

Scaled data based on original data using
LM-31-95 IESNA Approved Method for Photometric Testing of Roadway Luminaires
Using Incandescent Filament and High Intensity Discharge Lamps

Test Report Prepared for

Cooper Lighting Solutions

(formerly Eaton)

Brand: STREETWORKS

Report Number: P11800

Luminaire Tested: **OVX40SWW3EU1410**

Issue Date: 3/3/2020

Test Information

Test Method: LM-31-95
Report Number: P11800
Test Lab: PEACHTREE CITY
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: STREETWORKS
Catalog Number: OVX40SWW3EU1410
Description: OVX COBRAHEAD HID ROADWAY FIXTURE
WITH PRISMATIC GLASS DROP LENS, HYDROFORMED REFLECTOR
AND SOCKET IN POSITION SM3
Light Source: MOGUL BASE E18 CLEAR HIGHT PRESSURE SODIUM LAMP
LU400/E18 400 WATTS
Ballast/Driver: B149

Summary

Lumens per Lamp: 50000 (1 lamp)
Luminaire Lumens: 34855.3 lumens
Efficiency: 69.7%
Efficacy: 87.1 lumens/watt
Luminous Opening: Rectangular w/ Sides (W: 0.83' x L: 1.04' x H: 0.38')
IES Classification: Type II - Short - Semi-Cutoff
BUG Rating: B4 - U4 - G5

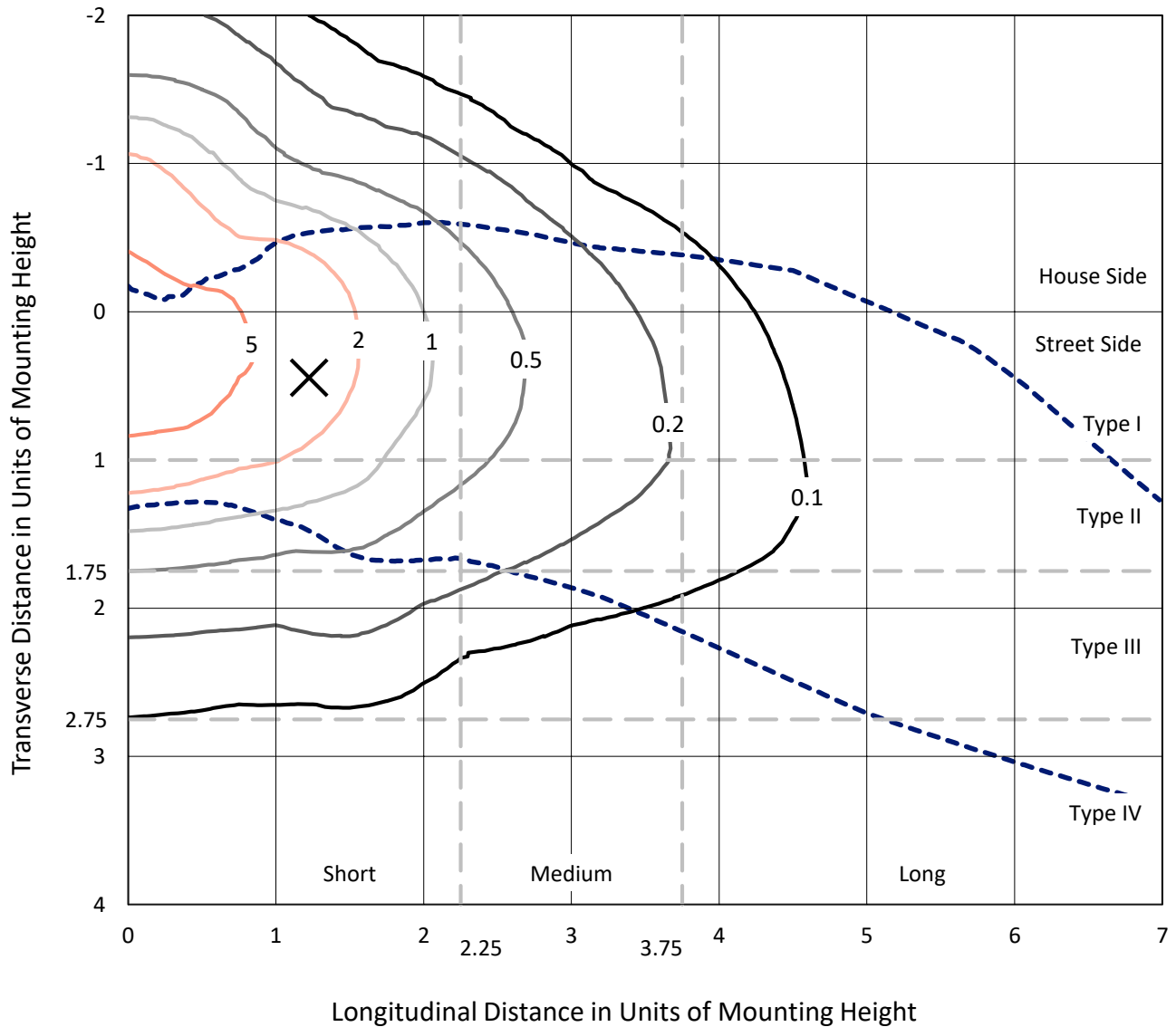
Input Watts (W): 400
Input Voltage (V): NR
Input Current (Ain): NR
Voltage Rise (V): 7.0
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 28.75 FT



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Iso-Footcandle Lines of Horizontal Illumination

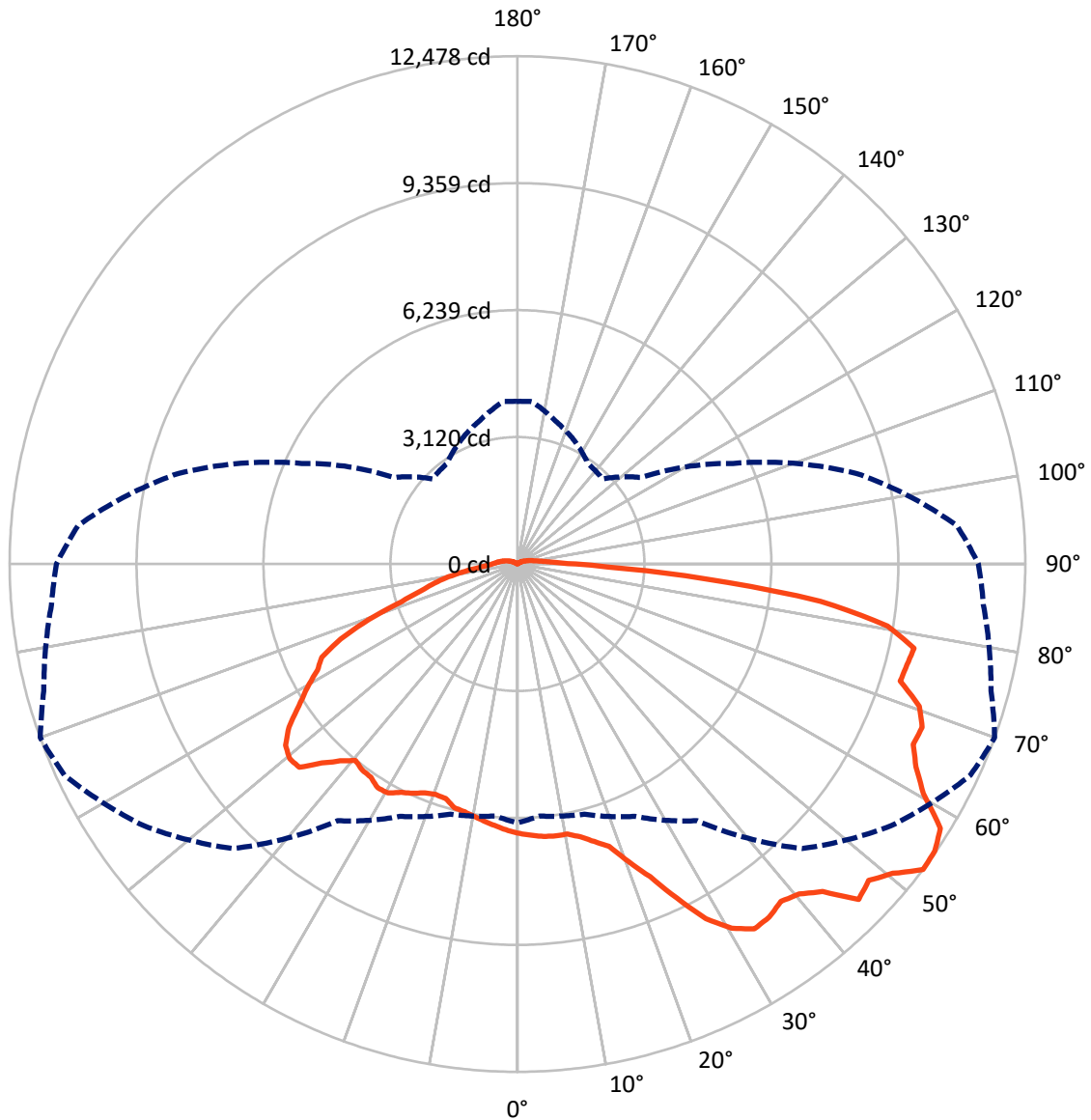
× Max cd
 - - - 1/2 Max cd



Based on 30 foot mounting height. Maximum calculated value = 8.7 fc
 Type II - Short - Semi-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 70-Deg Lateral - - - Horizontal Cone Through 52.5-Deg Vertical



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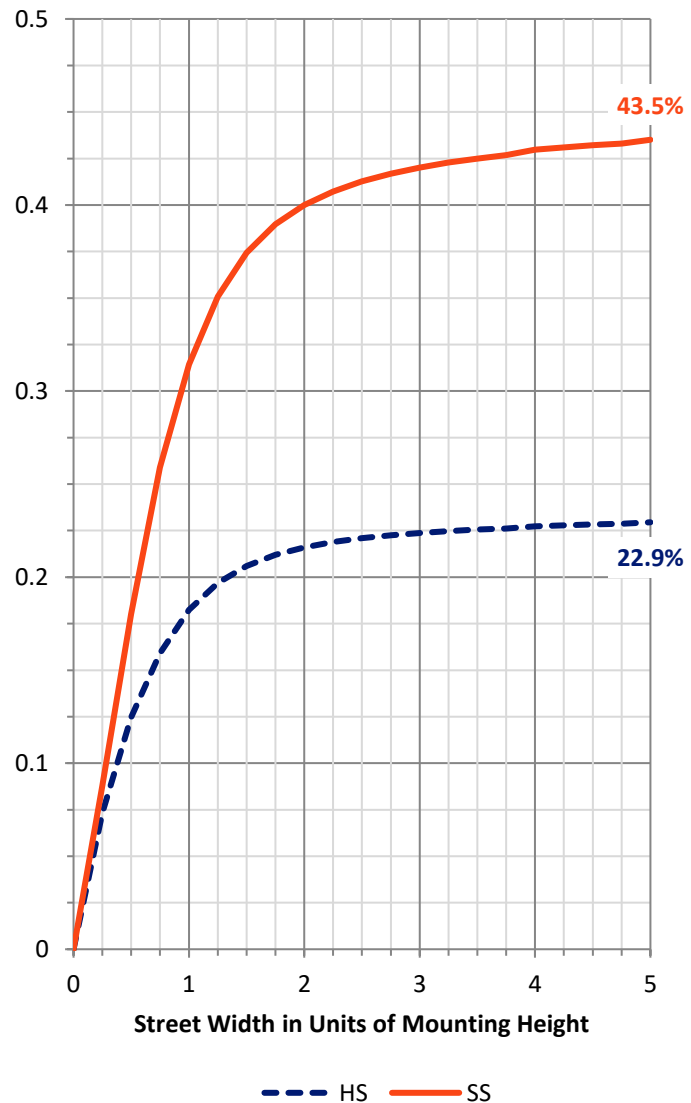
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	11700.4	379.4	12079.8
	% Lamp	23.4	0.8	24.2
Street Side	Lumens	22121.9	653.6	22775.5
	% Lamp	44.2	1.3	45.6
Total	Lumens	33822.3	1033.0	34855.3
	% Lamp	67.6	2.1	69.7

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture	% Lamp
0°-10°	635.4	1.8	1.3
10°-20°	1944.4	5.6	3.9
20°-30°	3555.3	10.2	7.1
30°-40°	5150.5	14.8	10.3
40°-50°	5971.3	17.1	11.9
50°-60°	6116.8	17.5	12.2
60°-70°	5109.3	14.7	10.2
70°-80°	3684.5	10.6	7.4
80°-90°	1654.8	4.7	3.3
90°-100°	568.9	1.6	1.1
100°-110°	301.6	0.9	0.6
110°-120°	130.8	0.4	0.3
120°-130°	30.9	0.1	0.1
130°-140°	0.7	0.0	0.0
140°-150°	0.0	0.0	0.0
150°-160°	0.0	0.0	0.0
160°-170°	0.0	0.0	0.0
170°-180°	0.0	0.0	0.0
0°-90°	33822.3	97.0	67.6
0°-180°	34855.3	100.0	69.7



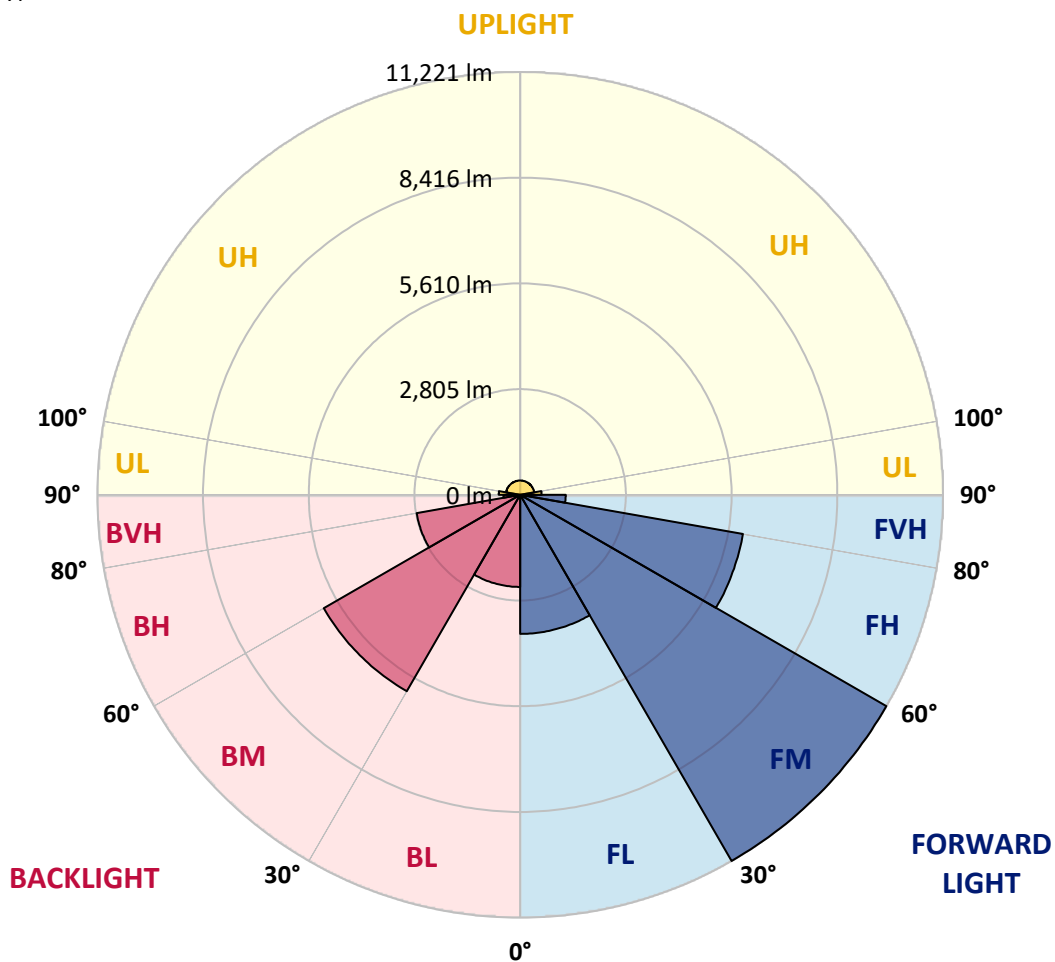
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Lamp	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	3690.0	7.4			
FM (30°-60°)	11220.9	22.4			
FH (60°-80°)	6001.9	12.0			G3/7500
FVH (80°-90°)	1209.2	2.4			G5
BL (0°-30°)	2445.1	4.9	B3/2500		
BM (30°-60°)	6017.8	12.0	B4/8500		
BH (60°-80°)	2791.9	5.6	B4/5000		G4/5000
BVH (80°-90°)	445.6	0.9			G3/500
UL (90°-100°)	568.9	1.1		U4/1000	
UH (100°-180°)	379.4	0.8		U3/500	
Trapped Light	15144.7	30.3			

BUG Rating: B4-U4-G5
 Type II Short





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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	70°	75°	85°
0°	6621	6621	6621	6621	6621	6621	6621	6621	6621	6621	6621
2.5°	6788	6788	6782	6776	6753	6724	6691	6658	6675	6627	6596
5°	7035	7027	6996	6962	6904	6841	6790	6725	6725	6658	6582
7.5°	7306	7273	7255	7215	7156	7060	6930	6780	6745	6642	6550
10°	7625	7603	7576	7545	7443	7232	7016	6808	6746	6643	6498
12.5°	7984	7967	7975	7946	7702	7425	7155	6940	6876	6750	6577
15°	8369	8356	8415	8311	8036	7671	7403	7181	7076	6890	6629
17.5°	8769	8796	8921	8747	8411	8020	7751	7432	7290	7081	6763
20°	9299	9331	9489	9248	8851	8506	8271	7940	7812	7544	7126
22.5°	9879	9901	10088	9825	9412	9156	8939	8529	8345	8064	7597
25°	10373	10403	10593	10372	10119	10027	9597	9199	9091	8875	8225
27.5°	10833	10820	10947	10818	10925	10826	10340	10018	9868	9587	8774
30°	11122	11082	11151	11140	11662	11326	11058	10652	10384	10024	9258
32.5°	11113	11072	11068	11398	12081	11677	11482	11066	10688	10105	9355
35°	10778	10735	10740	11440	12026	11701	11478	11088	10654	10043	9322
37.5°	10300	10261	10256	11218	11605	11379	11038	10720	10517	10169	9329
40°	9935	9849	9713	10728	11070	10909	10530	10634	10657	10241	9178
42.5°	9573	9407	9212	10046	10324	10379	10269	10946	10999	10675	9754
45°	9077	8881	8709	9299	9641	9926	10608	11584	11755	11146	10035
47.5°	8321	8104	8062	8464	9005	9547	11219	12082	11617	10981	10421
50°	7344	7165	7190	7628	8419	9622	11751	11923	11949	11622	11148
52.5°	6357	6216	6362	6841	7699	9886	11210	12279	12478	12047	11493
55°	5423	5348	5548	6123	7112	9553	11081	12144	12445	12161	11657
57.5°	4619	4563	4768	5415	6699	8640	10583	11967	12254	12269	11533
60°	3761	3742	3940	4591	6060	8053	10336	11202	11456	11911	10933
62.5°	3050	3027	3204	3781	4964	7537	10062	10369	10988	11578	10718
65°	2554	2558	2704	3190	4369	7087	8831	10059	10685	11363	10974
67.5°	2332	2326	2395	2822	4383	6054	7784	9774	10725	11561	11218
70°	2222	2193	2228	2651	4109	4881	6561	9494	10474	11101	10771
72.5°	2072	2041	2061	2592	3348	3665	5882	8622	9835	10796	10207
75°	1811	1782	1799	2174	2646	2860	4911	8129	9886	10966	9267
77.5°	1511	1500	1511	1674	1959	2337	4227	7929	9963	10718	8406
80°	1244	1233	1271	1380	1542	2033	3847	7452	9221	9503	7088
82.5°	1053	1052	1097	1168	1264	1821	3348	6398	7500	6946	4125
85°	922	924	990	1020	1085	1605	2627	4519	4613	3738	1985
87.5°	799	802	870	908	991	1320	1850	2363	2216	1768	1136
90°	698	700	764	790	864	1061	1192	1308	1237	1056	825
92.5°	612	620	668	679	743	865	861	852	853	780	660
95°	552	560	592	590	641	679	658	644	656	616	551
97.5°	512	518	536	528	556	558	531	514	529	508	472
100°	472	476	483	481	489	476	440	420	435	420	407
102.5°	426	431	433	431	428	411	373	352	363	357	350
105°	381	381	380	381	369	357	320	301	308	305	302
107.5°	335	334	337	334	321	307	276	257	264	264	263
110°	295	296	292	289	275	258	231	218	223	226	229



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CANDELA DISTRIBUTION (continued):

	0°	5°	15°	25°	35°	45°	55°	65°	70°	75°	85°
112.5°	260	260	254	245	230	211	187	183	189	193	197
115°	220	219	212	199	184	166	149	151	158	162	168
117.5°	184	182	174	158	142	126	116	122	129	135	140
120°	146	145	135	117	98	84	85	95	102	107	110
122.5°	112	111	98	77	61	51	58	69	75	79	83
125°	73	71	61	42	28	27	36	48	53	56	58
127.5°	43	41	31	15	10	9	17	26	31	33	35
130°	19	18	11	7	2	2	4	8	12	14	14
132.5°	1	3	3	2	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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CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	6621	6621	6621	6621	6621	6621	6621	6621	6621	6621	6621
2.5°	6589	6582	6560	6547	6544	6527	6518	6510	6509	6509	6513
5°	6554	6529	6482	6446	6427	6404	6386	6395	6399	6408	6408
7.5°	6517	6479	6403	6365	6322	6302	6292	6296	6288	6300	6297
10°	6453	6406	6323	6267	6240	6181	6154	6180	6192	6198	6203
12.5°	6510	6440	6288	6164	6088	6012	5951	5979	6038	6080	6080
15°	6527	6433	6256	6111	5927	5780	5735	5753	5872	5937	5956
17.5°	6615	6455	6148	5898	5761	5556	5499	5520	5687	5820	5849
20°	6896	6664	6229	5788	5514	5348	5230	5276	5476	5716	5750
22.5°	7298	6970	6341	5784	5370	5124	4979	5001	5291	5584	5633
25°	7803	7368	6549	5827	5306	4950	4774	4787	5102	5480	5539
27.5°	8288	7799	6761	5832	5246	4850	4622	4646	4957	5394	5444
30°	8807	8294	7055	5874	5165	4760	4544	4593	4908	5344	5402
32.5°	8991	8514	7214	5751	5000	4702	4485	4590	4966	5421	5491
35°	9045	8597	7126	5582	4829	4621	4456	4624	5082	5592	5688
37.5°	8942	8607	7258	5417	4608	4447	4374	4623	5164	5826	5961
40°	8709	8302	7095	5410	4392	4186	4232	4588	5187	6012	6175
42.5°	9221	8804	7480	5537	4250	3936	4031	4448	5093	6006	6214
45°	9604	9178	7903	5804	4160	3692	3789	4220	4857	5763	5955
47.5°	10022	9559	8473	6177	4078	3434	3514	3932	4496	5253	5401
50°	10816	10256	8474	6252	3963	3193	3228	3618	4077	4627	4678
52.5°	11326	10839	8614	5847	3705	2955	3016	3331	3632	4005	3998
55°	11368	10723	8321	5472	3344	2726	2747	3104	3301	3479	3447
57.5°	11003	10276	7743	5055	3114	2416	2439	2915	2996	3056	3045
60°	10267	9586	7270	4712	2927	2166	2107	2546	2710	2710	2708
62.5°	10026	9281	6804	4324	2675	1921	1836	2079	2430	2395	2389
65°	10146	9201	6560	4084	2427	1708	1625	1662	2078	2081	2036
67.5°	10074	8805	5895	3549	2201	1546	1469	1393	1646	1820	1776
70°	9453	8143	4984	2809	1873	1373	1320	1215	1270	1521	1549
72.5°	8645	7173	3822	2157	1569	1208	1128	1088	1066	1228	1269
75°	7889	6521	3151	1729	1310	1073	996	974	913	1012	1026
77.5°	7251	5758	2680	1503	1112	948	856	835	780	808	807
80°	5552	3935	2089	1334	995	812	743	719	670	657	657
82.5°	2884	2127	1468	1127	865	705	649	623	576	547	544
85°	1491	1231	1036	921	755	620	570	543	495	464	462
87.5°	973	889	793	723	640	542	500	473	426	396	394
90°	761	709	666	607	545	476	444	410	366	341	339
92.5°	626	600	592	533	479	417	391	356	315	293	292
95°	535	521	537	477	428	364	339	306	269	250	249
97.5°	470	465	483	427	379	317	290	260	232	215	213
100°	409	414	425	378	333	274	244	218	201	191	227
102.5°	355	368	371	333	287	232	204	182	175	172	175
105°	311	325	322	289	242	192	163	143	148	145	149
107.5°	274	285	279	248	198	154	125	108	120	115	113
110°	237	245	236	205	155	117	88	75	88	86	84



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CANDELA DISTRIBUTION (continued):

	90°	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
112.5°	202	207	198	168	120	77	56	53	61	55	58
115°	170	171	160	132	89	44	18	26	26	0	0
117.5°	140	138	127	99	64	22	0	0	0	0	0
120°	110	106	93	69	40	6	0	0	0	0	0
122.5°	81	77	65	47	20	3	0	0	0	0	0
125°	57	55	43	24	6	2	0	0	0	0	0
127.5°	33	30	20	6	3	2	0	0	0	0	0
130°	13	10	3	2	3	2	0	0	0	0	0
132.5°	0	0	0	1	3	1	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

(END OF REPORT)