

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: HALO

Report Number: P28084

Luminaire Tested: **WP1850LPC**

Test Date: 07/06/16

**Test Information**

Test Method: LM-79-08  
Report Number: P28084  
Test Lab: INNOVATION CENTER(G2)  
Test Date: 07/06/16  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: HALO  
Catalog Number: WP1850LPC  
Description: RETAIL LED WALLPACK  
Light Source: (1) CITIZEN 5000K LED  
CLU032-1203  
Ballast/Driver: (1) ECU ELECTRONIC DRIVER  
EQP-450mA

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1644.7 lumens  
Efficiency: N/A  
Efficacy: 88.4 lumens/watt  
Luminous Opening: Rectangular w/ Sides (W: 0.46' x L: 0.17' x H: 0.04')  
IES Classification: Type I - Short - Cutoff  
BUG Rating: B1 - U1 - G1

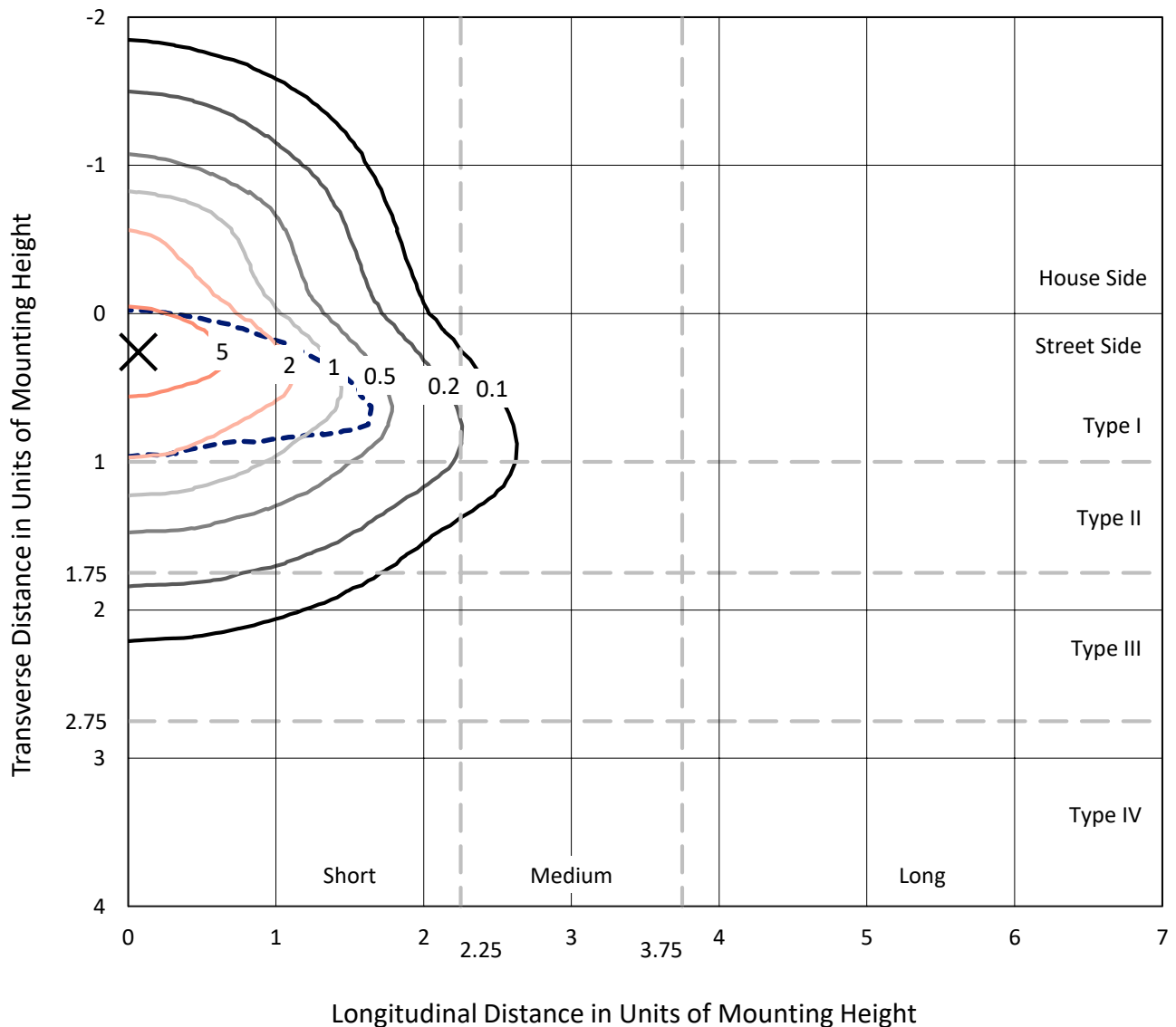
Input Watts (W): 18.6  
Input Voltage (V): 120.0  
Input Current (A<sub>in</sub>): 0.156  
Voltage Rise (V): NR  
Power Factor: 0.9982  
Total Harmonic Distortion (THDi): 12.6%  
Frequency (hertz): 60  
Stabilization Time: 0.5 HR  
Operation Time: 7 HR  
Ambient Temperature (°C): 25.8  
Test Distance: 28.75 FT



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### Iso-Footcandle Lines of Horizontal Illumination

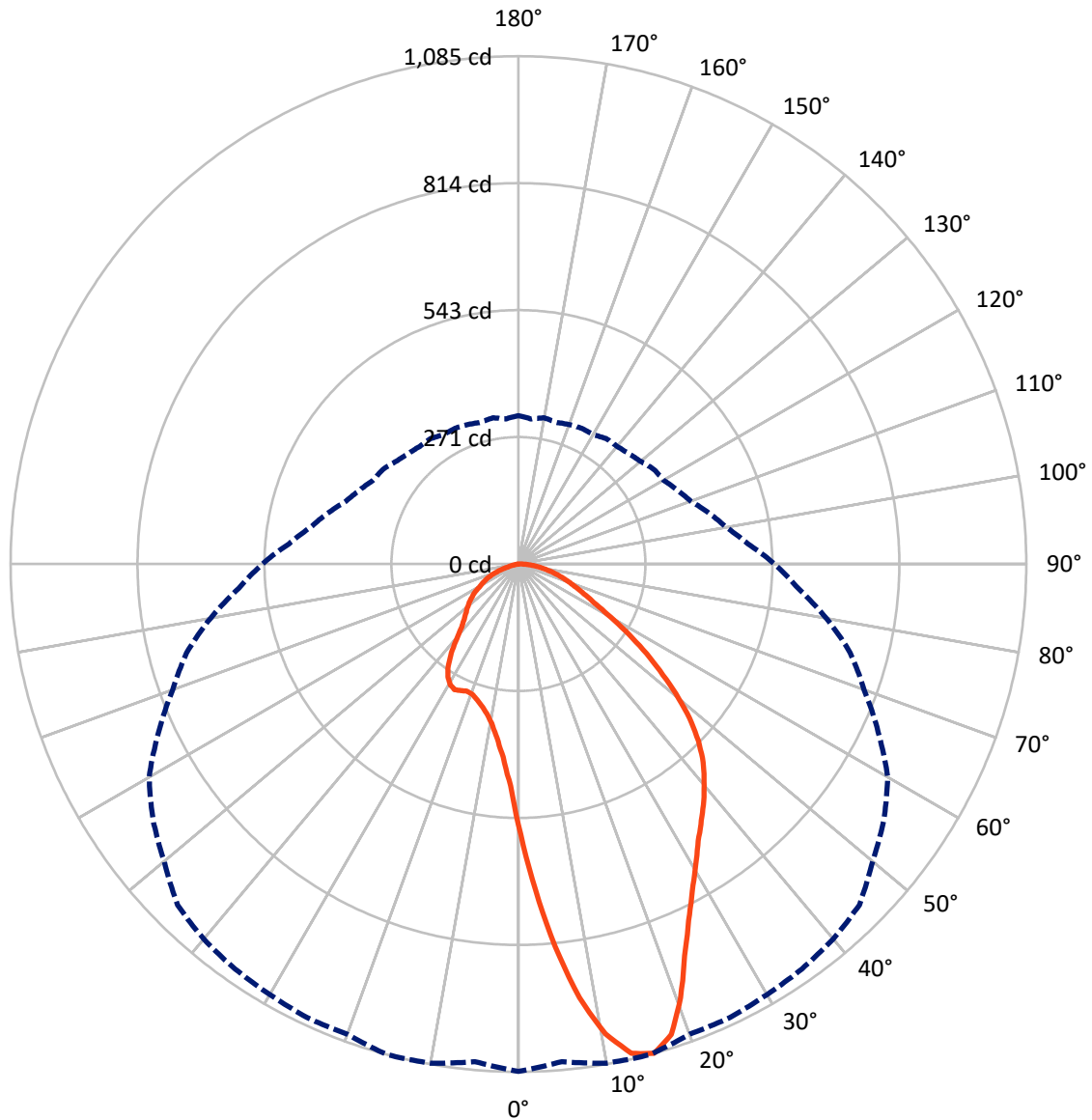
✕ Max cd  
 - - - 1/2 Max cd



Based on 10 foot mounting height. Maximum calculated value = 9.9 fc  
 Type I - Short - Cutoff

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### Luminous Intensity Polar Plot



— Vertical Plane Through 15-Deg Lateral    - - - Horizontal Cone Through 15-Deg Vertical

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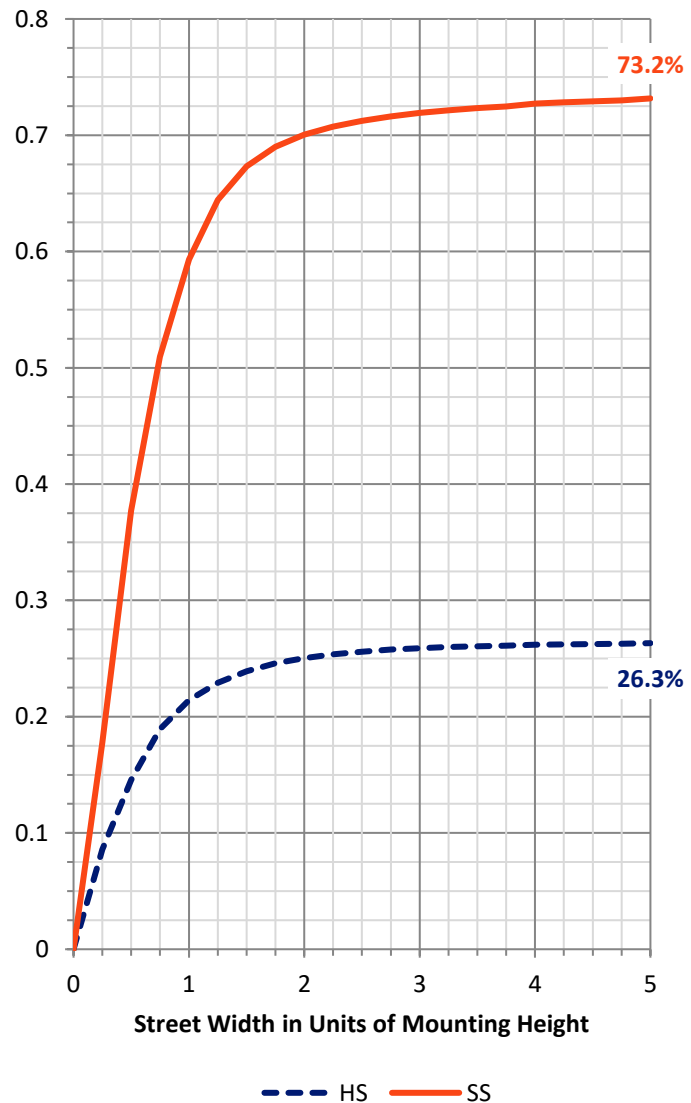
**FLUX DISTRIBUTION:**

		Downward	Upward	Total
<b>House Side</b>	Lumens	435.4	0.5	435.9
	% Fixture	26.5	0.0	26.5
<b>Street Side</b>	Lumens	1207.1	1.8	1208.8
	% Fixture	73.4	0.1	73.5
<b>Total</b>	Lumens	1642.4	2.3	1644.7
	% Fixture	99.9	0.1	100.0

**Coefficient of Utilization**

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	58.3	3.5
10°-20°	181.8	11.1
20°-30°	271.7	16.5
30°-40°	316.2	19.2
40°-50°	311.4	18.9
50°-60°	255.1	15.5
60°-70°	160.1	9.7
70°-80°	68.2	4.1
80°-90°	19.6	1.2
90°-100°	2.3	0.1
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-90°	1642.4	99.9
0°-180°	1644.7	100.0



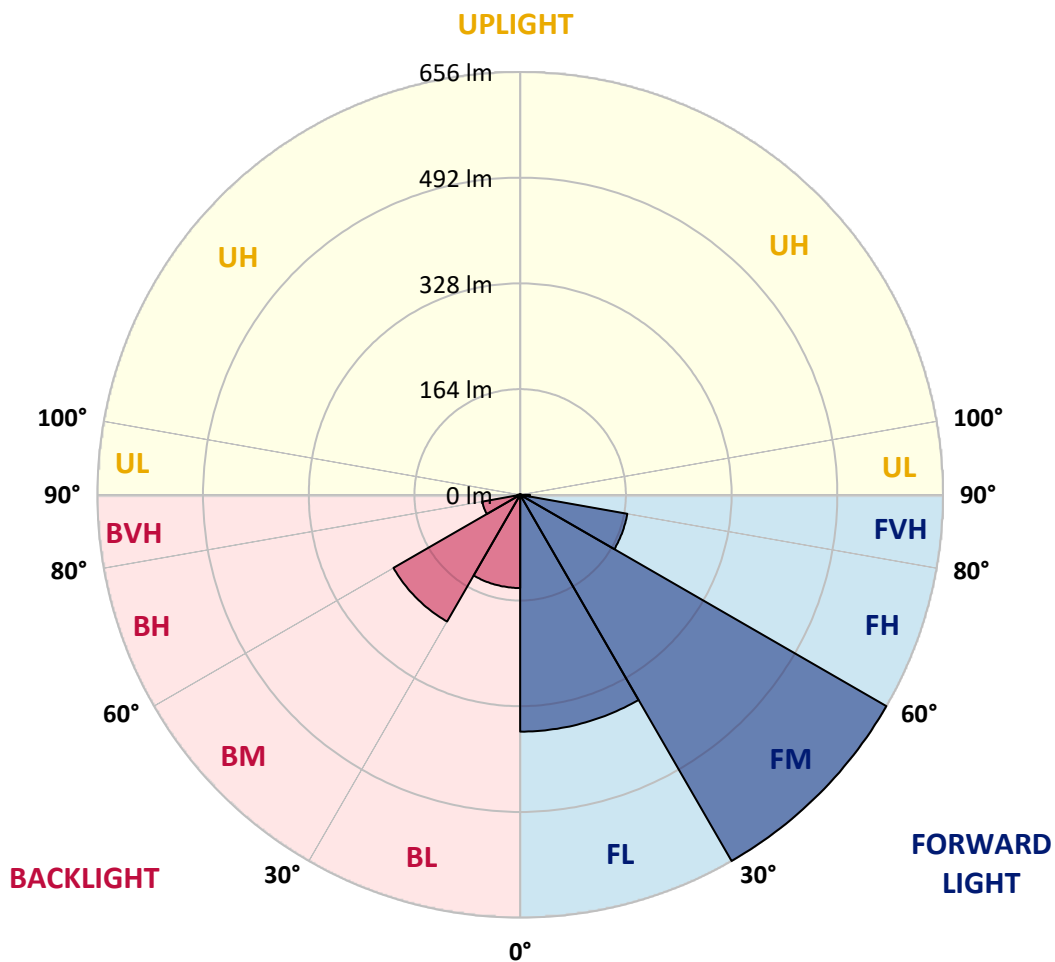
REPORT NUMBER: P28084  
 CATALOG NUMBER: WP1850LPC

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

Zone		Lumens	% Fixture	Zone Rating/Lumen Limit		
				B	U	G
FL	(0°-30°)	367.3	22.3			
FM	(30°-60°)	655.8	39.9			
FH	(60°-80°)	168.7	10.3			G0/660
FVH	(80°-90°)	15.3	0.9			G1/100
BL	(0°-30°)	144.5	8.8	B1/500		
BM	(30°-60°)	226.9	13.8	B1/1000		
BH	(60°-80°)	59.6	3.6	B0/110		G0/110
BVH	(80°-90°)	4.4	0.3			G0/10
UL	(90°-100°)	2.3	0.1		U1/10	
UH	(100°-180°)	0.5	0.0		U1/10	

**BUG Rating: B1-U1-G1**

Type I Short





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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	578	578	578	578	578	578	578	578	578	578	578
2.5°	716	702	708	698	692	687	680	676	672	666	651
5°	838	828	834	821	810	802	789	780	769	756	731
7.5°	956	940	948	936	919	907	888	874	860	841	806
10°	1039	1021	1030	1021	1001	990	971	953	934	910	868
12.5°	1081	1065	1076	1073	1054	1046	1030	1016	999	976	929
15°	1084	1067	1083	1085	1069	1069	1062	1056	1046	1030	988
17.5°	1042	1026	1046	1057	1046	1058	1057	1063	1065	1062	1027
20°	960	951	974	989	986	1005	1022	1043	1058	1065	1044
22.5°	882	872	893	909	909	937	963	998	1027	1051	1042
25°	824	811	829	844	845	868	895	936	978	1023	1032
27.5°	773	763	779	791	795	814	837	874	920	978	1009
30°	731	721	735	746	746	764	785	818	856	917	965
32.5°	696	687	698	705	706	719	740	764	799	852	908
35°	664	654	666	673	673	680	694	720	749	798	848
37.5°	634	625	637	643	642	644	657	675	704	749	795
40°	603	594	604	611	611	611	620	637	659	703	745
42.5°	567	558	569	579	579	579	590	602	620	660	700
45°	525	517	529	539	541	544	556	567	585	622	658
47.5°	473	465	477	492	499	506	521	534	552	587	619
50°	413	407	421	436	447	459	481	499	519	553	579
52.5°	356	350	364	378	391	406	432	458	482	518	541
55°	301	296	309	323	337	351	380	411	439	478	503
57.5°	248	245	257	270	285	298	325	357	389	432	464
60°	201	199	208	218	236	248	273	301	333	378	415
62.5°	170	167	174	181	192	201	224	247	275	314	352
65°	147	145	150	154	161	167	181	197	220	247	274
67.5°	128	126	130	132	137	142	151	162	174	190	207
70°	111	109	112	114	118	120	127	135	142	152	159
72.5°	94	93	95	97	100	102	107	113	118	124	127
75°	77	77	78	80	83	85	89	94	97	101	103
77.5°	62	62	64	65	67	70	73	77	80	83	84
80°	48	48	49	50	53	55	58	62	65	66	67
82.5°	34	34	36	37	39	41	45	47	50	52	53
85°	22	22	24	25	27	29	31	35	38	39	41
87.5°	12	12	13	14	16	18	21	23	26	28	30
90°	3	4	4	5	7	9	11	14	16	18	21
92.5°	0	0	0	1	2	3	4	6	9	11	13
95°	0	0	0	0	0	0	1	2	3	5	7
97.5°	0	0	0	0	0	0	0	0	0	0	0
100°	0	0	0	0	0	0	0	0	0	0	0
102.5°	0	0	0	0	0	0	0	0	0	0	0
105°	0	0	0	0	0	0	0	0	0	0	0
107.5°	0	0	0	0	0	0	0	0	0	0	0
110°	0	0	0	0	0	0	0	0	0	0	0



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	0	0	0	0	0	0	0	0	0	0	0
115°	0	0	0	0	0	0	0	0	0	0	0
117.5°	0	0	0	0	0	0	0	0	0	0	0
120°	0	0	0	0	0	0	0	0	0	0	0
122.5°	0	0	0	0	0	0	0	0	0	0	0
125°	0	0	0	0	0	0	0	0	0	0	0
127.5°	0	0	0	0	0	0	0	0	0	0	0
130°	0	0	0	0	0	0	0	0	0	0	0
132.5°	0	0	0	0	0	0	0	0	0	0	0
135°	0	0	0	0	0	0	0	0	0	0	0
137.5°	0	0	0	0	0	0	0	0	0	0	0
140°	0	0	0	0	0	0	0	0	0	0	0
142.5°	0	0	0	0	0	0	0	0	0	0	0
145°	0	0	0	0	0	0	0	0	0	0	0
147.5°	0	0	0	0	0	0	0	0	0	0	0
150°	0	0	0	0	0	0	0	0	0	0	0
152.5°	0	0	0	0	0	0	0	0	0	0	0
155°	0	0	0	0	0	0	0	0	0	0	0
157.5°	0	0	0	0	0	0	0	0	0	0	0
160°	0	0	0	0	0	0	0	0	0	0	0
162.5°	0	0	0	0	0	0	0	0	0	0	0
165°	0	0	0	0	0	0	0	0	0	0	0
167.5°	0	0	0	0	0	0	0	0	0	0	0
170°	0	0	0	0	0	0	0	0	0	0	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





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 CATALOG NUMBER: WP1850LPC

**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
0°	578	578	578	578	578	578	578	578	578	578	578
2.5°	646	639	623	611	605	592	579	574	563	559	553
5°	717	701	674	652	634	612	588	575	555	542	528
7.5°	783	758	722	688	662	629	595	572	542	522	501
10°	839	806	762	721	685	641	596	564	527	498	472
12.5°	896	857	806	752	709	654	599	556	510	474	445
15°	953	911	848	786	734	668	600	547	492	451	421
17.5°	995	952	884	811	751	674	595	533	471	428	398
20°	1021	982	913	832	761	673	583	512	447	403	374
22.5°	1035	1004	937	849	767	669	569	492	423	381	354
25°	1037	1020	957	864	773	664	555	471	402	362	337
27.5°	1031	1023	969	873	777	657	540	452	383	344	321
30°	1007	1012	970	876	773	647	522	431	364	326	306
32.5°	970	994	961	872	768	633	503	410	345	310	290
35°	922	967	947	867	761	620	482	389	327	294	276
37.5°	871	936	933	860	753	604	462	369	309	278	263
40°	819	898	910	846	739	582	439	346	290	261	249
42.5°	770	855	884	830	723	560	414	323	270	244	234
45°	721	810	853	810	702	532	387	300	250	228	220
47.5°	676	764	815	782	674	502	360	278	231	211	204
50°	632	711	772	747	641	468	334	254	210	193	189
52.5°	586	659	723	705	603	434	307	229	189	176	172
55°	539	607	670	657	559	394	278	204	170	158	154
57.5°	495	555	613	603	512	355	244	178	151	140	135
60°	449	504	559	549	458	312	211	153	130	121	116
62.5°	392	452	505	493	400	267	177	128	109	101	98
65°	315	383	443	433	341	223	147	105	90	83	81
67.5°	236	292	358	361	283	182	117	84	72	66	64
70°	173	215	269	280	222	142	89	64	55	51	51
72.5°	132	156	190	192	149	102	64	47	41	39	39
75°	103	117	134	125	86	60	40	32	29	28	28
77.5°	83	89	97	79	46	29	23	22	21	20	21
80°	66	68	69	48	26	19	16	15	15	15	15
82.5°	52	51	47	27	17	13	11	10	10	11	11
85°	39	38	32	17	12	9	8	7	7	7	8
87.5°	29	27	19	11	8	6	6	5	5	5	5
90°	20	18	11	7	5	5	4	4	4	4	4
92.5°	13	12	7	5	4	3	3	3	3	3	2
95°	8	7	4	3	2	2	2	2	2	2	1
97.5°	0	0	0	0	0	0	0	0	0	0	0
100°	0	0	0	0	0	0	0	0	0	0	0
102.5°	0	0	0	0	0	0	0	0	0	0	0
105°	0	0	0	0	0	0	0	0	0	0	0
107.5°	0	0	0	0	0	0	0	0	0	0	0
110°	0	0	0	0	0	0	0	0	0	0	0



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°	105°
112.5°	0	0	0	0	0	0	0	0	0	0	0
115°	0	0	0	0	0	0	0	0	0	0	0
117.5°	0	0	0	0	0	0	0	0	0	0	0
120°	0	0	0	0	0	0	0	0	0	0	0
122.5°	0	0	0	0	0	0	0	0	0	0	0
125°	0	0	0	0	0	0	0	0	0	0	0
127.5°	0	0	0	0	0	0	0	0	0	0	0
130°	0	0	0	0	0	0	0	0	0	0	0
132.5°	0	0	0	0	0	0	0	0	0	0	0
135°	0	0	0	0	0	0	0	0	0	0	0
137.5°	0	0	0	0	0	0	0	0	0	0	0
140°	0	0	0	0	0	0	0	0	0	0	0
142.5°	0	0	0	0	0	0	0	0	0	0	0
145°	0	0	0	0	0	0	0	0	0	0	0
147.5°	0	0	0	0	0	0	0	0	0	0	0
150°	0	0	0	0	0	0	0	0	0	0	0
152.5°	0	0	0	0	0	0	0	0	0	0	0
155°	0	0	0	0	0	0	0	0	0	0	0
157.5°	0	0	0	0	0	0	0	0	0	0	0
160°	0	0	0	0	0	0	0	0	0	0	0
162.5°	0	0	0	0	0	0	0	0	0	0	0
165°	0	0	0	0	0	0	0	0	0	0	0
167.5°	0	0	0	0	0	0	0	0	0	0	0
170°	0	0	0	0	0	0	0	0	0	0	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: P28084  
 CATALOG NUMBER: WP1850LPC

**CANDELA DISTRIBUTION (continued):**

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°
0°	578	578	578	578	578	578	578	578	578	578	578
2.5°	540	530	518	521	511	501	497	495	484	484	479
5°	509	493	475	473	459	447	441	437	426	424	419
7.5°	477	456	438	432	417	406	399	398	385	384	379
10°	442	422	403	397	384	373	368	366	355	354	349
12.5°	415	395	378	372	360	350	345	343	333	333	330
15°	392	374	358	353	341	333	328	327	319	320	317
17.5°	371	354	339	335	325	318	314	314	307	307	305
20°	351	335	321	318	310	304	301	301	296	298	297
22.5°	332	318	306	305	298	293	292	293	289	292	292
25°	317	304	294	294	288	285	285	288	286	292	295
27.5°	303	293	284	285	281	280	283	288	289	296	298
30°	289	281	274	277	275	277	282	288	288	294	295
32.5°	276	270	264	269	270	274	280	283	282	287	285
35°	264	261	257	263	267	271	274	275	272	273	269
37.5°	255	252	251	258	262	264	264	263	256	253	245
40°	242	242	243	252	252	251	249	244	234	228	215
42.5°	231	232	234	242	240	235	229	219	205	198	187
45°	218	222	224	228	225	214	203	192	179	174	168
47.5°	203	207	209	210	204	191	179	167	159	158	154
50°	190	193	193	191	181	168	157	150	146	146	143
52.5°	173	174	172	170	159	147	141	137	134	135	133
55°	153	154	151	147	138	131	128	126	124	125	123
57.5°	133	132	130	127	122	118	117	115	113	114	111
60°	114	113	112	112	110	107	107	105	102	102	99
62.5°	97	97	97	99	99	98	96	94	91	90	87
65°	81	83	85	88	89	88	86	83	79	78	76
67.5°	66	70	73	78	79	78	76	72	69	68	66
70°	53	58	63	68	69	68	65	61	59	58	54
72.5°	42	47	52	58	59	58	55	51	49	45	40
75°	32	37	42	48	50	48	45	42	37	31	26
77.5°	24	29	34	39	41	39	36	32	25	19	14
80°	17	21	25	30	32	31	27	21	14	9	6
82.5°	12	15	19	23	25	23	18	12	7	3	2
85°	9	10	14	16	18	16	10	5	2	1	1
87.5°	6	7	9	11	12	10	4	1	1	0	0
90°	4	4	5	7	7	4	1	1	0	0	0
92.5°	2	3	3	4	4	1	0	0	0	0	0
95°	1	1	1	2	1	0	0	0	0	0	0
97.5°	0	0	0	0	0	0	0	0	0	0	0
100°	0	0	0	0	0	0	0	0	0	0	0
102.5°	0	0	0	0	0	0	0	0	0	0	0
105°	0	0	0	0	0	0	0	0	0	0	0
107.5°	0	0	0	0	0	0	0	0	0	0	0
110°	0	0	0	0	0	0	0	0	0	0	0



REPORT NUMBER: P28084  
 CATALOG NUMBER: WP1850LPC

REPORT N  
 CATALOG

**CANDELA DISTRIBUTION (continued):**

**CANDELA**

	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	160°	
112.5°	0	0	0	0	0	0	0	0	0	0	0	0°
115°	0	0	0	0	0	0	0	0	0	0	0	2.5°
117.5°	0	0	0	0	0	0	0	0	0	0	0	5°
120°	0	0	0	0	0	0	0	0	0	0	0	7.5°
122.5°	0	0	0	0	0	0	0	0	0	0	0	10°
125°	0	0	0	0	0	0	0	0	0	0	0	12.5°
127.5°	0	0	0	0	0	0	0	0	0	0	0	15°
130°	0	0	0	0	0	0	0	0	0	0	0	17.5°
132.5°	0	0	0	0	0	0	0	0	0	0	0	20°
135°	0	0	0	0	0	0	0	0	0	0	0	22.5°
137.5°	0	0	0	0	0	0	0	0	0	0	0	25°
140°	0	0	0	0	0	0	0	0	0	0	0	27.5°
142.5°	0	0	0	0	0	0	0	0	0	0	0	30°
145°	0	0	0	0	0	0	0	0	0	0	0	32.5°
147.5°	0	0	0	0	0	0	0	0	0	0	0	35°
150°	0	0	0	0	0	0	0	0	0	0	0	37.5°
152.5°	0	0	0	0	0	0	0	0	0	0	0	40°
155°	0	0	0	0	0	0	0	0	0	0	0	42.5°
157.5°	0	0	0	0	0	0	0	0	0	0	0	45°
160°	0	0	0	0	0	0	0	0	0	0	0	47.5°
162.5°	0	0	0	0	0	0	0	0	0	0	0	50°
165°	0	0	0	0	0	0	0	0	0	0	0	52.5°
167.5°	0	0	0	0	0	0	0	0	0	0	0	55°
170°	0	0	0	0	0	0	0	0	0	0	0	57.5°
172.5°	0	0	0	0	0	0	0	0	0	0	0	60°
175°	0	0	0	0	0	0	0	0	0	0	0	62.5°
177.5°	0	0	0	0	0	0	0	0	0	0	0	65°
180°	0	0	0	0	0	0	0	0	0	0	0	67.5°
												70°
												72.5°
												75°
												77.5°
												80°
												82.5°
												85°
												87.5°
												90°
												92.5°
												95°
												97.5°
												100°
												102.5°
												105°
												107.5°
												110°



