

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: METALUX

Report Number: P197447

Luminaire Tested: **8WSL-LD2-140-UPL8-UNV-L840-CD2-U**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P197447
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (P28106)
Test Lab: INNOVATION CENTER-P2
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: METALUX
Catalog Number: 8WSL-LD2-140-UPL8-UNV-L840-CD2-U
Description: 8FT. Linear Wavestream System, 8% Uplight, L840
Light Source: (476) 4000K CCT, 80 CRI LEDS
EL236N0119D840
Ballast/Driver: OSRAM
OT85W1202772A0DIML

Summary

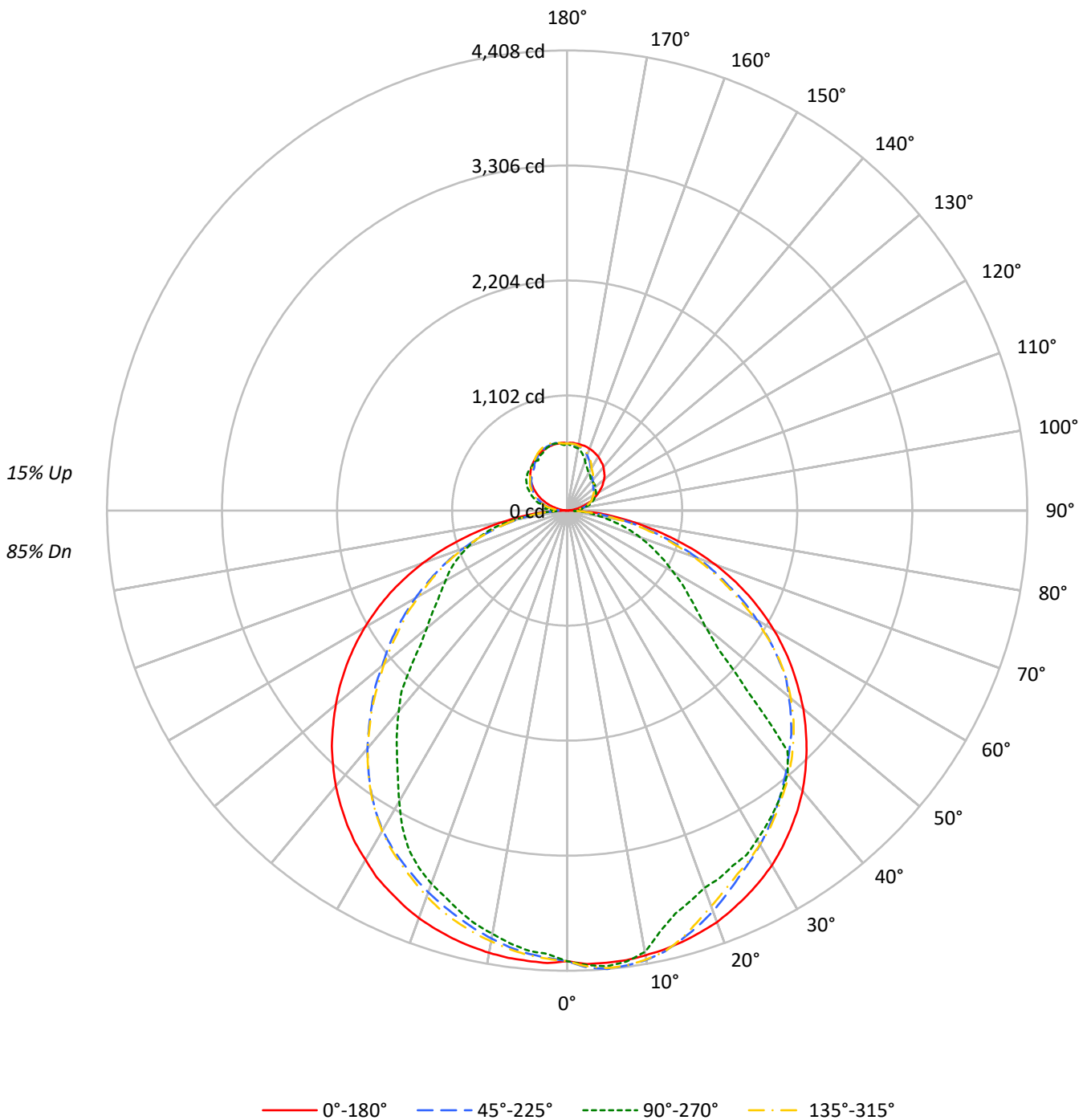
Lumens per Lamp: N/A
Luminaire Lumens: 14315.9 lumens
Efficiency: N/A
Efficacy: 104.8 lumens/watt
Spacing Criteria (0/90/45): 1.34 / 1.19 / 1.36
Luminous Opening: Rectangular (W 0.5' x L: 7.6' x H: 0')
CIE Type: Semi-Direct

Input Watts (W): 136.6
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

TEST NUMBER: P197447

CATALOG NUMBER: 8WSL-LD2-140-UPL8-UNV-L840-CD2-U

Luminous Intensity Polar Plot





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CATALOG NUMBER: 8WSL-LD2-140-UPL8-UNV-L840-CD2-U

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20			20			20			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	115	115	115	115	111	111	111	111	103	103	103	95	95	95	88	88	88	85
1	105	101	96	92	101	97	93	90	90	87	84	83	81	79	78	76	74	71
2	96	88	81	75	92	84	78	73	78	73	69	73	69	65	68	65	62	59
3	87	77	69	62	83	74	67	61	69	63	58	64	59	55	60	56	52	50
4	80	68	59	53	76	66	58	52	61	55	49	57	52	47	53	49	45	42
5	73	61	52	45	70	59	51	44	55	48	43	51	45	41	48	43	39	37
6	68	55	46	40	65	53	45	39	50	43	37	47	40	36	44	38	34	32
7	63	49	41	35	60	48	40	34	45	38	33	42	36	32	40	35	31	28
8	58	45	37	31	56	44	36	30	41	34	29	39	33	28	37	31	27	25
9	54	41	33	28	52	40	33	27	38	31	26	36	30	26	34	29	25	23
10	51	38	30	25	49	37	30	25	35	28	24	33	27	23	31	26	22	21

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	12226	12226	12226	12226
5°	12364	12456	12312	12036
10°	12441	12348	12374	11843
15°	12535	11722	12440	11654
20°	12648	11589	12523	11464
25°	12724	11728	12580	11208
30°	12832	11910	12636	10520
35°	12895	12032	12704	9827
40°	12969	12149	12747	9278
45°	12995	9774	12773	8478
50°	13012	7595	12748	7738
55°	12985	7029	12734	7508
60°	12959	6623	12671	7618
65°	12823	6349	12544	7991
70°	12477	6124	12170	8343
75°	11683	5765	11329	8800
80°	10629	5277	10176	8367
85°	10364	5707	9311	7511



TEST NUMBER: P197447

CATALOG NUMBER: 8WSL-LD2-140-UPL8-UNV-L840-CD2-U

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	410.3	2.9
10°-20°	1165.1	8.1
20°-30°	1763.8	12.3
30°-40°	2129.8	14.9
40°-50°	2174.4	15.2
50°-60°	1901.0	13.3
60°-70°	1473.5	10.3
70°-80°	885.9	6.2
80°-90°	273.5	1.9
90°-100°	115.3	0.8
100°-110°	220.5	1.5
110°-120°	299.5	2.1
120°-130°	340.5	2.4
130°-140°	345.3	2.4
140°-150°	317.8	2.2
150°-160°	262.2	1.8
160°-170°	176.3	1.2
170°-180°	61.3	0.4
0°-30°	3339.2	23.3
0°-40°	5468.9	38.2
0°-60°	9544.4	66.7
0°-90°	12177.1	85.1
90°-120°	635.2	4.4
90°-150°	1638.9	11.4
90°-180°	2139.0	14.9
0°-180°	14315.9	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	4316	4316	4316	4316	4316	
5°	4348	4381	4330	4233	4348	414
15°	4274	3997	4242	3974	4274	1208
25°	4071	3752	4025	3586	4071	1879
35°	3729	3480	3674	2842	3729	2335
45°	3244	2440	3188	2116	3244	2502
55°	2629	1423	2578	1520	2629	2350
65°	1913	947	1872	1192	1913	1888
75°	1068	527	1035	804	1068	1133
85°	319	176	286	231	319	322
90°	5	97	5	111	5	21
95°	28	134	28	213	28	35
105°	148	226	143	286	148	158
115°	286	291	282	388	286	284
125°	411	333	402	476	411	365
135°	504	365	499	527	504	389
145°	568	388	564	559	568	357
155°	615	453	610	592	615	284
165°	642	564	638	642	642	181
175°	652	619	652	638	652	62
180°	642	642	642	642	642	



TEST NUMBER: P197447

CATALOG NUMBER: 8WSL-LD2-140-UPL8-UNV-L840-CD2-U

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	4316.0	4316.0	4316.0	4316.0	4316.0	4316.0	4316.0	4316.0	4316.0	4316.0	4316.0
2.5°	4348.4	4325.3	4380.7	4390.0	4357.6	4366.9	4371.5	4320.7	4339.1	4269.8	4288.3
5°	4348.4	4343.8	4408.5	4399.2	4380.7	4385.4	4399.2	4339.1	4329.9	4246.7	4260.6
7.5°	4343.8	4353.0	4394.6	4385.4	4357.6	4371.5	4394.6	4348.4	4320.7	4223.6	4219.0
10°	4325.3	4339.1	4371.5	4343.8	4292.9	4316.0	4366.9	4339.1	4302.2	4186.7	4163.5
12.5°	4306.8	4316.0	4325.3	4209.8	4126.6	4182.0	4325.3	4316.0	4274.5	4145.1	4103.5
15°	4274.5	4288.3	4251.3	4085.0	3997.2	4052.6	4242.1	4279.1	4242.1	4085.0	4034.2
17.5°	4237.5	4251.3	4172.8	3987.9	3923.3	3951.0	4135.8	4232.9	4200.5	4029.5	3964.8
20°	4195.9	4209.8	4085.0	3886.3	3844.7	3867.8	4034.2	4182.0	4154.3	3964.8	3890.9
22.5°	4135.8	4158.9	3983.3	3817.0	3812.3	3812.3	3937.1	4122.0	4094.2	3886.3	3807.7
25°	4071.1	4094.2	3881.7	3752.3	3752.3	3752.3	3849.3	4043.4	4024.9	3803.1	3724.5
27.5°	4001.8	4024.9	3789.2	3706.1	3719.9	3696.8	3775.4	3955.6	3955.6	3719.9	3636.7
30°	3923.3	3946.4	3696.8	3632.1	3641.4	3632.1	3692.2	3863.2	3863.2	3622.9	3535.1
32.5°	3830.8	3853.9	3595.2	3544.3	3562.8	3553.6	3613.6	3770.8	3775.4	3521.2	3414.9
35°	3729.2	3756.9	3488.9	3461.2	3479.6	3465.8	3507.4	3673.7	3673.7	3410.3	3276.3
37.5°	3622.9	3650.6	3378.0	3368.7	3387.2	3373.4	3405.7	3572.1	3562.8	3294.8	3128.4
40°	3507.4	3539.7	3262.4	3262.4	3285.6	3276.3	3304.0	3465.8	3447.3	3179.3	2975.9
42.5°	3378.0	3419.6	3146.9	3151.5	3123.8	3160.8	3188.5	3354.9	3317.9	3049.9	2809.6
45°	3244.0	3294.8	3036.0	2952.8	2439.9	2920.5	3068.4	3244.0	3188.5	2920.5	2647.8
47.5°	3100.7	3165.4	2906.6	2601.6	1963.9	2560.0	2939.0	3105.3	3040.6	2781.9	2490.7
50°	2952.8	3026.8	2772.6	2301.3	1723.6	2255.1	2795.7	2966.7	2892.8	2638.6	2310.5
52.5°	2791.1	2874.3	2643.2	2037.9	1561.9	1996.3	2647.8	2832.7	2740.3	2486.1	2162.6
55°	2629.4	2717.2	2467.6	1811.4	1423.3	1774.5	2476.9	2661.7	2578.5	2329.0	2000.9
57.5°	2463.0	2550.8	2292.0	1612.7	1303.1	1575.8	2282.8	2504.6	2412.2	2167.3	1839.2
60°	2287.4	2375.2	2102.6	1432.5	1169.1	1404.8	2084.1	2329.0	2236.6	2000.9	1682.1
62.5°	2102.6	2190.4	1922.3	1266.2	1058.2	1243.1	1866.9	2158.0	2056.4	1825.3	1520.3
65°	1913.1	1977.8	1709.8	1109.0	947.3	1090.6	1672.8	1945.5	1871.5	1640.5	1367.8
67.5°	1714.4	1779.1	1524.9	970.4	841.0	951.9	1483.4	1756.0	1672.8	1460.2	1215.3
70°	1506.5	1561.9	1330.9	836.4	739.4	822.5	1284.6	1543.4	1469.5	1270.8	1053.6
72.5°	1293.9	1344.7	1122.9	711.6	633.1	702.4	1076.7	1330.9	1256.9	1072.1	905.7
75°	1067.5	1118.3	928.8	586.9	526.8	577.6	887.2	1104.4	1035.1	882.6	753.2
77.5°	854.9	915.0	734.7	462.1	420.5	452.9	697.8	891.9	822.5	707.0	605.4
80°	651.6	702.4	545.3	351.2	323.5	346.6	508.3	679.3	623.8	545.3	471.3
82.5°	471.3	499.1	374.3	258.8	244.9	254.2	346.6	480.6	452.9	392.8	346.6
85°	318.9	314.2	231.1	180.2	175.6	180.2	207.9	291.1	286.5	263.4	221.8
87.5°	134.0	124.8	106.3	73.9	64.7	69.3	83.2	110.9	106.3	110.9	106.3
90°	4.6	46.2	73.9	92.4	97.0	92.4	73.9	46.2	4.6	50.8	83.2
92.5°	9.2	60.1	87.8	101.7	110.9	101.7	83.2	60.1	9.2	78.6	83.2
95°	27.7	83.2	101.7	124.8	134.0	124.8	101.7	78.6	27.7	69.3	124.8
97.5°	55.5	106.3	120.1	138.6	143.3	134.0	115.5	106.3	50.8	124.8	129.4
100°	83.2	134.0	157.1	157.1	161.7	157.1	152.5	129.4	78.6	138.6	157.1
102.5°	115.5	152.5	180.2	194.1	194.1	194.1	180.2	152.5	106.3	171.0	217.2
105°	147.9	166.4	198.7	217.2	226.4	217.2	198.7	171.0	143.3	198.7	231.1
107.5°	184.8	180.2	217.2	235.7	244.9	235.7	217.2	184.8	175.6	221.8	258.8
110°	221.8	198.7	235.7	254.2	258.8	254.2	235.7	198.7	212.6	249.5	286.5



TEST NUMBER: P197447

CATALOG NUMBER: 8WSL-LD2-140-UPL8-UNV-L840-CD2-U

CANDELA DISTRIBUTION (continued):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
112.5°	254.2	212.6	254.2	272.6	277.3	272.6	254.2	217.2	244.9	268.0	314.2
115°	286.5	226.4	263.4	286.5	291.1	286.5	263.4	231.1	281.9	291.1	337.3
117.5°	318.9	244.9	272.6	300.4	305.0	300.4	277.3	249.5	314.2	318.9	360.4
120°	351.2	268.0	286.5	309.6	318.9	314.2	286.5	272.6	342.0	342.0	378.9
122.5°	378.9	286.5	300.4	318.9	328.1	318.9	300.4	295.7	374.3	365.1	402.0
125°	411.3	305.0	309.6	328.1	332.7	328.1	314.2	309.6	402.0	383.5	415.9
127.5°	434.4	328.1	318.9	337.3	342.0	337.3	323.5	332.7	429.8	420.5	429.8
130°	462.1	351.2	328.1	346.6	351.2	351.2	328.1	360.4	452.9	448.2	448.2
132.5°	485.2	374.3	337.3	355.8	360.4	360.4	342.0	378.9	476.0	471.3	462.1
135°	503.7	406.7	355.8	355.8	365.1	365.1	360.4	411.3	499.1	494.5	485.2
137.5°	522.2	434.4	369.7	360.4	365.1	365.1	378.9	439.0	517.6	517.6	499.1
140°	540.7	462.1	378.9	369.7	369.7	378.9	392.8	466.7	536.0	536.0	503.7
142.5°	559.1	485.2	392.8	383.5	374.3	392.8	406.7	494.5	549.9	554.5	517.6
145°	568.4	508.3	411.3	397.4	388.2	411.3	429.8	517.6	563.8	573.0	545.3
147.5°	582.2	531.4	434.4	406.7	406.7	420.5	448.2	536.0	577.6	586.9	559.1
150°	596.1	549.9	452.9	420.5	411.3	434.4	466.7	554.5	591.5	600.7	577.6
152.5°	605.4	568.4	480.6	439.0	429.8	457.5	499.1	568.4	600.7	610.0	596.1
155°	614.6	582.2	512.9	457.5	452.9	476.0	526.8	582.2	610.0	619.2	610.0
157.5°	623.8	596.1	536.0	485.2	466.7	503.7	549.9	600.7	619.2	628.5	623.8
160°	628.5	605.4	563.8	512.9	503.7	536.0	573.0	605.4	623.8	637.7	633.1
162.5°	637.7	614.6	582.2	545.3	536.0	563.8	591.5	619.2	633.1	642.3	642.3
165°	642.3	623.8	600.7	573.0	563.8	591.5	605.4	628.5	637.7	642.3	646.9
167.5°	642.3	633.1	614.6	591.5	586.9	610.0	623.8	637.7	642.3	642.3	651.6
170°	646.9	637.7	623.8	610.0	605.4	623.8	628.5	642.3	646.9	642.3	656.2
172.5°	646.9	642.3	633.1	619.2	610.0	633.1	637.7	642.3	646.9	642.3	651.6
175°	651.6	642.3	642.3	633.1	619.2	642.3	642.3	642.3	651.6	642.3	646.9
177.5°	651.6	642.3	642.3	637.7	628.5	642.3	642.3	642.3	651.6	642.3	646.9
180°	642.3	642.3	642.3	642.3	642.3	642.3	642.3	642.3	642.3	642.3	642.3



TEST NUMBER: P197447

CATALOG NUMBER: 8WSL-LD2-140-UPL8-UNV-L840-CD2-U

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	4316.0	4316.0	4316.0	4316.0	4316.0	4316.0
2.5°	4283.7	4251.3	4260.6	4297.6	4283.7	4348.4
5°	4251.3	4232.9	4232.9	4274.5	4269.8	4348.4
7.5°	4200.5	4182.0	4191.3	4237.5	4246.7	4343.8
10°	4140.4	4117.3	4126.6	4191.3	4214.4	4325.3
12.5°	4075.7	4057.3	4066.5	4140.4	4172.8	4306.8
15°	4001.8	3974.1	4001.8	4080.4	4122.0	4274.5
17.5°	3918.6	3881.7	3914.0	4015.7	4066.5	4237.5
20°	3835.5	3803.1	3821.6	3932.5	4006.4	4195.9
22.5°	3752.3	3706.1	3724.5	3840.1	3932.5	4135.8
25°	3655.2	3585.9	3622.9	3747.7	3853.9	4071.1
27.5°	3525.8	3419.6	3498.1	3655.2	3761.5	4001.8
30°	3354.9	3216.2	3331.8	3544.3	3664.5	3923.3
32.5°	3165.4	3017.5	3146.9	3419.6	3562.8	3830.8
35°	2975.9	2841.9	2957.5	3280.9	3456.5	3729.2
37.5°	2795.7	2680.2	2786.5	3133.1	3345.6	3622.9
40°	2624.7	2509.2	2620.1	2971.3	3225.5	3507.4
42.5°	2453.8	2347.5	2453.8	2800.3	3100.7	3378.0
45°	2282.8	2116.4	2273.5	2634.0	2966.7	3244.0
47.5°	2097.9	1903.9	2084.1	2453.8	2823.4	3100.7
50°	1922.3	1756.0	1913.1	2287.4	2675.6	2952.8
52.5°	1769.9	1635.8	1760.6	2116.4	2523.1	2791.1
55°	1626.6	1520.3	1626.6	1950.1	2361.3	2629.4
57.5°	1497.2	1427.9	1501.8	1806.8	2195.0	2463.0
60°	1386.3	1344.7	1390.9	1631.2	2028.6	2287.4
62.5°	1280.0	1275.4	1284.6	1492.6	1853.0	2102.6
65°	1169.1	1192.2	1169.1	1344.7	1677.4	1913.1
67.5°	1058.2	1104.4	1067.5	1196.8	1488.0	1714.4
70°	956.6	1007.4	956.6	1044.4	1298.5	1506.5
72.5°	841.0	905.7	841.0	901.1	1099.8	1293.9
75°	730.1	804.1	734.7	753.2	910.3	1067.5
77.5°	610.0	679.3	623.8	610.0	734.7	854.9
80°	485.2	512.9	485.2	480.6	568.4	651.6
82.5°	337.3	360.4	337.3	351.2	415.9	471.3
85°	221.8	231.1	221.8	226.4	277.3	318.9
87.5°	92.4	92.4	92.4	115.5	124.8	134.0
90°	101.7	110.9	101.7	83.2	50.8	4.6
92.5°	106.3	115.5	106.3	92.4	60.1	9.2
95°	189.5	212.6	180.2	115.5	97.0	27.7
97.5°	152.5	166.4	157.1	134.0	120.1	55.5
100°	180.2	194.1	180.2	189.5	147.9	83.2
102.5°	212.6	221.8	217.2	221.8	180.2	115.5
105°	277.3	286.5	277.3	240.3	207.9	147.9
107.5°	295.7	318.9	300.4	268.0	235.7	184.8
110°	318.9	337.3	323.5	295.7	258.8	221.8



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CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	342.0	365.1	351.2	328.1	277.3	254.2
115°	369.7	388.2	378.9	351.2	305.0	286.5
117.5°	397.4	411.3	402.0	369.7	332.7	318.9
120°	420.5	439.0	429.8	392.8	355.8	351.2
122.5°	439.0	457.5	448.2	415.9	378.9	378.9
125°	457.5	476.0	466.7	434.4	397.4	411.3
127.5°	471.3	494.5	485.2	448.2	439.0	434.4
130°	489.8	503.7	499.1	462.1	462.1	462.1
132.5°	499.1	517.6	508.3	480.6	489.8	485.2
135°	503.7	526.8	517.6	503.7	512.9	503.7
137.5°	512.9	531.4	526.8	517.6	536.0	522.2
140°	526.8	536.0	540.7	526.8	554.5	540.7
142.5°	540.7	545.3	554.5	540.7	573.0	559.1
145°	549.9	559.1	568.4	568.4	586.9	568.4
147.5°	549.9	563.8	563.8	577.6	605.4	582.2
150°	563.8	554.5	582.2	596.1	614.6	596.1
152.5°	582.2	577.6	600.7	614.6	623.8	605.4
155°	586.9	591.5	605.4	628.5	633.1	614.6
157.5°	605.4	600.7	623.8	642.3	642.3	623.8
160°	619.2	619.2	642.3	651.6	646.9	628.5
162.5°	633.1	633.1	656.2	656.2	651.6	637.7
165°	642.3	642.3	665.4	660.8	651.6	642.3
167.5°	646.9	651.6	670.0	665.4	651.6	642.3
170°	651.6	651.6	670.0	660.8	651.6	646.9
172.5°	651.6	646.9	665.4	656.2	646.9	646.9
175°	646.9	637.7	656.2	646.9	646.9	651.6
177.5°	642.3	628.5	642.3	642.3	646.9	651.6
180°	642.3	642.3	642.3	642.3	642.3	642.3

(END OF REPORT)