	120-130	0.0	0.0%	0-60	2337	79.3%
40-50	518.5	17.6%	130-140	0.0	0.0%	0-80	2874	97.6%
50-60	456.0	15.5%	140-150	0.0	0.0%	10-90	2831	96.1%
60-70	341.6	11.6%	150-160	0.0	0.0%	20-50	1477	50.1%
70-80	195.2	6.6%	160-170	0.0	0.0%	40-90	1574	53.4%
80-90	62.8	2.1%	170-180	0.0	0.0%	60-90	599.6	20.4%
0-90	2937	99.7%	90-180	9.3	0.3%	0-180	2946	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 - Data was acquired in 0.5° increments, 2.5° increments shown.	0	1121	1121	1121	1121	1121	1121	1121	1121	1121
	2.5	1118	1118	1119	1120	1121	1120	1119	1118	1118
	5	1112	1112	1114	1116	1117	1116	1114	1112	1112
	7.5	1104	1104	1105	1107	1108	1107	1105	1104	1104
	10	1092	1092	1093	1094	1096	1094	1093	1092	1092
	12.5	1077	1077	1078	1079	1080	1079	1078	1077	1077
	15	1060	1059	1060	1061	1062	1061	1060	1059	1060
	17.5	1039	1038	1038	1039	1040	1039	1038	1038	1039
	20	1015	1015	1015	1015	1015	1015	1015	1015	1015
	22.5	989	989	988	988	988	988	988	989	989
	25	961	960	960	959	959	959	960	960	961
	27.5	931	930	929	928	927	928	929	930	931
	30	898	897	896	894	893	894	896	897	898
	32.5	864	863	861	860	859	860	861	863	864
	35	829	828	825	824	823	824	825	828	829
	37.5	792	791	789	787	785	787	789	791	792
	40	754	753	750	749	747	749	750	753	754
	42.5	715	714	711	710	708	710	711	714	715
	45	675	674	672	671	669	671	672	674	675
	47.5	635	634	632	631	629	631	632	634	635
50	594	593	592	591	589	591	592	593	594	
52.5	552	552	551	551	549	551	551	552	552	
55	511	510	510	510	509	510	510	510	511	
57.5	469	468	469	470	469	470	469	468	469	
60	426	426	428	429	429	429	428	426	426	
62.5	384	384	386	389	389	389	386	384	384	
65	341	342	345	349	349	349	345	342	341	
67.5	298	299	304	308	310	308	304	299	298	
70	255	258	264	269	271	269	264	258	255	
72.5	213	216	223	230	233	230	223	216	213	
75	171	175	184	193	196	193	184	175	171	
77.5	131	136	147	157	161	157	147	136	131	
80	93	99	112	125	129	125	112	99	93	
82.5	58	65	82	95	100	95	82	65	58	
85	29	38	55	70	75	70	55	38	29	
87.5	8	18	35	49	53	49	35	18	8	
90	0	7	20	32	36	32	20	7	0	

16 lateral half-planes of data were acquired, 22.5 degree increments shown.

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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 - Data was acquired in 0.5° increments, 2.5° increments shown.	90	0	7	20	32	36	32	20	7	0
	92.5	0	2	11	20	23	20	11	2	0
	95	0	0	5	11	14	11	5	0	0
	97.5	0	0	3	6	8	6	3	0	0
	100	0	0	2	4	5	4	2	0	0
	102.5	0	0	0	3	3	3	0	0	0
	105	0	0	0	2	3	2	0	0	0
	107.5	0	0	0	1	2	1	0	0	0
	110	0	0	0	0	1	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	

16 lateral half-planes of data were acquired, 22.5 degree increments shown.



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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	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	83	77	85	80	75	82	78	74	79	75	72	70			
3	90	80	72	65	88	78	71	65	75	69	64	72	67	62	70	65	61	59			
4	83	71	62	56	81	70	61	55	67	60	54	65	59	54	62	57	53	51			
5	76	63	55	48	74	62	54	48	60	53	47	58	52	47	56	51	46	44			
6	70	57	48	42	69	56	48	42	54	47	41	53	46	41	51	45	41	39			
7	65	52	43	37	64	51	43	37	50	42	37	48	41	36	47	41	36	34			
8	61	48	39	33	59	47	39	33	45	38	33	44	38	33	43	37	32	31			
9	57	44	35	30	56	43	35	30	42	35	30	41	34	30	40	34	29	28			
10	53	40	32	27	52	40	32	27	39	32	27	38	31	27	37	31	27	25			

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	31.1	7.17	7.14
8.0	17.5	9.56	9.52
10.0	11.2	11.96	11.90
12.0	7.8	14.35	14.28
14.0	5.7	16.74	16.65
16.0	4.4	19.13	19.03

Spacing Criterion	
0 deg:	1.2
90 deg:	1.2
180 deg:	1.2
270 deg:	1.2

Average Luminance (cd/m ²)			
	0 deg Plane	45 deg Plane	90 deg Plane
0	22002	22002	22002
45	18727	17858	17466
55	17477	16409	15986
65	15822	14640	14289
75	12984	11998	12028
85	6541	8289	9792

Beam and Field Angle	
0-180 Degree Plane	
Beam Angle:	104.0°
Field Angle:	157.4°
90-270 Degree Plane	
Beam Angle:	103.6°
Field Angle:	162.8°



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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

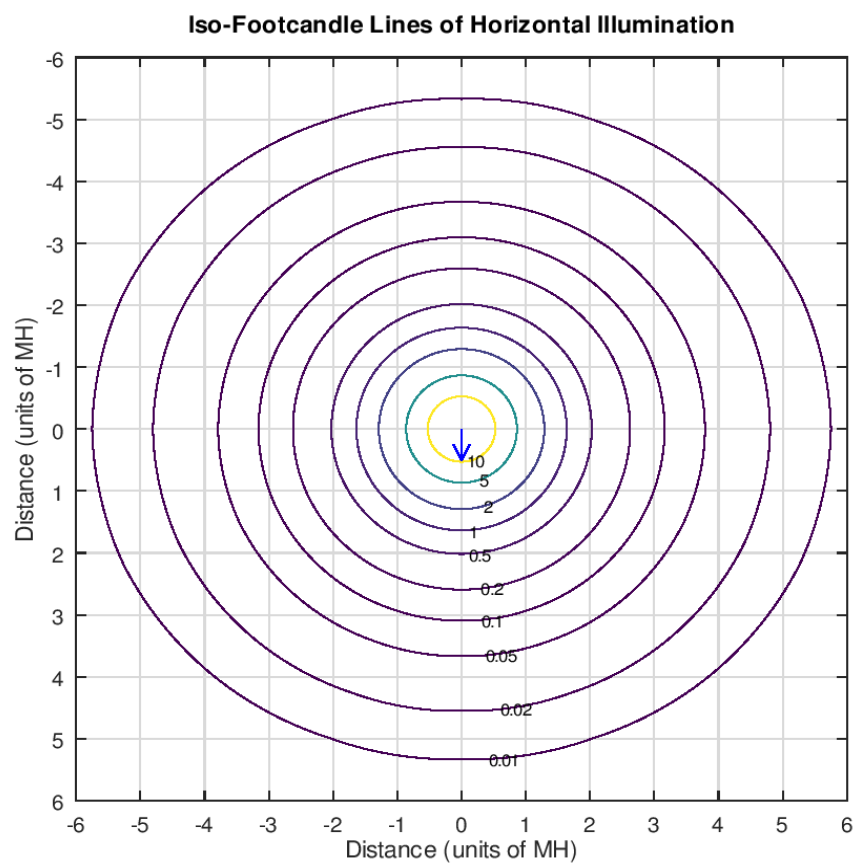
X=2H	Y=2H	21.6	23.2	22.0	23.6	23.9	21.8	23.4	22.2	23.7	24.1
	3H	23.3	24.7	23.6	25.1	25.4	23.6	25.1	24.0	25.4	25.8
	4H	23.8	25.2	24.2	25.5	25.9	24.3	25.7	24.7	26.0	26.4
	6H	24.1	25.4	24.6	25.8	26.2	24.9	26.2	25.3	26.5	26.9
	8H	24.2	25.4	24.6	25.8	26.2	25.1	26.3	25.5	26.7	27.1
	12H	24.2	25.4	24.7	25.8	26.2	25.3	26.5	25.7	26.9	27.3
4H	2H	22.2	23.6	22.6	24.0	24.3	22.4	23.8	22.8	24.1	24.5
	3H	24.1	25.3	24.5	25.6	26.0	24.4	25.6	24.8	26.0	26.4
	4H	24.7	25.8	25.2	26.2	26.7	25.2	26.3	25.7	26.7	27.1
	6H	25.2	26.1	25.6	26.6	27.0	25.9	26.9	26.4	27.3	27.8
	8H	25.3	26.2	25.7	26.6	27.1	26.2	27.1	26.7	27.5	28.0
	12H	25.3	26.1	25.8	26.6	27.1	26.5	27.2	26.9	27.7	28.2
8H	4H	25.0	25.9	25.5	26.4	26.8	25.5	26.3	25.9	26.8	27.3
	6H	25.6	26.3	26.1	26.8	27.3	26.3	27.0	26.8	27.5	28.0
	8H	25.7	26.4	26.3	26.9	27.4	26.7	27.3	27.2	27.8	28.3
	12H	25.8	26.4	26.3	26.9	27.4	27.0	27.6	27.5	28.1	28.7
12H	4H	25.1	25.9	25.6	26.3	26.8	25.5	26.3	26.0	26.8	27.2
	6H	25.7	26.3	26.2	26.8	27.3	26.3	27.0	26.9	27.5	28.0
	8H	25.8	26.4	26.3	26.9	27.5	26.7	27.3	27.3	27.8	28.4

Maximum UGR = 28.7

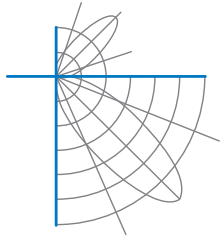


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Iso-Illuminance Plot



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-41-20 and LM-46-20.

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.

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