



## Report of Test

**LLIA001561-001**

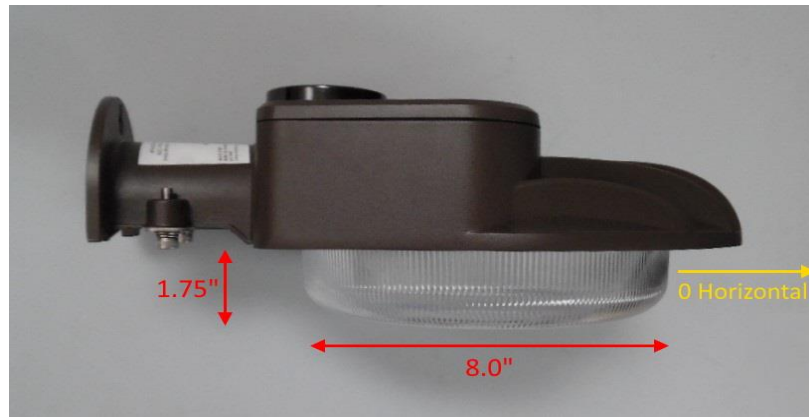
Indoor Distribution Photometry Test Report

Catalog Number: ARL-BL-40W-50K-BZ

Pole/arm mount, brown painted cast aluminum luminaire and driver housings,  
white plastic reflector, clear plastic drop enclosure with concentric lenses.

84 white LEDs on white circuit board

One WeledPower WP-HLA-040U0420900 LED driver with one LinoyalYSPD10 surge suppressor



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

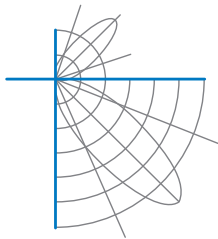
Performance Summary			
Input Voltage	120.0 V	Luminous Flux	6182.0 Lumens
Input Current	0.3360 A	Total Efficacy	154.3 Lm/W
Input Power	40.07 W	Downward Flux	6099.8 Lumens
Frequency	60.00 Hz	Downward Flux	98.7 % of Total
Power Factor	0.994		
Current THD	8.7 %		

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

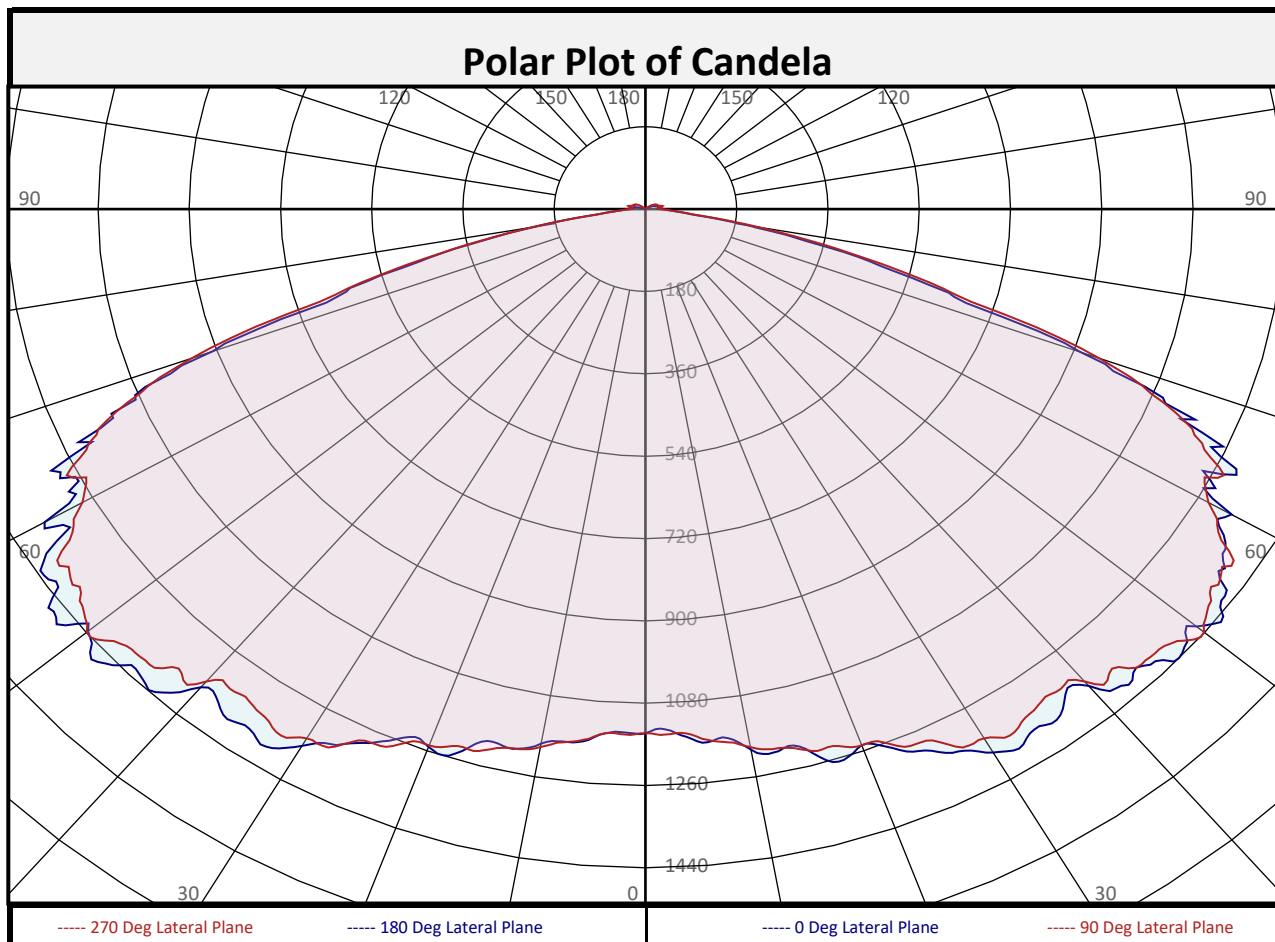
Test date: 10/12/2021

Report date: 10/14/2021

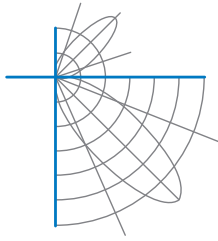
Signed: \_\_\_\_\_



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LLIA001561-001



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	Zone (Deg Vert)	Flux (Lumens)	Percent of Total
0-10	111.5	1.8%	90-100	30.3	0.5%	0-20	460.1	7.4%	0-20	460.1	7.4%
10-20	348.6	5.6%	100-110	26.4	0.4%	0-30	1062	17.2%	0-30	1062	17.2%
20-30	602.3	9.7%	110-120	17.2	0.3%	0-40	1917	31.0%	0-40	1917	31.0%
30-40	854.5	13.8%	120-130	7.1	0.1%	0-60	4256	68.8%	0-60	4256	68.8%
40-50	1101	17.8%	130-140	1.2	0.0%	0-80	6008	97.2%	0-80	6008	97.2%
50-60	1239	20.0%	140-150	0.0	0.0%	10-90	5988	96.9%	10-90	5988	96.9%
60-70	1184	19.2%	150-160	0.0	0.0%	20-50	2557	41.4%	20-50	2557	41.4%
70-80	567.8	9.2%	160-170	0.0	0.0%	40-90	4183	67.7%	40-90	4183	67.7%
80-90	91.5	1.5%	170-180	0.0	0.0%	60-90	1844	29.8%	60-90	1844	29.8%
0-90	6100	98.7%	90-180	82.2	1.3%	0-180	6182	100.0%	0-180	6182	100.0%

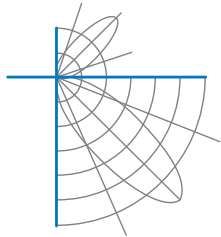


## Report of Test

### LLIA001561-001

Luminous Intensity (Candela) Table

		Lateral (C-Plane) Angles								
		0	22.5	45	67.5	90	112.5	135	157.5	180
Vertical (Gamma) Angles - Data was acquired in 0.5° increments, 2.5° increments shown.	0	1146	1146	1146	1146	1146	1146	1146	1146	1146
	2.5	1141	1139	1137	1138	1149	1150	1142	1142	1144
	5	1168	1166	1155	1140	1157	1147	1150	1160	1159
	7.5	1165	1167	1187	1171	1175	1166	1177	1175	1175
	10	1200	1188	1193	1189	1194	1181	1199	1179	1187
	12.5	1214	1222	1205	1218	1207	1214	1199	1209	1209
	15	1222	1208	1240	1233	1224	1229	1231	1210	1204
	17.5	1267	1260	1250	1244	1231	1246	1241	1234	1248
	20	1247	1283	1249	1250	1248	1250	1246	1273	1251
	22.5	1276	1270	1291	1258	1266	1258	1272	1262	1251
	25	1306	1302	1329	1306	1286	1299	1316	1286	1288
	27.5	1337	1328	1323	1312	1325	1314	1333	1317	1321
	30	1372	1356	1329	1348	1336	1353	1333	1343	1355
	32.5	1388	1382	1356	1343	1355	1346	1354	1367	1393
	35	1377	1372	1361	1353	1337	1360	1367	1384	1378
	37.5	1357	1368	1371	1346	1330	1348	1378	1367	1378
	40	1361	1369	1393	1361	1348	1366	1403	1399	1365
	42.5	1411	1385	1409	1375	1362	1391	1428	1403	1432
	45	1409	1442	1429	1410	1395	1418	1451	1466	1422
	47.5	1436	1434	1444	1434	1406	1439	1469	1473	1466
50	1420	1437	1426	1426	1438	1437	1448	1457	1436	
52.5	1429	1396	1393	1400	1407	1413	1417	1431	1466	
55	1380	1387	1350	1373	1387	1389	1383	1421	1420	
57.5	1356	1353	1323	1339	1347	1356	1349	1384	1402	
60	1335	1291	1302	1280	1282	1297	1323	1320	1369	
62.5	1240	1263	1274	1255	1273	1265	1296	1290	1268	
65	1231	1253	1250	1220	1212	1227	1254	1255	1205	
67.5	1110	1140	1151	1115	1107	1119	1146	1134	1089	
70	911	941	954	951	951	961	948	945	908	
72.5	639	669	713	704	674	709	721	680	638	
75	479	505	532	531	517	539	550	527	497	
77.5	328	341	359	368	363	377	382	367	351	
80	207	205	213	223	225	233	232	224	218	
82.5	96	100	107	108	110	112	116	113	113	
85	61	64	68	65	65	65	66	65	64	
87.5	41	41	43	43	44	44	44	42	42	
90	28	28	29	29	30	30	30	28	28	



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		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	28	28	29	29	30	30	30	28	28
	92.5	26	27	27	27	27	28	28	26	26
	95	27	27	28	28	28	29	28	27	25
	97.5	27	27	28	28	28	28	28	26	26
	100	28	28	30	31	31	31	30	27	23
	102.5	25	26	28	31	32	32	29	25	20
	105	23	24	26	28	28	28	26	21	15
	107.5	21	22	23	24	25	25	23	18	10
	110	19	20	22	23	24	23	21	15	5
	112.5	18	19	22	24	25	24	21	15	4
	115	14	15	19	21	23	22	17	11	3
	117.5	11	13	17	21	22	21	15	9	1
	120	7	9	14	18	19	18	12	7	0
	122.5	4	6	10	14	17	15	9	5	0
	125	1	4	8	12	14	12	7	4	0
	127.5	0	2	6	10	12	10	5	3	0
	130	0	0	3	6	7	7	3	1	0
	132.5	0	0	3	3	5	4	2	0	0
	135	0	0	2	2	3	3	1	0	0
	137.5	0	0	0	1	2	2	0	0	0
	140	0	0	0	0	1	1	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

### LLIA001561-001

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	110	110	110	105	105	105	101	101	101	99
1	107	102	97	93	104	99	95	91	95	91	88	91	88	85	87	84	82	80
2	96	87	79	72	93	85	77	71	81	75	70	77	72	68	74	70	66	64
3	86	74	65	58	83	72	64	57	69	62	56	66	60	55	63	58	54	51
4	78	64	55	47	75	63	54	47	60	52	46	58	51	45	55	49	44	42
5	71	56	47	39	68	55	46	39	53	45	38	51	43	38	49	42	37	35
6	65	50	40	33	63	49	40	33	47	39	33	45	38	32	43	37	32	29
7	60	45	35	29	58	44	35	28	42	34	28	40	33	28	39	32	27	25
8	55	40	31	25	53	40	31	25	38	30	24	37	29	24	35	29	24	22
9	51	37	28	22	50	36	28	22	35	27	22	34	26	21	32	26	21	19
10	48	34	25	19	46	33	25	19	32	24	19	31	24	19	30	23	19	17

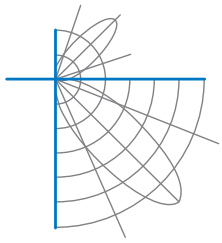
For absolute test reports, RUs are expressed as a percentage of total lumen output. For relative test reports, CUs are expressed as a percentage of total lamp output. Calculations were based on published IES procedures, and are based on the zonal cavity method. Basic assumptions: 1) Room surfaces are 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	31.8	10.93	10.67	
8.0	17.9	14.58	14.23	
10.0	11.5	18.22	17.79	
12.0	8.0	21.87	21.34	
14.0	5.8	25.51	24.90	
16.0	4.5	29.16	28.46	

Spacing Criterion	
0 deg:	1.8
90 deg:	1.8
180 deg:	1.8
270 deg:	1.8

Average Luminance (cd/m <sup>2</sup> )			
	0 deg Plane	45 deg Plane	90 deg Plane
0	35335	35335	35335
45	48053	48759	47584
55	53077	51938	53338
65	56254	57112	55355
75	28008	31064	30218
85	5168	5727	5471

Beam and Field Angle	
0-180 Degree Plane	
Beam Angle:	143.1°
Field Angle:	162.9°
90-270 Degree Plane	
Beam Angle:	144.1°
Field Angle:	163.3°



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### LLIA001561-001

#### 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

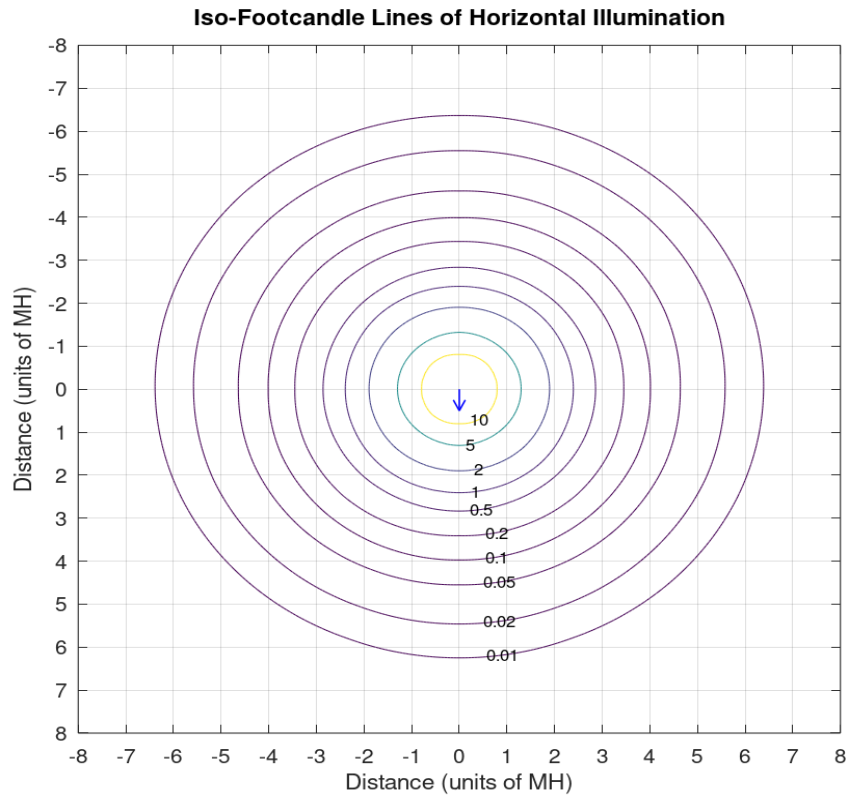
Room Size		UGR Viewed Crosswise					UGR Viewed Endwise				
X=2H	Y=2H	25.9	27.7	26.3	28	28.4	25.9	27.6	26.2	28	28.3
	3H	28.2	29.9	28.6	30.2	30.6	28.2	29.8	28.6	30.2	30.6
	4H	28.6	30.2	29.1	30.5	30.9	28.7	30.2	29.1	30.6	31
	6H	28.8	30.2	29.2	30.6	31	28.8	30.3	29.3	30.6	31.1
	8H	28.8	30.1	29.2	30.6	31	28.8	30.2	29.3	30.6	31
	12H	28.8	30.1	29.2	30.5	30.9	28.8	30.1	29.3	30.5	31
4H	2H	26.8	28.3	27.2	28.7	29.1	26.7	28.3	27.2	28.6	29
	3H	29.1	30.4	29.5	30.8	31.3	29.1	30.4	29.5	30.8	31.2
	4H	29.6	30.8	30	31.2	31.6	29.6	30.8	30.1	31.2	31.7
	6H	29.8	30.8	30.2	31.3	31.7	29.9	30.9	30.3	31.4	31.8
	8H	29.8	30.7	30.3	31.2	31.7	29.9	30.8	30.4	31.3	31.8
	12H	29.8	30.7	30.3	31.1	31.6	29.9	30.8	30.4	31.2	31.7
8H	4H	29.8	30.7	30.2	31.2	31.7	29.8	30.8	30.3	31.2	31.7
	6H	30	30.8	30.5	31.3	31.8	30.1	30.9	30.6	31.4	31.9
	8H	30	30.7	30.5	31.2	31.7	30.1	30.8	30.6	31.3	31.8
	12H	30	30.6	30.5	31.1	31.7	30.1	30.8	30.6	31.3	31.8
12H	4H	29.8	30.6	30.2	31.1	31.6	29.8	30.7	30.3	31.2	31.7
	6H	30	30.7	30.5	31.2	31.7	30.1	30.8	30.6	31.3	31.8
	8H	30	30.6	30.5	31.1	31.7	30.1	30.8	30.6	31.3	31.8

Maximum UGR = 31.9

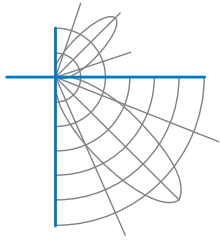


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### Iso-Illuminance Plot



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.

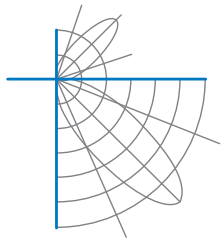


Report of Test  
LLIA001561-001

**Additional Pictures of Test Subject**







## Report of Test

### LLIA001561-001

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.