

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: STREETWORKS

Report Number: P23468

Luminaire Tested: **MQSB81203LEDEUSN**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P23468
Test Lab: INNOVATION CENTER P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: STREETWORKS
Catalog Number: MQSB81203LEDEUSN
Description: STREETWORKS SIGNLIGHTER FIXTURE STANDARD NARROW OPTIC DIST
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 11548.4 lumens
Efficiency: N/A
Efficacy: 91.7 lumens/watt
Luminous Opening: Rectangular (W 1.62' x L: 2' x H: 0')
IES Classification: Type - Short - Non-Cutoff
BUG Rating: B0 - U5 - G1

Input Watts (W): 126
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: 28.75 FT

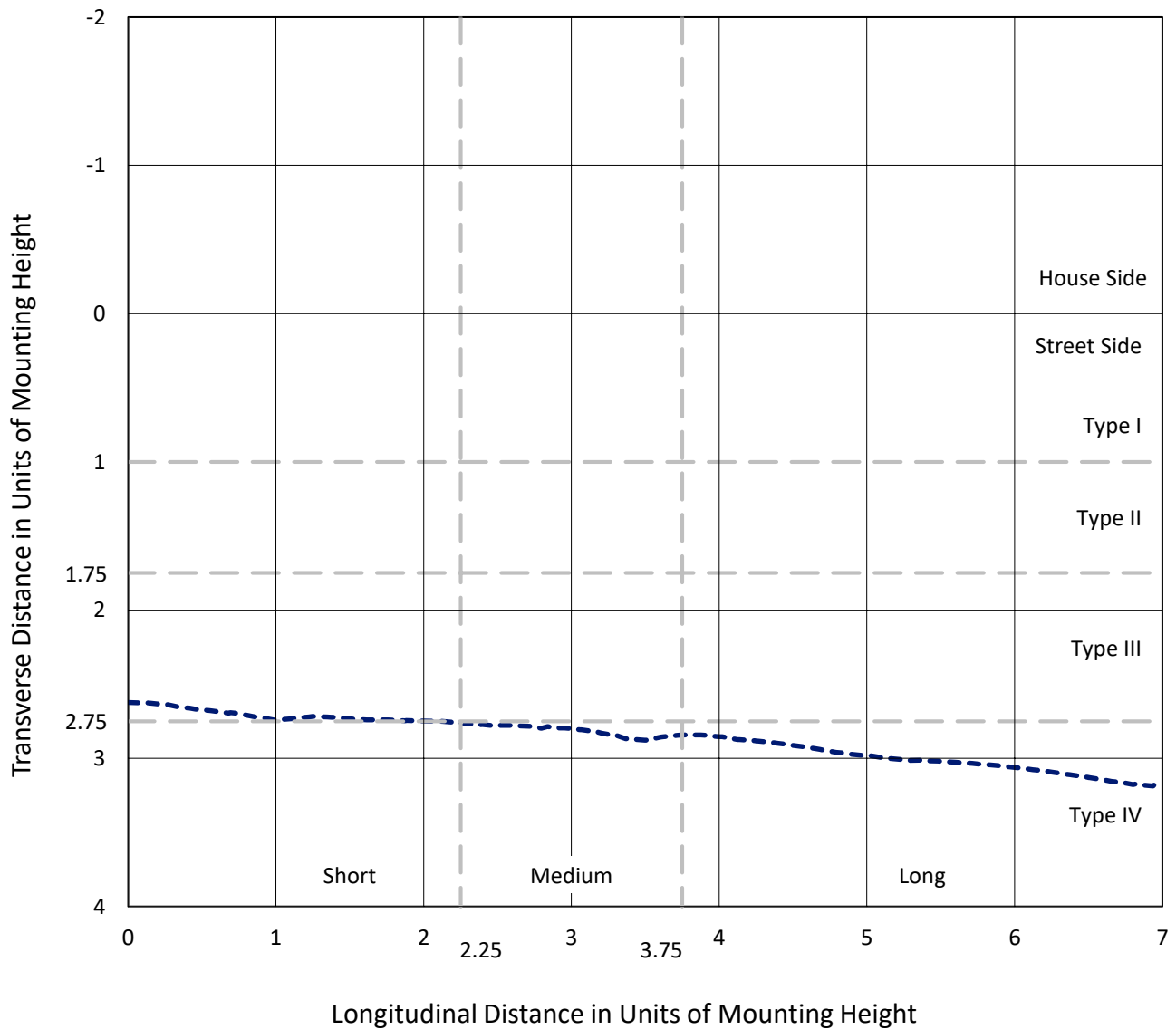


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Iso-Footcandle Lines of Horizontal Illumination

× Max cd
 - - - 1/2 Max cd

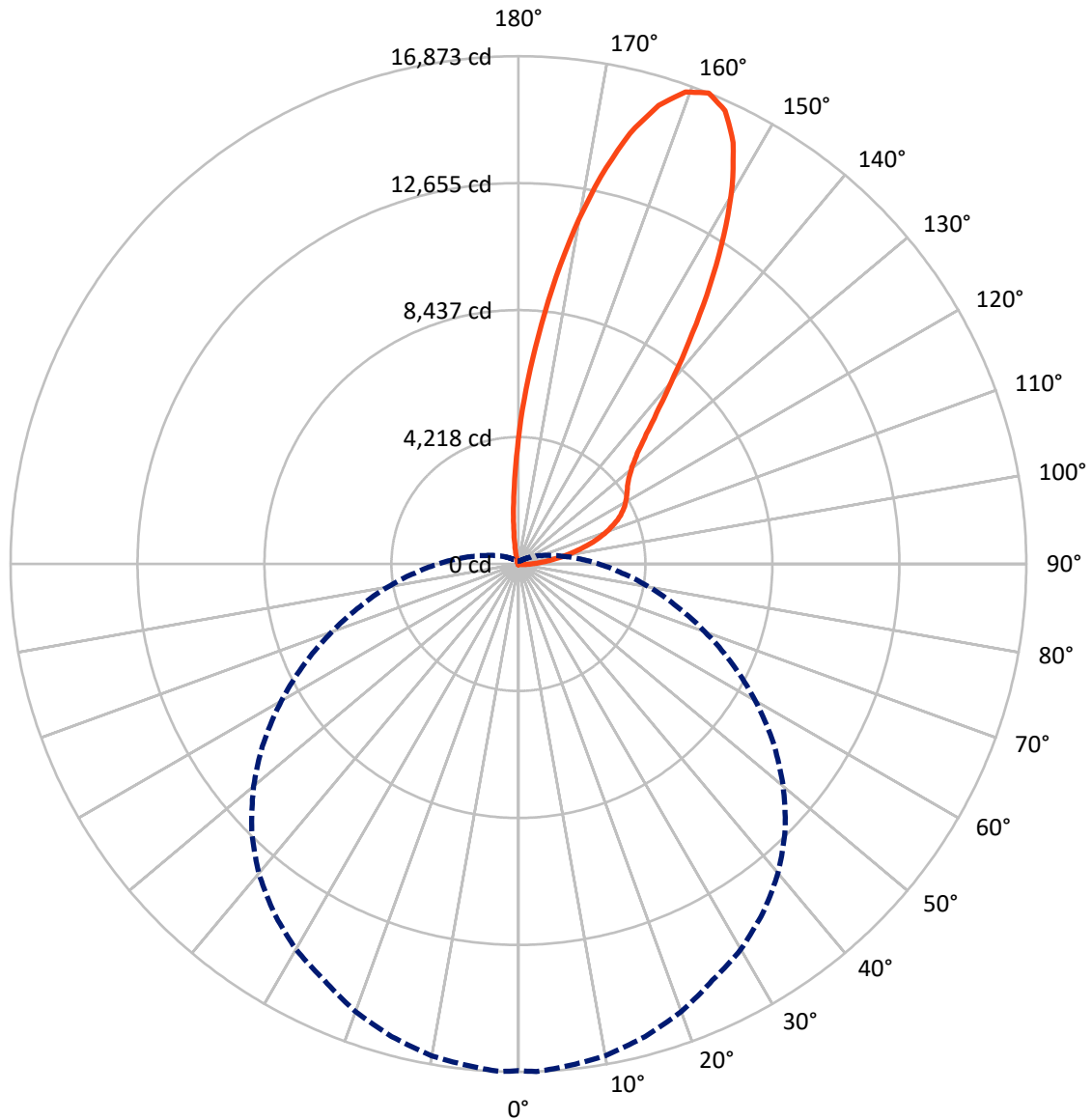


Based on 20 foot mounting height. Maximum calculated value = 0.1 fc
 Type - Short - Non-Cutoff

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Luminous Intensity Polar Plot



— Vertical Plane Through 2-Deg Lateral - - - Horizontal Cone Through 157.5-Deg Vertical



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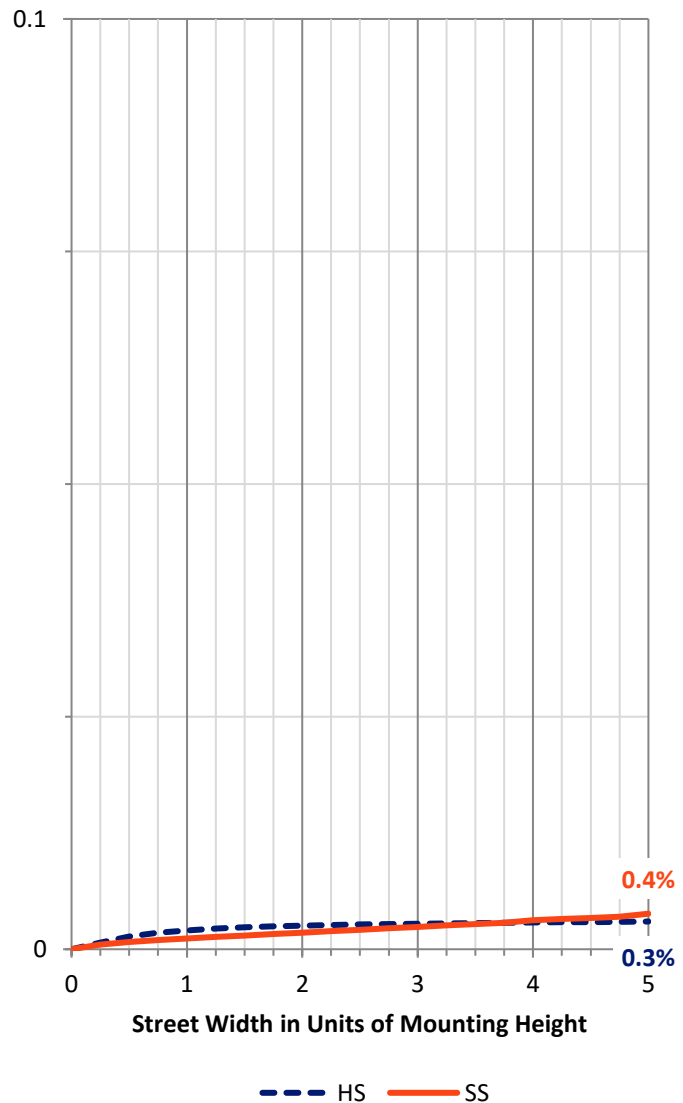
FLUX DISTRIBUTION:

		Downward	Upward	Total
House Side	Lumens	37.2	444.9	482.1
	% Fixture	0.3	3.9	4.2
Street Side	Lumens	106.2	10960.1	11066.3
	% Fixture	0.9	94.9	95.8
Total	Lumens	143.4	11405.0	11548.4
	% Fixture	1.2	98.8	100.0

Coefficient of Utilization

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	1.6	0.0
10°-20°	4.5	0.0
20°-30°	5.9	0.1
30°-40°	6.3	0.1
40°-50°	6.3	0.1
50°-60°	7.6	0.1
60°-70°	12.2	0.1
70°-80°	23.4	0.2
80°-90°	75.6	0.7
90°-100°	273.2	2.4
100°-110°	602.9	5.2
110°-120°	856.8	7.4
120°-130°	1041.5	9.0
130°-140°	1564.2	13.5
140°-150°	2449.5	21.2
150°-160°	2605.6	22.6
160°-170°	1591.0	13.8
170°-180°	420.3	3.6
0°-90°	143.4	1.2
0°-180°	11548.4	100.0



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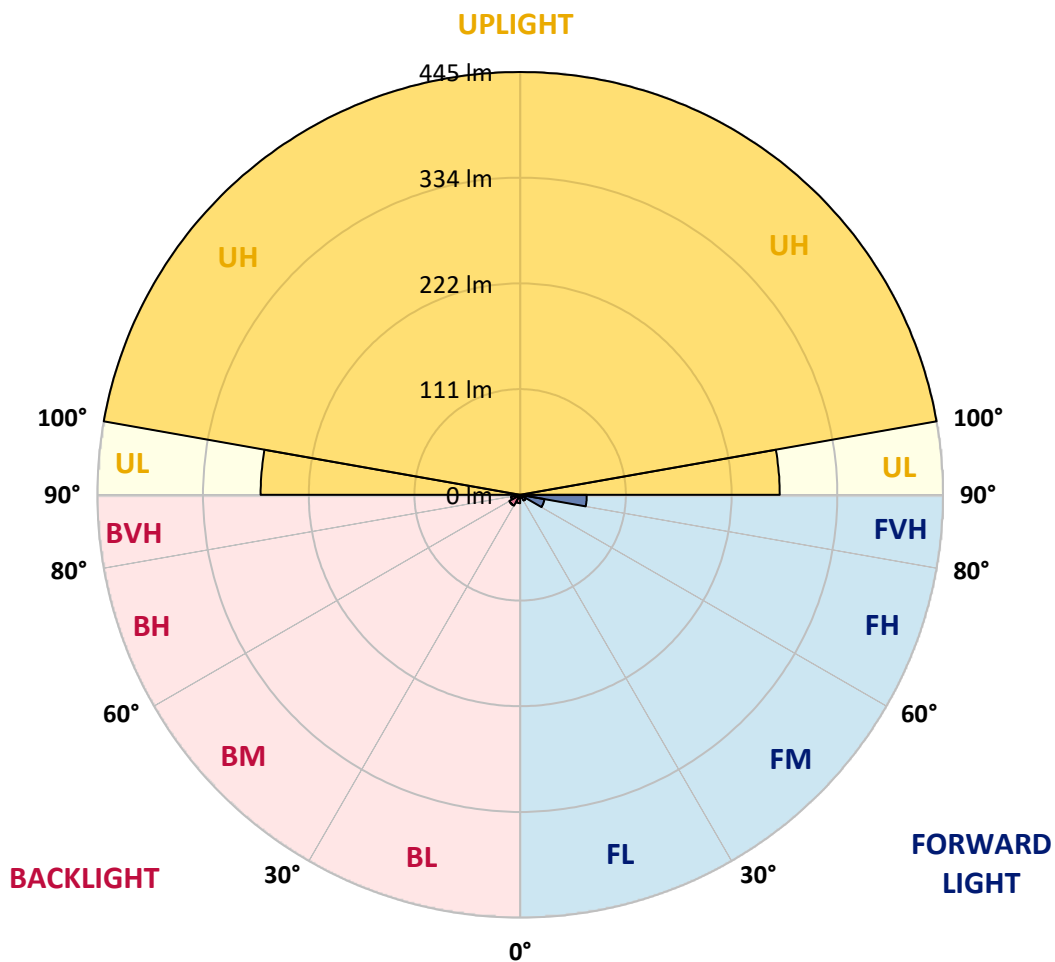
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LUMINAIRE CLASSIFICATION SYSTEM LUMEN TABLE AND BUG RATING:

Zone	Lumens	% Fixture	Zone Rating/Lumen Limit		
			B	U	G
FL (0°-30°)	3.3	0.0			
FM (30°-60°)	7.0	0.1			
FH (60°-80°)	25.9	0.2			G0/660
FVH (80°-90°)	70.1	0.6			G1/100
BL (0°-30°)	8.7	0.1	B0/110		
BM (30°-60°)	13.2	0.1	B0/220		
BH (60°-80°)	9.7	0.1	B0/110		G0/110
BVH (80°-90°)	5.5	0.0			G0/10
UL (90°-100°)	273.2	2.4		U3/500	
UH (100°-180°)	444.9	3.9		U3/500	

BUG Rating: B0-U5-G1

Type Short





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CANDELA DISTRIBUTION (FULL):

	0°	2°	5°	10°	15°	20°	25°	30°	35°	40°	45°
0°	14	14	14	14	14	14	14	14	14	14	14
2.5°	9	9	9	9	9	9	9	9	10	10	12
5°	8	8	8	8	8	8	8	9	9	10	12
7.5°	7	7	7	7	7	7	7	8	9	10	11
10°	5	5	5	5	5	5	5	6	7	8	10
12.5°	3	3	3	3	3	4	4	4	5	6	8
15°	2	2	2	2	2	2	3	3	4	5	7
17.5°	1	1	1	1	2	2	2	3	3	4	6
20°	1	1	1	1	1	2	2	3	3	4	5
22.5°	0	0	0	1	1	2	2	2	3	4	4
25°	0	0	0	1	1	1	2	2	3	3	4
27.5°	0	0	0	1	1	1	2	2	3	3	4
30°	0	1	0	1	1	1	2	2	3	3	4
32.5°	0	0	0	1	1	1	2	2	3	3	4
35°	0	0	0	1	1	1	2	2	3	3	4
37.5°	0	0	0	1	1	1	2	2	3	3	4
40°	0	0	0	1	1	1	2	2	3	3	4
42.5°	0	0	0	1	1	1	2	2	3	3	4
45°	0	0	0	1	1	1	2	3	3	4	4
47.5°	0	0	0	1	1	1	2	3	3	4	5
50°	0	0	0	1	1	2	2	3	4	4	6
52.5°	0	0	0	1	1	2	3	4	5	6	7
55°	0	0	0	1	2	3	4	6	7	8	9
57.5°	0	0	0	1	3	5	7	8	9	10	10
60°	0	0	1	3	6	8	10	11	11	11	12
62.5°	5	6	6	7	10	12	12	13	13	13	14
65°	17	17	17	15	15	15	15	15	15	15	15
67.5°	27	27	26	23	21	20	19	18	18	18	18
70°	33	33	33	32	30	27	26	24	22	21	20
72.5°	40	40	40	39	39	36	34	31	28	26	24
75°	50	49	49	50	50	48	45	41	36	32	29
77.5°	62	63	64	66	68	67	64	55	48	41	35
80°	84	85	88	93	99	99	95	82	69	57	45
82.5°	122	123	129	140	153	152	148	126	104	83	61
85°	186	188	201	213	235	237	231	195	160	124	87
87.5°	289	293	309	323	357	358	345	296	240	183	128
90°	437	443	461	482	527	525	505	452	355	270	188
92.5°	640	646	667	685	744	736	712	623	513	391	271
95°	913	913	938	945	1004	995	956	849	715	552	384
97.5°	1237	1239	1255	1257	1288	1278	1237	1111	951	744	527
100°	1608	1610	1627	1600	1607	1581	1519	1406	1209	952	697
102.5°	2005	2006	2021	1964	1926	1867	1775	1657	1469	1200	903
105°	2416	2432	2407	2311	2214	2114	2003	1879	1699	1443	1131
107.5°	2814	2823	2784	2636	2486	2341	2195	2073	1898	1663	1353
110°	3185	3174	3131	2941	2738	2554	2382	2236	2059	1839	1567



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CANDELA DISTRIBUTION (continued):

	0°	2°	5°	10°	15°	20°	25°	30°	35°	40°	45°
112.5°	3494	3494	3441	3226	2984	2771	2552	2392	2192	1977	1740
115°	3757	3758	3709	3489	3220	2954	2713	2522	2307	2088	1869
117.5°	3969	3977	3933	3731	3434	3106	2849	2647	2416	2189	1969
120°	4135	4146	4114	3946	3628	3263	2979	2781	2555	2313	2100
122.5°	4278	4296	4275	4127	3822	3451	3157	2957	2739	2490	2243
125°	4434	4454	4451	4323	4059	3713	3425	3229	2987	2733	2467
127.5°	4639	4662	4664	4576	4378	4076	3805	3639	3373	3092	2797
130°	4924	4954	4979	4980	4824	4582	4351	4209	3947	3637	3278
132.5°	5363	5403	5440	5454	5423	5274	5094	4994	4715	4365	3935
135°	6006	6063	6130	6232	6218	6199	6079	6015	5688	5301	4804
137.5°	6912	6979	7063	7134	7335	7370	7289	7229	6879	6432	5849
140°	8066	8151	8239	8406	8535	8705	8636	8569	8194	7703	7039
142.5°	9519	9602	9677	9822	9935	10114	10047	9945	9558	9012	8284
145°	11160	11239	11273	11394	11399	11533	11440	11296	10893	10298	9506
147.5°	12807	12885	12908	12948	12874	12926	12754	12567	12115	11496	10620
150°	14344	14422	14420	14383	14214	14152	13875	13605	13108	12429	11545
152.5°	15653	15722	15667	15577	15300	15101	14720	14350	13813	13086	12191
155°	16499	16557	16461	16318	15996	15667	15175	14748	14165	13424	12522
157.5°	16835	16873	16775	16593	16253	15824	15259	14782	14155	13416	12533
160°	16603	16637	16550	16366	16034	15573	14965	14440	13811	13087	12247
162.5°	15934	15933	15834	15635	15367	14896	14298	13773	13159	12411	11669
165°	14790	14773	14651	14461	14227	13789	13237	12739	12195	11490	10834
167.5°	13011	13161	13022	12866	12620	12304	11820	11371	10929	10306	9758
170°	11124	11283	11124	11020	10916	10571	10171	9856	9487	8989	8567
172.5°	9157	9201	9127	9076	9026	8740	8445	8216	7976	7600	7309
175°	7181	7215	7145	7153	7052	6934	6733	6599	6460	6208	6041
177.5°	5355	5468	5327	5362	5306	5248	5144	5082	5042	4898	4844
180°	3826	3826	3826	3826	3826	3826	3826	3826	3826	3826	3826



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CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°
0°	14	14	14	14	14	14	14	14	14	14	14
2.5°	13	15	16	17	18	19	19	20	20	21	22
5°	13	15	16	18	19	19	20	20	21	22	23
7.5°	13	15	16	17	19	19	20	21	22	23	24
10°	11	13	15	16	18	19	19	20	21	22	23
12.5°	10	12	14	15	17	18	19	20	21	22	23
15°	9	11	13	14	16	17	18	19	20	22	23
17.5°	8	10	11	13	15	16	17	18	19	20	22
20°	7	9	11	12	13	15	15	17	18	19	21
22.5°	6	8	10	11	12	14	14	16	17	18	20
25°	6	7	9	10	12	13	13	14	16	17	18
27.5°	5	7	9	10	11	12	13	14	15	16	18
30°	5	7	8	10	11	11	12	13	14	15	17
32.5°	5	6	8	9	10	11	11	12	13	15	16
35°	5	6	8	9	10	10	11	12	13	14	15
37.5°	5	6	8	9	10	10	11	11	12	13	14
40°	5	6	8	9	9	10	10	11	12	13	14
42.5°	5	6	8	9	9	10	10	11	11	12	13
45°	5	7	8	9	9	10	10	11	11	12	13
47.5°	6	7	8	9	9	10	10	10	11	12	13
50°	7	8	9	9	10	10	10	10	11	12	12
52.5°	8	9	10	10	10	10	10	10	11	12	12
55°	9	10	11	11	11	10	10	10	11	12	12
57.5°	11	12	12	12	12	11	11	10	11	12	12
60°	13	13	13	13	13	12	11	11	11	12	12
62.5°	14	14	14	14	14	13	12	11	11	12	12
65°	15	16	16	15	15	14	13	12	11	12	12
67.5°	18	18	17	17	16	15	13	12	12	12	12
70°	20	20	19	18	17	16	14	13	12	12	12
72.5°	23	22	21	20	19	17	15	14	13	13	13
75°	27	25	24	23	21	19	17	15	14	13	13
77.5°	31	29	27	26	23	21	18	16	15	14	13
80°	38	33	30	28	26	24	21	18	16	15	14
82.5°	47	39	34	31	29	26	23	20	18	16	14
85°	62	46	39	35	31	28	25	22	20	18	16
87.5°	85	58	45	39	34	31	28	25	22	20	18
90°	124	78	55	43	38	34	30	27	24	21	19
92.5°	174	108	70	50	42	37	33	29	26	23	21
95°	251	151	91	60	47	41	36	32	29	26	23
97.5°	351	212	122	74	53	44	39	34	31	28	25
100°	468	286	165	96	62	49	42	37	33	30	27
102.5°	608	377	222	124	73	55	46	40	36	33	29
105°	779	486	289	161	93	63	50	44	39	35	32
107.5°	971	606	364	208	115	72	55	47	42	38	34
110°	1170	749	451	261	147	87	61	51	45	41	37



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CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	70°	75°	80°	85°	90°	95°	100°
112.5°	1356	902	551	324	181	106	70	56	49	44	39
115°	1523	1066	663	390	221	129	81	62	54	47	42
117.5°	1668	1227	786	463	269	155	95	70	59	52	46
120°	1809	1378	916	544	321	186	112	79	66	57	50
122.5°	1961	1543	1059	643	378	222	131	90	73	63	55
125°	2153	1730	1219	768	455	272	158	105	82	70	61
127.5°	2445	1975	1431	926	559	333	193	124	95	79	68
130°	2834	2294	1703	1138	705	427	249	152	110	90	76
132.5°	3379	2720	2056	1423	908	560	332	200	135	103	87
135°	4136	3321	2531	1796	1193	763	460	274	179	128	100
137.5°	5081	4132	3179	2286	1558	1033	646	392	248	165	122
140°	6157	5087	3995	2926	2041	1383	893	569	359	232	160
142.5°	7283	6164	4924	3711	2656	1842	1213	795	527	335	224
145°	8428	7186	5873	4575	3385	2419	1643	1093	745	485	325
147.5°	9473	8192	6809	5445	4177	3055	2169	1464	993	676	462
150°	10345	9053	7656	6245	4931	3748	2756	1924	1353	918	642
152.5°	10990	9733	8350	6940	5619	4410	3370	2455	1744	1224	874
155°	11394	10174	8841	7488	6179	4987	3934	2981	2222	1609	1152
157.5°	11482	10334	9090	7836	6596	5448	4410	3450	2667	2004	1482
160°	11267	10225	9085	7961	6828	5758	4790	3852	3066	2387	1829
162.5°	10805	9877	8851	7883	6883	5922	5020	4168	3410	2751	2175
165°	10064	9284	8422	7597	6739	5912	5118	4361	3689	3061	2496
167.5°	9171	8524	7782	7104	6404	5734	5068	4428	3851	3288	2776
170°	8111	7602	7025	6501	5948	5423	4897	4378	3919	3451	3021
172.5°	6996	6631	6218	5844	5442	5055	4669	4275	3937	3576	3227
175°	5813	5642	5391	5163	4913	4668	4415	4154	3929	3675	3425
177.5°	4803	4696	4575	4480	4363	4249	4123	3987	3883	3742	3603
180°	3826	3826	3826	3826	3826	3826	3826	3826	3826	3826	3826



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CANDELA DISTRIBUTION (continued):

	105°	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°
0°	14	14	14	14	14	14	14	14	14	14	14
2.5°	22	22	22	21	19	18	17	16	16	15	15
5°	23	24	23	22	21	20	19	18	18	18	17
7.5°	24	25	25	24	23	22	21	20	20	20	19
10°	24	25	25	24	24	23	22	22	21	21	21
12.5°	25	25	25	25	24	24	23	23	22	22	22
15°	24	25	25	25	24	24	23	23	23	23	23
17.5°	23	24	24	24	24	23	23	22	22	22	23
20°	22	23	23	23	23	22	22	21	22	22	22
22.5°	21	22	22	22	21	21	21	20	20	20	21
25°	20	21	21	21	20	20	19	19	19	19	19
27.5°	19	20	20	20	19	19	18	18	18	18	18
30°	18	19	19	19	18	18	17	17	17	17	17
32.5°	17	18	18	17	17	16	16	16	15	15	15
35°	16	17	17	17	16	15	15	14	14	14	14
37.5°	15	16	16	16	15	14	14	13	13	13	13
40°	15	15	15	15	14	13	13	12	12	12	11
42.5°	14	14	14	14	13	12	12	11	10	10	10
45°	14	14	14	13	12	12	11	10	10	9	9
47.5°	13	13	13	13	12	11	10	9	9	8	8
50°	13	13	13	12	11	10	9	9	8	8	7
52.5°	13	13	13	12	11	10	9	9	8	8	7
55°	13	13	13	12	11	10	9	9	8	7	7
57.5°	13	13	13	12	11	10	9	8	8	7	7
60°	13	13	13	12	11	10	9	8	8	7	7
62.5°	13	13	13	12	11	10	9	8	8	7	7
65°	13	13	13	12	11	9	9	9	8	7	7
67.5°	13	13	13	12	11	10	9	9	8	7	7
70°	13	13	13	12	11	10	9	9	8	7	7
72.5°	13	13	13	12	11	10	9	9	8	7	7
75°	13	13	13	12	11	9	9	9	8	7	7
77.5°	13	13	13	12	11	10	9	9	8	7	7
80°	13	13	13	12	11	10	9	9	8	7	7
82.5°	14	13	13	12	10	9	9	9	8	7	7
85°	14	13	13	12	10	9	9	8	8	7	7
87.5°	16	14	13	12	10	9	9	8	8	7	7
90°	17	16	13	12	10	9	9	8	8	7	6
92.5°	19	17	15	12	10	9	9	8	7	7	6
95°	21	18	16	13	11	9	9	8	7	7	6
97.5°	22	20	17	15	12	10	9	8	7	7	6
100°	24	21	18	15	13	10	9	8	7	6	6
102.5°	26	23	20	17	14	11	10	9	8	7	6
105°	28	25	21	18	15	12	10	9	8	7	6
107.5°	30	27	23	19	16	13	11	9	8	7	6
110°	33	29	25	21	17	14	12	10	9	7	6



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REPORT N
 CATALOG

CANDELA DISTRIBUTION (continued):

CANDELA

	105°	110°	115°	120°	125°	130°	135°	140°	145°	150°	155°	
112.5°	35	31	27	23	19	15	13	10	9	8	7	0°
115°	38	34	29	25	20	17	14	11	9	8	7	2.5°
117.5°	41	36	31	27	22	18	15	12	10	9	7	5°
120°	45	39	34	29	24	19	16	13	11	9	7	7.5°
122.5°	49	43	37	32	27	22	18	15	12	9	8	10°
125°	54	47	41	35	30	25	20	17	14	11	9	12.5°
127.5°	60	53	46	40	34	28	23	20	17	14	11	15°
130°	67	59	52	45	38	32	27	23	19	17	15	17.5°
132.5°	75	66	58	51	43	37	31	27	23	20	19	20°
135°	86	74	65	57	49	42	37	32	27	24	22	22.5°
137.5°	100	85	74	64	56	49	43	39	34	31	28	25°
140°	122	99	85	74	65	57	51	46	41	37	34	27.5°
142.5°	160	122	100	86	75	66	59	54	49	45	41	30°
145°	223	159	123	102	88	76	68	62	56	52	48	32.5°
147.5°	316	221	161	126	103	89	79	72	65	61	57	35°
150°	448	315	223	166	129	107	93	84	76	71	67	37.5°
152.5°	621	441	313	227	167	134	114	100	90	83	78	40°
155°	833	610	443	323	236	183	147	126	110	101	93	42.5°
157.5°	1099	824	612	454	336	255	204	168	142	125	115	45°
160°	1397	1071	820	627	475	365	289	237	196	170	151	47.5°
162.5°	1717	1361	1071	843	655	516	417	345	283	245	213	50°
165°	2039	1666	1353	1094	882	720	598	506	422	370	326	52.5°
167.5°	2346	1973	1662	1399	1173	996	852	742	638	569	511	55°
170°	2645	2313	2015	1761	1529	1343	1207	1077	955	868	804	57.5°
172.5°	2904	2658	2402	2176	1960	1787	1648	1519	1391	1300	1243	60°
175°	3188	3008	2818	2641	2465	2325	2214	2099	1978	1936	1859	62.5°
177.5°	3473	3391	3292	3190	3079	2997	2939	2868	2777	2687	2673	65°
180°	3826	3826	3826	3826	3826	3826	3826	3826	3826	3826	3826	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°



NUMBER: P23468
 NUMBER: MQSB81203LEDEUSN

REPORT NUMBER: P
 CATALOG NUMBER:

DISTRIBUTION (continued):

160°	165°	170°	175°	180°
14	14	14	14	14
15	15	15	15	15
17	17	17	17	17
19	19	19	19	20
21	21	21	21	21
22	23	23	23	23
23	23	24	24	24
23	23	23	23	24
22	22	23	23	23
21	21	22	22	22
20	20	20	20	20
18	19	19	19	19
17	17	17	17	18
15	15	16	16	16
14	14	14	14	14
13	13	13	13	13
11	11	11	11	11
10	10	10	10	10
9	9	9	9	9
8	8	8	8	8
7	7	7	7	7
7	7	7	7	7
7	7	7	7	7
6	6	6	6	6
7	6	7	7	7
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6	5	5	5	5
6	5	4	4	4
5	5	4	4	4
5	4	4	4	4
5	4	3	3	3
5	4	3	3	3
5	4	3	2	2
5	4	3	2	2

CANDELA DISTRIBUTION:

	160°
112.5°	5
115°	5
117.5°	6
120°	6
122.5°	6
125°	7
127.5°	8
130°	13
132.5°	17
135°	21
137.5°	26
140°	32
142.5°	38
145°	45
147.5°	54
150°	63
152.5°	74
155°	88
157.5°	107
160°	137
162.5°	190
165°	289
167.5°	457
170°	751
172.5°	1181
175°	1793
177.5°	2669
180°	3826



'23468
MQSB81203LEDEUSN

TION (continued):

165°	170°	175°	180°
4	3	2	1
4	3	1	1
4	3	1	0
4	3	1	0
5	3	1	0
5	4	3	3
7	6	7	7
11	10	9	9
16	15	14	13
20	20	19	19
25	26	26	26
31	31	30	30
37	36	35	35
43	42	41	41
51	50	49	48
60	59	57	57
71	70	68	68
85	83	81	81
102	99	97	96
129	124	120	119
176	169	161	159
266	254	242	240
427	413	397	396
696	680	652	654
1113	1096	1060	1066
1757	1717	1675	1698
2600	2615	2562	2600
3826	3826	3826	3826

(END OF REPORT)