

Scaled data based on original data using  
LM-79-08 Approved Method: Electrical and Photometric Measurements of Solid-  
State Lighting Products

Test Report Prepared for  
Cooper Lighting Solutions  
(formerly Eaton)

Brand: LUMARK

Report Number: P12437-400

Luminaire Tested: **HPWP-GL-400-XX**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P12437-400  
Test Lab: COOPER LIGHTING INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: LUMARK  
Catalog Number: HPWP-GL-400-XX  
Description: LUMARK WAL-PAK HID WALL FIXTURE WITH BOROSILICATE PRISMATIC GLASS LENS  
Light Source: MOGUL BASE CLEAR ED18 400W HIGH PRESSURE SODIUM LAMP  
400 WATTS  
Ballast/Driver: -

**Summary**

Lumens per Lamp: 50000 (1 lamp)  
Luminaire Lumens: 27663.9 lumens  
Efficiency: 55.3%  
Efficacy: 69.2 lumens/watt  
Luminous Opening: Rectangular w/ Sides (W: 1.08' x L: 0.48' x H: 0.42')  
IES Classification: Type IV - Short - Non-Cutoff  
BUG Rating: B2 - U5 - G5

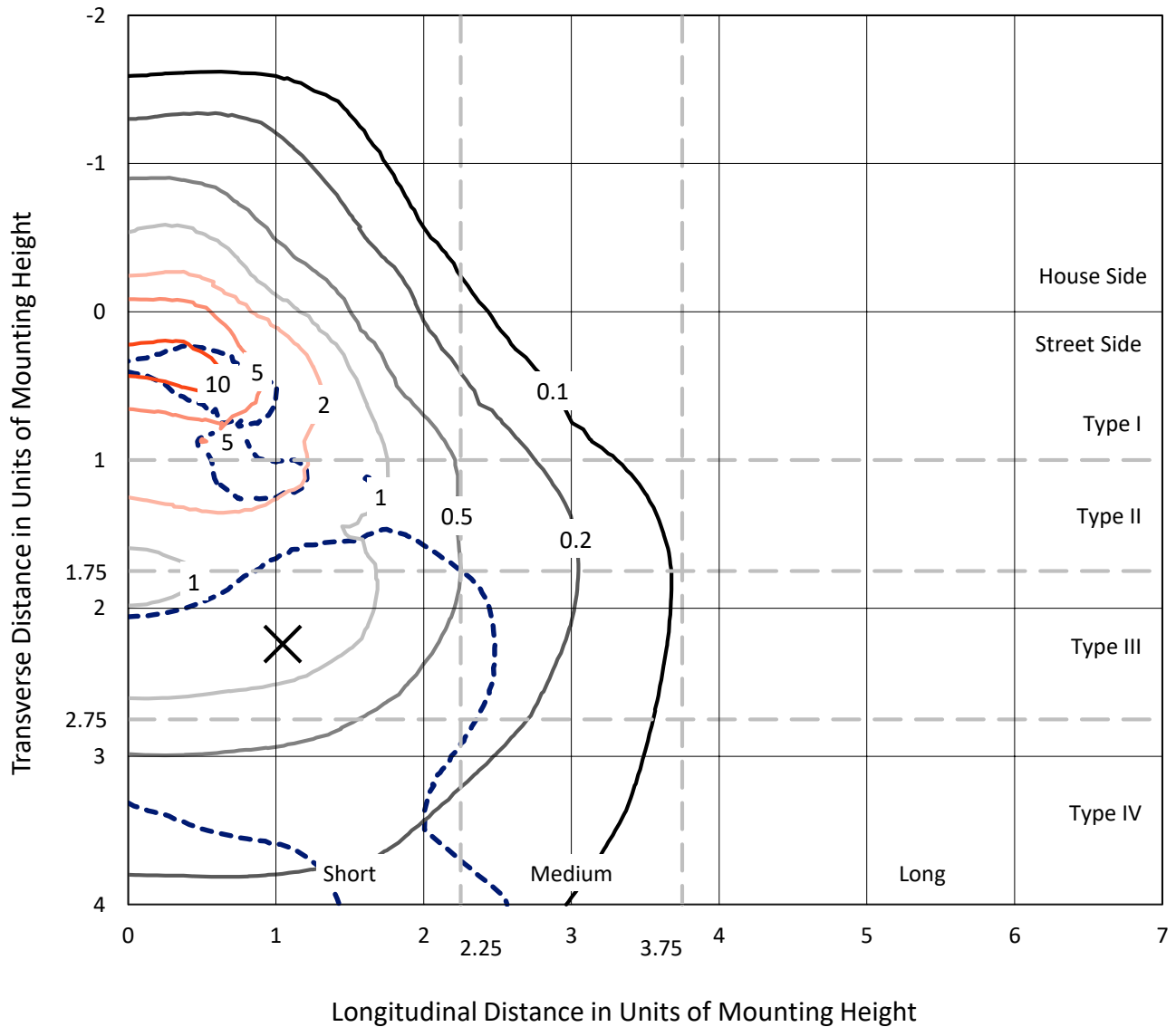
Input Watts (W): 400  
Input Voltage (V): NR  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



REPORT NUMBER: P12437-400  
 CATALOG NUMBER: HPWP-GL-400-XX

### Iso-Footcandle Lines of Horizontal Illumination

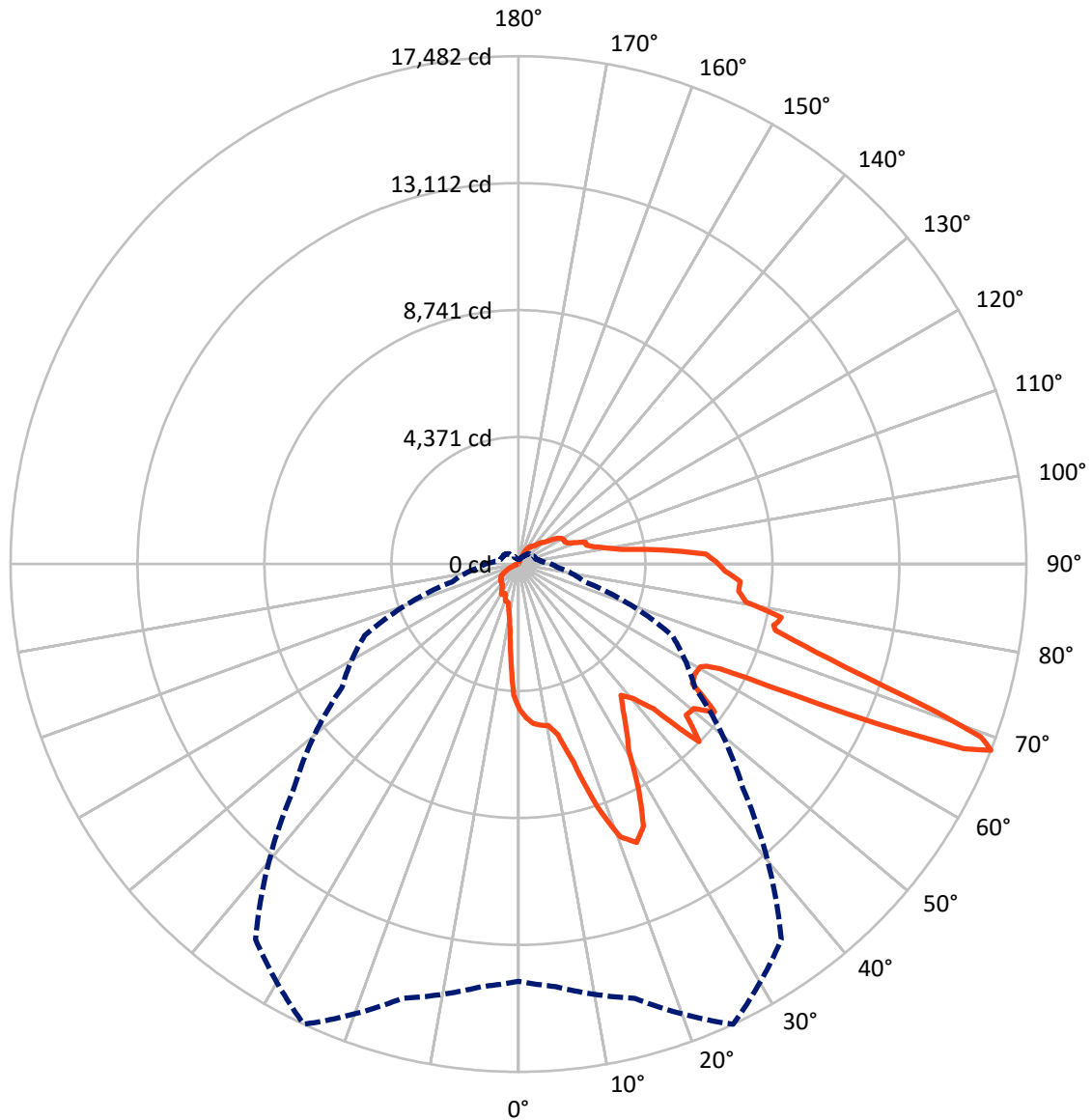
× Max cd  
 - - - 1/2 Max cd



Based on 25 foot mounting height. Maximum calculated value = 15 fc  
 Type IV - Short - Non-Cutoff

REPORT NUMBER: P12437-400  
CATALOG NUMBER: HPWP-GL-400-XX

### Luminous Intensity Polar Plot



— Vertical Plane Through 25-Deg Lateral      - - - Horizontal Cone Through 68-Deg Vertical

REPORT NUMBER: P12437-400

CATALOG NUMBER: HPWP-GL-400-XX

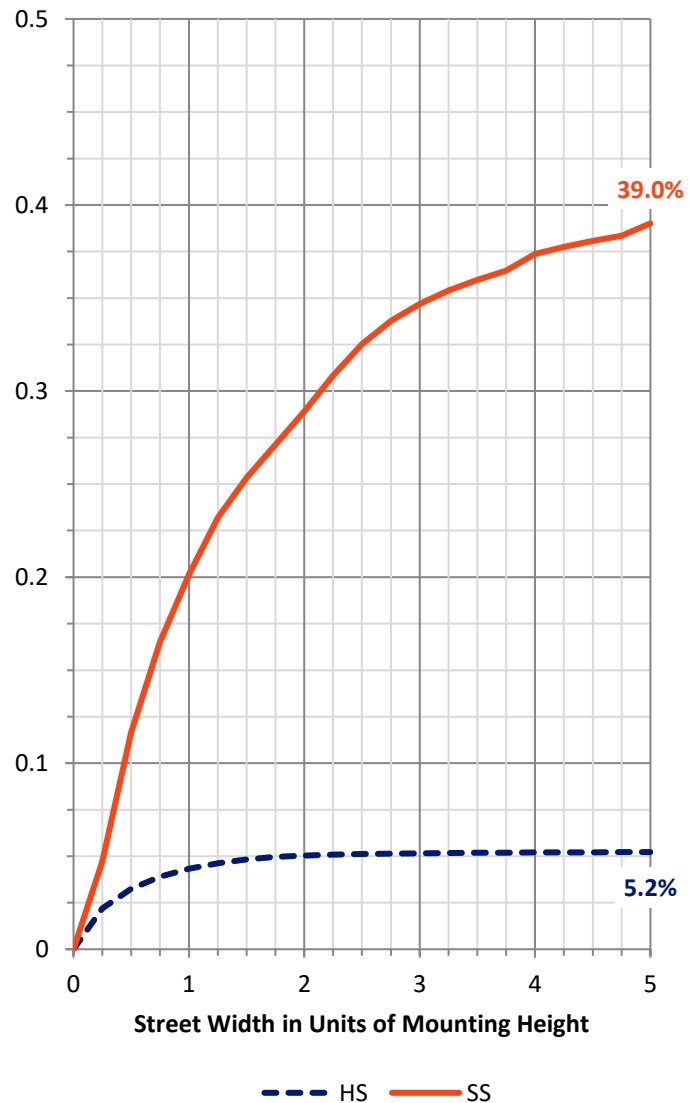
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	2637.0	67.8	2704.8
	% Lamp	5.3	0.1	5.4
<b>Street Side</b>	Lumens	21149.6	3809.4	24959.0
	% Lamp	42.3	7.6	49.9
<b>Total</b>	Lumens	23786.7	3877.2	27663.9
	% Lamp	47.6	7.8	55.3

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture	% Lamp
0°-10°	429.9	1.6	0.9
10°-20°	1303.1	4.7	2.6
20°-30°	2425.7	8.8	4.9
30°-40°	2894.1	10.5	5.8
40°-50°	3175.1	11.5	6.4
50°-60°	3239.9	11.7	6.5
60°-70°	4226.9	15.3	8.5
70°-80°	3675.7	13.3	7.4
80°-90°	2416.2	8.7	4.8
90°-100°	1531.9	5.5	3.1
100°-110°	864.6	3.1	1.7
110°-120°	596.5	2.2	1.2
120°-130°	424.2	1.5	0.8
130°-140°	269.3	1.0	0.5
140°-150°	145.6	0.5	0.3
150°-160°	41.7	0.2	0.1
160°-170°	3.3	0.0	0.0
170°-180°	0.0	0.0	0.0
0°-90°	23786.7	86.0	47.6
0°-180°	27663.9	100.0	55.3



REPORT NUMBER: P12437-400

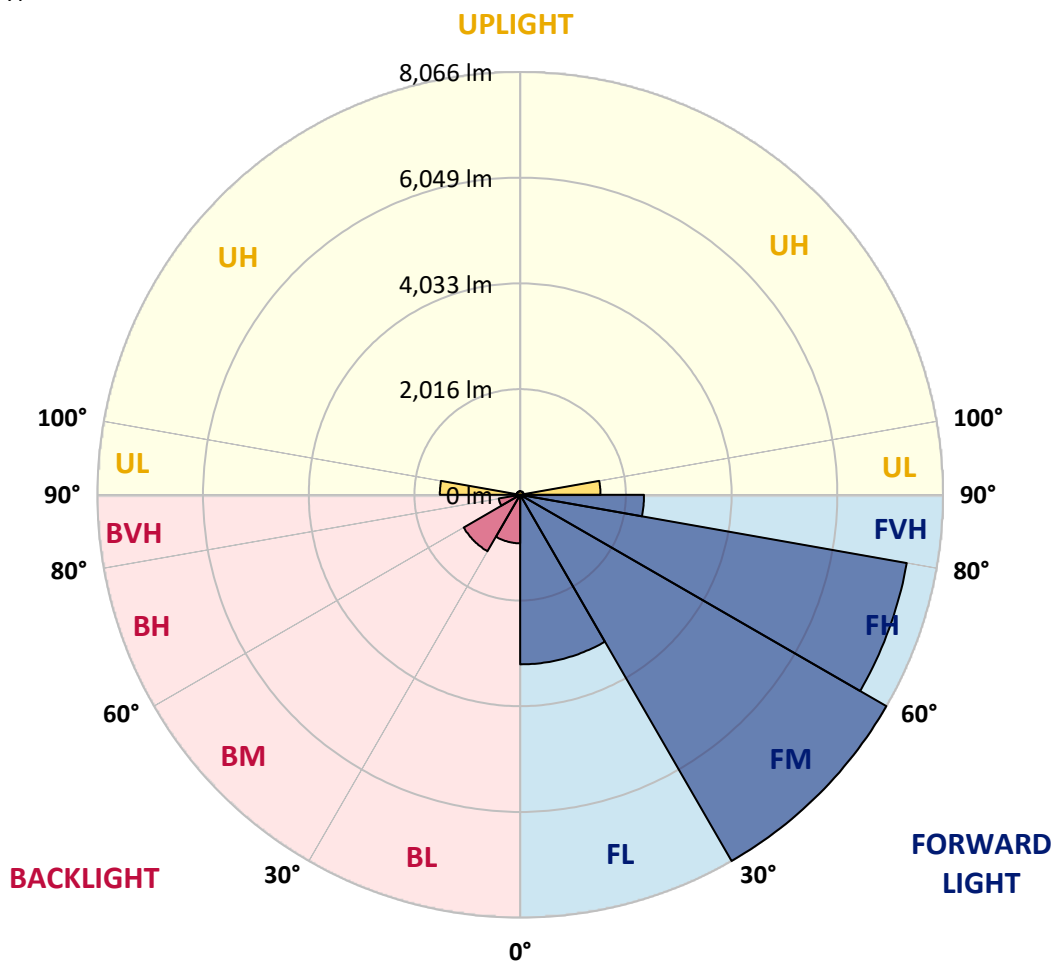
CATALOG NUMBER: HPWP-GL-400-XX

**LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:**

Zone		Lumens	% Lamp	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	3234.5	6.5			
FM	(30°-60°)	8065.9	16.1			
FH	(60°-80°)	7488.0	15.0			G3/7500
FVH	(80°-90°)	2361.3	4.7			G5
BL	(0°-30°)	924.2	1.8	B2/1000		
BM	(30°-60°)	1243.3	2.5	B2/2500		
BH	(60°-80°)	414.6	0.8	B1/500		G1/500
BVH	(80°-90°)	54.9	0.1			G1/100
UL	(90°-100°)	1531.9	3.1		U5	
UH	(100°-180°)	67.8	0.1		U3/500	
Trapped Light		22336.1	44.7			

**BUG Rating: B2-U5-G5**

Type IV Short





REPORT NUMBER: P12437-400

CATALOG NUMBER: HPWP-GL-400-XX

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	5001	5001	5001	5001	5001	5001	5001	5001	5001	5001	5001
2.5°	5334	5337	5325	5307	5293	5269	5233	5190	5129	5066	5032
5°	5534	5533	5536	5525	5516	5504	5477	5418	5318	5168	5017
7.5°	5572	5567	5588	5606	5631	5655	5657	5618	5522	5298	5139
10°	5640	5629	5641	5654	5705	5766	5822	5826	5717	5446	5222
12.5°	6224	6214	6139	6021	5937	5928	5988	6011	5889	5562	5290
15°	7663	7651	7458	7059	6595	6308	6198	6197	6088	5743	5389
17.5°	9129	9124	9021	8791	8019	7033	6522	6401	6322	5921	5469
20°	9534	9524	9870	10018	9619	8376	7073	6673	6577	6088	5529
22.5°	8563	8683	9447	10413	10804	10028	8033	7028	6793	6179	5481
25°	7209	7324	8140	9992	11632	11913	9630	7408	6893	6128	5302
27.5°	6025	6132	7039	8823	11562	13447	11395	7884	6939	5969	4981
30°	5640	5685	6141	7490	10743	14307	12562	8184	6862	5682	4526
32.5°	5485	5553	5970	6828	9537	14247	13201	8421	6639	5299	3990
35°	4755	4856	5335	6207	8557	13156	13638	8372	6277	4841	3427
37.5°	4628	4690	5094	5731	7520	11592	13824	8212	5974	4430	2957
40°	5006	5076	5383	6076	7057	9800	13245	8179	5721	4036	2617
42.5°	4809	4963	5956	6808	7402	8604	11845	8476	5589	3646	2396
45°	5158	5340	6086	8720	9387	8305	10202	8798	5602	3310	2310
47.5°	5717	5800	6123	7774	9784	8593	9240	8648	5617	3077	2279
50°	5470	5715	6566	7817	9616	8342	8572	8293	5487	2825	2207
52.5°	4880	5043	5946	8460	9815	7713	7687	7806	5182	2604	2107
55°	4954	5106	5773	7264	10136	8597	6967	7171	4585	2313	1941
57.5°	4034	4203	5321	7158	8068	10259	6594	6582	3931	2050	1764
60°	4026	4169	5076	7190	7687	7537	7556	6058	3294	1830	1562
61°	4213	4369	5297	7366	7677	6797	8326	5896	3064	1754	1482
62°	4881	5018	5955	7810	7888	6607	8759	5813	2872	1665	1404
63°	6253	6332	7229	8773	8557	6754	8789	5865	2704	1583	1342
64°	8428	8481	9132	10374	9932	7252	8449	5992	2587	1525	1286
65°	10618	10789	11474	12437	11824	8105	7954	6072	2491	1464	1228
66°	12490	12727	13694	14530	13761	9182	7590	6065	2428	1412	1194
67°	13783	14064	15042	16603	15102	10245	7455	5972	2394	1384	1163
68°	14366	14601	15478	17482	15777	10931	7414	5844	2362	1354	1125
69°	13732	13945	14636	17001	15864	11103	7467	5636	2337	1349	1089
70°	12051	12351	12930	15262	15228	10945	7653	5327	2270	1344	1036
71°	10250	10602	11260	13318	13651	10616	7838	5197	2244	1356	999
72°	9111	9422	10221	11779	12007	10059	7866	5215	2233	1362	943
73°	8650	8889	9774	10695	10649	9316	7542	5217	2304	1355	890
74°	8343	8466	9256	9832	9509	8608	7189	5117	2413	1327	834
75°	7652	7774	8514	9137	8562	8050	6698	4903	2507	1296	778
76°	7298	7421	8241	9032	8110	7644	6205	4604	2515	1252	705
77°	7122	7259	8087	9165	8258	7369	5784	4222	2397	1189	644
78°	6852	7003	7818	9236	8427	7238	5441	3785	2214	1096	578
79°	6257	6407	7048	8603	8345	7057	5118	3400	2006	984	518
80°	6079	6261	6789	7938	7732	6767	4761	3105	1836	881	466



REPORT NUMBER: P12437-400

CATALOG NUMBER: HPWP-GL-400-XX

**CANDELA DISTRIBUTION (continued):**

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
82.5°	6039	6197	6889	7642	6889	5897	3947	2783	1639	643	352
85°	5783	5951	6682	7660	6869	4909	3177	2512	1390	457	251
87.5°	5283	5410	5961	7127	6693	3743	2640	2175	1128	327	184
90°	5010	5130	5548	6824	5975	2943	2266	1964	900	235	151
92.5°	5299	5328	5585	6460	4508	2528	2085	1851	710	197	132
95°	4812	4912	5251	5022	3448	2298	1991	1719	602	195	134
97.5°	3389	3477	3749	3596	2930	2159	1917	1569	537	182	126
100°	2637	2697	2917	3035	2615	2038	1991	1364	513	188	134
102.5°	2307	2345	2514	2645	2318	1868	1885	1115	483	182	128
105°	2137	2168	2327	2426	2084	1750	1678	999	475	190	128
107.5°	1928	1982	2267	2428	2122	1611	1446	920	458	185	126
110°	1703	1755	2049	2090	1916	1535	1256	853	430	177	124
112.5°	1495	1525	1726	1845	1875	1481	1168	781	414	173	124
115°	1351	1379	1564	1770	1825	1454	1130	707	389	155	109
117.5°	1349	1334	1541	1779	1809	1435	1031	675	381	156	111
120°	1264	1313	1476	1730	1779	1301	963	652	350	141	101
122.5°	1175	1227	1458	1629	1601	1184	893	635	337	132	92
125°	1076	1106	1280	1470	1425	1139	872	586	306	116	80
127.5°	997	1006	1110	1268	1333	1125	883	540	277	107	78
130°	913	923	989	1145	1284	1120	856	513	239	92	64
132.5°	821	839	927	1085	1203	1101	812	475	191	76	51
135°	772	786	862	981	1095	1069	793	426	148	66	49
137.5°	709	718	763	855	1012	1019	758	346	106	43	26
140°	668	676	724	808	956	981	706	252	86	39	33
142.5°	624	629	685	755	893	886	570	202	58	30	22
145°	566	576	634	723	825	777	446	151	35	23	14
147.5°	525	537	578	663	718	620	271	94	21	12	11
150°	513	513	540	578	581	410	181	46	10	7	5
152.5°	452	457	464	468	387	230	113	21	7	5	3
155°	344	344	331	304	230	148	58	4	2	1	0
157.5°	242	239	225	200	146	86	14	0	0	2	0
160°	169	166	153	128	86	31	0	0	0	0	0
162.5°	115	116	103	75	38	4	0	0	0	2	0
165°	48	47	41	14	0	0	0	0	0	0	0
167.5°	0	2	0	0	0	0	0	0	0	0	0
170°	0	0	0	0	0	1	0	0	0	1	0
172.5°	0	0	0	0	0	0	0	0	0	0	0
175°	0	0	0	0	0	0	0	0	0	0	0
177.5°	0	0	0	0	0	0	0	0	0	0	0
180°	0	0	0	0	0	0	0	0	0	0	0





REPORT NUMBER: P12437-400

CATALOG NUMBER: HPWP-GL-400-XX

**CANDELA DISTRIBUTION (continued):**

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	5001	5001	5001	5001	5001	5001	5001	5001	5001	5001
2.5°	4987	4910	4815	4732	4642	4563	4519	4458	4433	4449
5°	4950	4686	4379	4041	3727	3465	3271	3114	3045	3057
7.5°	4949	4457	3871	3307	2867	2536	2318	2198	2144	2124
10°	4931	4194	3392	2734	2298	2022	1856	1731	1685	1678
12.5°	4903	3921	2960	2338	1982	1742	1584	1474	1414	1408
15°	4890	3666	2668	2133	1806	1558	1383	1302	1264	1259
17.5°	4844	3394	2462	1988	1625	1419	1347	1298	1273	1268
20°	4726	3106	2293	1825	1522	1445	1347	1236	1186	1183
22.5°	4496	2850	2149	1676	1581	1420	1183	1075	1087	1086
25°	4131	2585	1945	1666	1579	1295	1110	1104	1024	1012
27.5°	3676	2358	1786	1704	1463	1206	1181	1092	939	925
30°	3210	2136	1703	1599	1340	1210	1185	1002	851	823
32.5°	2735	1913	1650	1494	1273	1211	1078	911	795	783
35°	2335	1710	1532	1361	1221	1113	976	822	766	765
37.5°	2085	1579	1422	1302	1170	1056	914	837	803	801
40°	1932	1486	1352	1193	1083	987	893	814	792	791
42.5°	1851	1419	1253	1106	1004	957	862	812	757	749
45°	1826	1361	1122	1009	945	919	838	768	688	688
47.5°	1829	1308	1050	973	917	890	838	708	665	656
50°	1803	1231	987	938	879	865	758	680	618	605
52.5°	1753	1188	954	902	851	831	753	661	563	548
55°	1646	1127	919	853	831	805	726	590	482	475
57.5°	1524	1032	893	840	811	800	669	503	435	424
60°	1382	924	832	774	764	743	554	429	359	350
61°	1325	881	808	754	755	707	513	387	334	322
62°	1258	843	774	740	738	650	465	354	295	290
63°	1186	797	730	707	715	586	420	319	261	265
64°	1124	772	702	692	690	542	384	290	251	242
65°	1050	739	680	664	650	494	343	256	220	219
66°	985	700	651	638	603	440	310	227	201	199
67°	911	668	628	601	549	387	272	199	188	179
68°	837	630	597	573	498	340	235	184	161	163
69°	783	601	565	545	441	299	202	168	146	140
70°	718	562	512	483	386	251	174	128	118	110
71°	677	541	492	457	341	227	161	128	112	117
72°	629	506	461	412	304	187	145	109	90	87
73°	585	482	435	373	267	165	127	93	77	77
74°	550	457	406	328	230	138	103	77	53	59
75°	512	436	387	296	210	119	86	57	39	39
76°	470	401	359	267	177	98	63	23	16	15
77°	444	384	349	253	169	85	51	16	8	7
78°	411	364	337	231	146	72	22	0	0	0
79°	380	345	326	210	122	54	0	0	0	0
80°	345	322	304	197	100	30	0	0	0	0



REPORT NUMBER: P12437-400  
 CATALOG NUMBER: HPWP-GL-400-XX

**CANDELA DISTRIBUTION (continued):**

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
82.5°	270	280	258	155	66	20	0	0	0	0
85°	217	226	218	142	62	13	0	0	0	0
87.5°	167	183	182	118	48	7	0	0	0	0
90°	148	149	146	96	46	4	0	0	0	0
92.5°	128	122	123	65	29	3	0	0	0	0
95°	132	124	117	61	35	2	0	0	0	0
97.5°	120	102	81	37	14	0	0	0	0	0
100°	118	104	78	45	19	1	0	0	0	0
102.5°	107	97	69	41	9	0	0	1	0	0
105°	114	99	72	38	11	2	0	0	0	0
107.5°	113	89	64	30	9	0	0	0	0	0
110°	104	82	54	24	3	0	0	0	0	0
112.5°	102	78	52	22	0	0	0	0	0	0
115°	90	65	34	10	0	0	0	0	0	0
117.5°	88	61	41	16	0	0	0	0	0	0
120°	77	52	26	5	0	0	0	0	0	0
122.5°	75	49	28	6	0	0	0	0	0	0
125°	61	39	16	0	0	0	0	0	0	0
127.5°	54	39	18	0	0	0	0	0	0	0
130°	48	27	8	0	0	0	0	0	0	0
132.5°	39	21	3	0	0	0	0	0	0	0
135°	32	14	3	0	0	0	0	0	0	0
137.5°	21	5	0	0	0	0	0	0	0	0
140°	21	7	0	0	0	0	0	0	0	0
142.5°	16	4	0	0	0	0	0	0	0	0
145°	10	2	0	0	0	0	0	0	0	0
147.5°	6	0	0	0	0	0	0	0	0	0
150°	2	0	0	0	0	0	0	0	0	0
152.5°	0	0	0	0	0	0	0	0	0	0
155°	0	0	0	0	0	0	0	0	0	0
157.5°	0	0	0	0	0	0	0	0	0	0
160°	0	0	0	0	0	0	0	0	0	0
162.5°	0	0	0	0	0	0	0	0	0	0
165°	0	0	0	0	0	0	0	0	0	0
167.5°	0	0	0	0	0	0	0	0	0	0
170°	0	0	0	0	0	0	0	0	0	0
172.5°	0	0	0	0	0	0	0	0	0	0
175°	0	0	0	0	0	0	0	0	0	0
177.5°	0	0	0	0	0	0	0	0	0	0
180°	0	0	0	0	0	0	0	0	0	0

(END OF REPORT)