

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: P197436

Luminaire Tested: **8WSL-LD2-110-UPL8-UNV-L850-CD2-U**

Issue Date: 3/3/2020



**Test Information**

Test Method: LM-79-08  
Report Number: P197436  
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-LD2-110-UPL8-UNV-L850-CD2-U  
Description: 8FT. Linear Wavestream System, 8% Uplight, L850  
Light Source: (476) 5000K CCT, 80 CRI LEDS  
EL236N0119D850  
Ballast/Driver: OSRAM  
OT50W

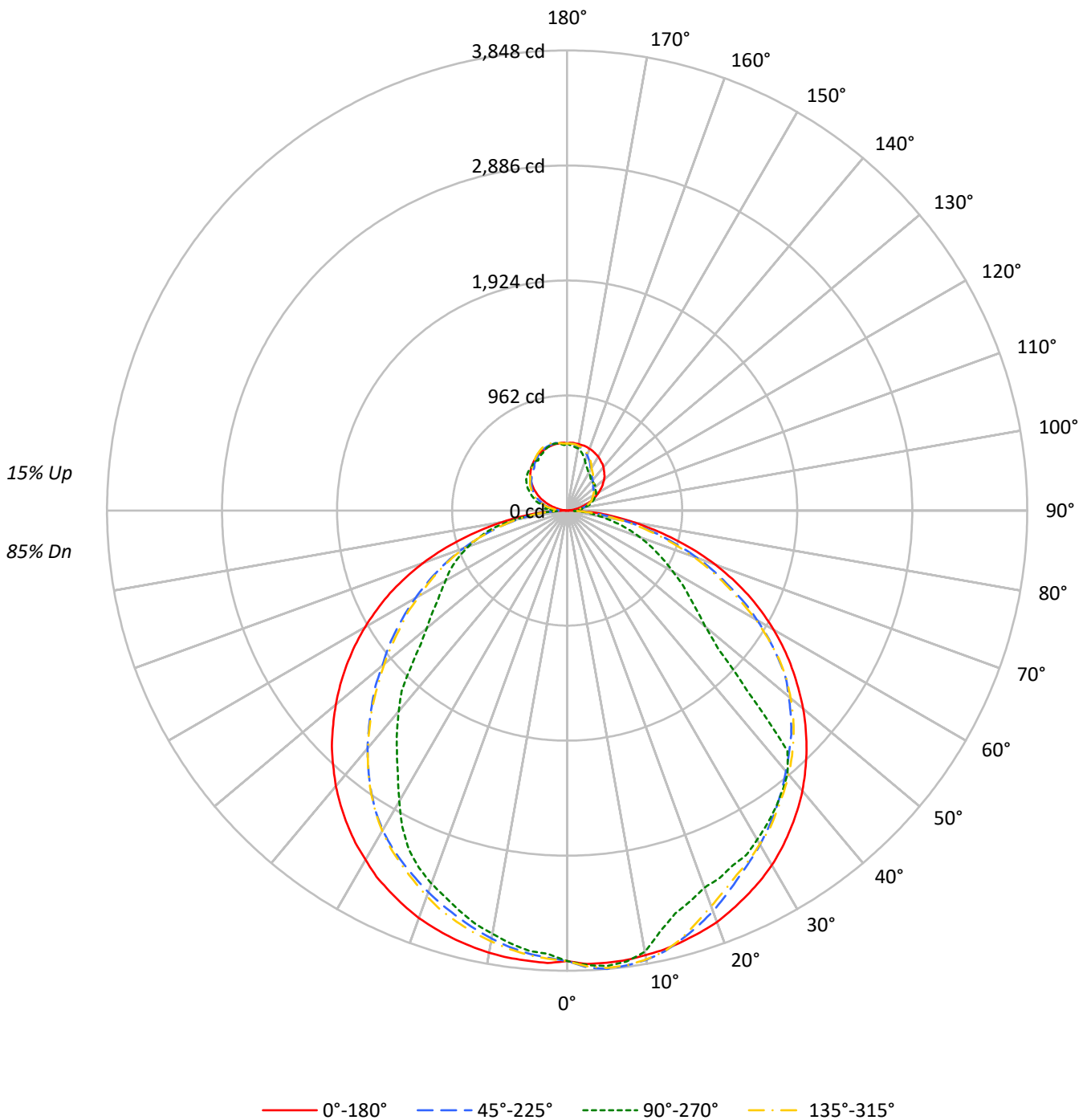
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 12494.2 lumens  
Efficiency: N/A  
Efficacy: 126.3 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): 98.9  
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

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### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	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°	10670	10670	10670	10670
5°	10791	10871	10745	10504
10°	10858	10777	10800	10336
15°	10940	10230	10857	10171
20°	11039	10115	10929	10005
25°	11105	10235	10979	9781
30°	11199	10395	11028	9181
35°	11254	10502	11087	8577
40°	11319	10603	11125	8098
45°	11342	8530	11148	7399
50°	11357	6629	11126	6753
55°	11333	6135	11114	6553
60°	11309	5781	11059	6649
65°	11191	5542	10948	6974
70°	10889	5344	10622	7282
75°	10196	5032	9887	7680
80°	9277	4605	8882	7303
85°	9045	4982	8125	6555



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	358.1	2.9
10°-20°	1016.9	8.1
20°-30°	1539.3	12.3
30°-40°	1858.8	14.9
40°-50°	1897.7	15.2
50°-60°	1659.1	13.3
60°-70°	1286.0	10.3
70°-80°	773.2	6.2
80°-90°	238.7	1.9
90°-100°	100.6	0.8
100°-110°	192.4	1.5
110°-120°	261.4	2.1
120°-130°	297.1	2.4
130°-140°	301.4	2.4
140°-150°	277.4	2.2
150°-160°	228.9	1.8
160°-170°	153.9	1.2
170°-180°	53.5	0.4
0°-30°	2914.3	23.3
0°-40°	4773.0	38.2
0°-60°	8329.9	66.7
0°-90°	10627.7	85.1
90°-120°	554.4	4.4
90°-150°	1430.3	11.4
90°-180°	1867.0	14.9
0°-180°	12494.2	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	3767	3767	3767	3767	3767	
5°	3795	3823	3779	3694	3795	362
15°	3730	3489	3702	3468	3730	1055
25°	3553	3275	3513	3130	3553	1640
35°	3255	3037	3206	2480	3255	2038
45°	2831	2129	2783	1847	2831	2184
55°	2295	1242	2250	1327	2295	2051
65°	1670	827	1633	1040	1670	1648
75°	932	460	903	702	932	989
85°	278	153	250	202	278	281
90°	4	85	4	97	4	18
95°	24	117	24	186	24	31
105°	129	198	125	250	129	138
115°	250	254	246	339	250	247
125°	359	290	351	415	359	318
135°	440	319	436	460	440	339
145°	496	339	492	488	496	312
155°	536	395	532	516	536	248
165°	561	492	557	561	561	158
175°	569	540	569	557	569	54
180°	561	561	561	561	561	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	3766.8	3766.8	3766.8	3766.8	3766.8	3766.8	3766.8	3766.8	3766.8	3766.8	3766.8
2.5°	3795.1	3774.9	3823.3	3831.4	3803.1	3811.2	3815.2	3770.9	3787.0	3726.5	3742.6
5°	3795.1	3791.0	3847.5	3839.4	3823.3	3827.3	3839.4	3787.0	3778.9	3706.3	3718.4
7.5°	3791.0	3799.1	3835.4	3827.3	3803.1	3815.2	3835.4	3795.1	3770.9	3686.2	3682.1
10°	3774.9	3787.0	3815.2	3791.0	3746.7	3766.8	3811.2	3787.0	3754.7	3653.9	3633.7
12.5°	3758.8	3766.8	3774.9	3674.1	3601.5	3649.9	3774.9	3766.8	3730.5	3617.6	3581.3
15°	3730.5	3742.6	3710.4	3565.2	3488.6	3537.0	3702.3	3734.6	3702.3	3565.2	3520.8
17.5°	3698.3	3710.4	3641.8	3480.5	3424.0	3448.2	3609.5	3694.2	3666.0	3516.8	3460.3
20°	3662.0	3674.1	3565.2	3391.8	3355.5	3375.6	3520.8	3649.9	3625.7	3460.3	3395.8
22.5°	3609.5	3629.7	3476.5	3331.3	3327.2	3327.2	3436.1	3597.4	3573.2	3391.8	3323.2
25°	3553.1	3573.2	3387.7	3274.8	3274.8	3274.8	3359.5	3528.9	3512.8	3319.2	3250.6
27.5°	3492.6	3512.8	3307.1	3234.5	3246.6	3226.4	3295.0	3452.3	3452.3	3246.6	3174.0
30°	3424.0	3444.2	3226.4	3169.9	3178.0	3169.9	3222.4	3371.6	3371.6	3161.9	3085.3
32.5°	3343.4	3363.5	3137.7	3093.3	3109.5	3101.4	3153.8	3290.9	3295.0	3073.2	2980.4
35°	3254.6	3278.8	3044.9	3020.7	3036.9	3024.8	3061.1	3206.2	3206.2	2976.4	2859.4
37.5°	3161.9	3186.1	2948.1	2940.1	2956.2	2944.1	2972.3	3117.5	3109.5	2875.5	2730.3
40°	3061.1	3089.3	2847.3	2847.3	2867.5	2859.4	2883.6	3024.8	3008.6	2774.7	2597.3
42.5°	2948.1	2984.4	2746.5	2750.5	2726.3	2758.6	2782.8	2928.0	2895.7	2661.8	2452.1
45°	2831.2	2875.5	2649.7	2577.1	2129.4	2548.9	2677.9	2831.2	2782.8	2548.9	2310.9
47.5°	2706.2	2762.6	2536.8	2270.6	1714.0	2234.3	2565.0	2710.2	2653.7	2427.9	2173.8
50°	2577.1	2641.6	2419.8	2008.4	1504.3	1968.1	2440.0	2589.2	2524.7	2302.8	2016.5
52.5°	2435.9	2508.5	2306.9	1778.6	1363.2	1742.3	2310.9	2472.2	2391.6	2169.8	1887.4
55°	2294.8	2371.4	2153.6	1580.9	1242.2	1548.7	2161.7	2323.0	2250.4	2032.6	1746.3
57.5°	2149.6	2226.2	2000.4	1407.5	1137.3	1375.3	1992.3	2185.9	2105.2	1891.5	1605.1
60°	1996.3	2073.0	1835.0	1250.2	1020.4	1226.0	1818.9	2032.6	1952.0	1746.3	1468.0
62.5°	1835.0	1911.6	1677.7	1105.0	923.6	1084.9	1629.3	1883.4	1794.7	1593.0	1326.9
65°	1669.7	1726.1	1492.2	967.9	826.8	951.8	1460.0	1697.9	1633.4	1431.7	1193.8
67.5°	1496.2	1552.7	1330.9	846.9	734.0	830.8	1294.6	1532.5	1460.0	1274.4	1060.7
70°	1314.8	1363.2	1161.5	730.0	645.3	717.9	1121.2	1347.0	1282.5	1109.1	919.5
72.5°	1129.2	1173.6	980.0	621.1	552.5	613.0	939.7	1161.5	1097.0	935.7	790.5
75°	931.6	976.0	810.6	512.2	459.8	504.1	774.3	963.9	903.4	770.3	657.4
77.5°	746.1	798.5	641.2	403.3	367.0	395.2	609.0	778.4	717.9	617.1	528.3
80°	568.7	613.0	475.9	306.5	282.3	302.5	443.6	592.9	544.5	475.9	411.4
82.5°	411.4	435.6	326.7	225.8	213.7	221.8	302.5	419.4	395.2	342.8	302.5
85°	278.3	274.2	201.7	157.3	153.3	157.3	181.5	254.1	250.0	229.9	193.6
87.5°	117.0	108.9	92.8	64.5	56.5	60.5	72.6	96.8	92.8	96.8	92.8
90°	4.0	40.3	64.5	80.7	84.7	80.7	64.5	40.3	4.0	44.4	72.6
92.5°	8.1	52.4	76.6	88.7	96.8	88.7	72.6	52.4	8.1	68.6	72.6
95°	24.2	72.6	88.7	108.9	117.0	108.9	88.7	68.6	24.2	60.5	108.9
97.5°	48.4	92.8	104.9	121.0	125.0	117.0	100.8	92.8	44.4	108.9	112.9
100°	72.6	117.0	137.1	137.1	141.2	137.1	133.1	112.9	68.6	121.0	137.1
102.5°	100.8	133.1	157.3	169.4	169.4	169.4	157.3	133.1	92.8	149.2	189.6
105°	129.1	145.2	173.4	189.6	197.6	189.6	173.4	149.2	125.0	173.4	201.7
107.5°	161.3	157.3	189.6	205.7	213.7	205.7	189.6	161.3	153.3	193.6	225.8
110°	193.6	173.4	205.7	221.8	225.8	221.8	205.7	173.4	185.5	217.8	250.0



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**CANDELA DISTRIBUTION (continued):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
112.5°	221.8	185.5	221.8	237.9	242.0	237.9	221.8	189.6	213.7	233.9	274.2
115°	250.0	197.6	229.9	250.0	254.1	250.0	229.9	201.7	246.0	254.1	294.4
117.5°	278.3	213.7	237.9	262.1	266.2	262.1	242.0	217.8	274.2	278.3	314.6
120°	306.5	233.9	250.0	270.2	278.3	274.2	250.0	237.9	298.4	298.4	330.7
122.5°	330.7	250.0	262.1	278.3	286.3	278.3	262.1	258.1	326.7	318.6	350.9
125°	358.9	266.2	270.2	286.3	290.4	286.3	274.2	270.2	350.9	334.7	363.0
127.5°	379.1	286.3	278.3	294.4	298.4	294.4	282.3	290.4	375.1	367.0	375.1
130°	403.3	306.5	286.3	302.5	306.5	306.5	286.3	314.6	395.2	391.2	391.2
132.5°	423.5	326.7	294.4	310.5	314.6	314.6	298.4	330.7	415.4	411.4	403.3
135°	439.6	354.9	310.5	310.5	318.6	318.6	314.6	358.9	435.6	431.5	423.5
137.5°	455.7	379.1	322.6	314.6	318.6	318.6	330.7	383.1	451.7	451.7	435.6
140°	471.9	403.3	330.7	322.6	322.6	330.7	342.8	407.3	467.8	467.8	439.6
142.5°	488.0	423.5	342.8	334.7	326.7	342.8	354.9	431.5	479.9	484.0	451.7
145°	496.1	443.6	358.9	346.8	338.8	358.9	375.1	451.7	492.0	500.1	475.9
147.5°	508.2	463.8	379.1	354.9	354.9	367.0	391.2	467.8	504.1	512.2	488.0
150°	520.3	479.9	395.2	367.0	358.9	379.1	407.3	484.0	516.2	524.3	504.1
152.5°	528.3	496.1	419.4	383.1	375.1	399.3	435.6	496.1	524.3	532.4	520.3
155°	536.4	508.2	447.7	399.3	395.2	415.4	459.8	508.2	532.4	540.4	532.4
157.5°	544.5	520.3	467.8	423.5	407.3	439.6	479.9	524.3	540.4	548.5	544.5
160°	548.5	528.3	492.0	447.7	439.6	467.8	500.1	528.3	544.5	556.6	552.5
162.5°	556.6	536.4	508.2	475.9	467.8	492.0	516.2	540.4	552.5	560.6	560.6
165°	560.6	544.5	524.3	500.1	492.0	516.2	528.3	548.5	556.6	560.6	564.6
167.5°	560.6	552.5	536.4	516.2	512.2	532.4	544.5	556.6	560.6	560.6	568.7
170°	564.6	556.6	544.5	532.4	528.3	544.5	548.5	560.6	564.6	560.6	572.7
172.5°	564.6	560.6	552.5	540.4	532.4	552.5	556.6	560.6	564.6	560.6	568.7
175°	568.7	560.6	560.6	552.5	540.4	560.6	560.6	560.6	568.7	560.6	564.6
177.5°	568.7	560.6	560.6	556.6	548.5	560.6	560.6	560.6	568.7	560.6	564.6
180°	560.6	560.6	560.6	560.6	560.6	560.6	560.6	560.6	560.6	560.6	560.6



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CATALOG NUMBER: 8WSL-LD2-110-UPL8-UNV-L850-CD2-U

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
0°	3766.8	3766.8	3766.8	3766.8	3766.8	3766.8
2.5°	3738.6	3710.4	3718.4	3750.7	3738.6	3795.1
5°	3710.4	3694.2	3694.2	3730.5	3726.5	3795.1
7.5°	3666.0	3649.9	3657.9	3698.3	3706.3	3791.0
10°	3613.6	3593.4	3601.5	3657.9	3678.1	3774.9
12.5°	3557.1	3541.0	3549.0	3613.6	3641.8	3758.8
15°	3492.6	3468.4	3492.6	3561.1	3597.4	3730.5
17.5°	3420.0	3387.7	3416.0	3504.7	3549.0	3698.3
20°	3347.4	3319.2	3335.3	3432.1	3496.6	3662.0
22.5°	3274.8	3234.5	3250.6	3351.4	3432.1	3609.5
25°	3190.1	3129.6	3161.9	3270.8	3363.5	3553.1
27.5°	3077.2	2984.4	3053.0	3190.1	3282.9	3492.6
30°	2928.0	2807.0	2907.8	3093.3	3198.2	3424.0
32.5°	2762.6	2633.6	2746.5	2984.4	3109.5	3343.4
35°	2597.3	2480.3	2581.1	2863.4	3016.7	3254.6
37.5°	2440.0	2339.1	2431.9	2734.4	2919.9	3161.9
40°	2290.8	2189.9	2286.7	2593.2	2815.0	3061.1
42.5°	2141.5	2048.8	2141.5	2444.0	2706.2	2948.1
45°	1992.3	1847.1	1984.2	2298.8	2589.2	2831.2
47.5°	1831.0	1661.6	1818.9	2141.5	2464.2	2706.2
50°	1677.7	1532.5	1669.7	1996.3	2335.1	2577.1
52.5°	1544.6	1427.7	1536.6	1847.1	2202.0	2435.9
55°	1419.6	1326.9	1419.6	1701.9	2060.9	2294.8
57.5°	1306.7	1246.2	1310.7	1576.9	1915.7	2149.6
60°	1209.9	1173.6	1213.9	1423.7	1770.5	1996.3
62.5°	1117.1	1113.1	1121.2	1302.7	1617.2	1835.0
65°	1020.4	1040.5	1020.4	1173.6	1464.0	1669.7
67.5°	923.6	963.9	931.6	1044.5	1298.6	1496.2
70°	834.8	879.2	834.8	911.5	1133.3	1314.8
72.5°	734.0	790.5	734.0	786.4	959.9	1129.2
75°	637.2	701.7	641.2	657.4	794.5	931.6
77.5°	532.4	592.9	544.5	532.4	641.2	746.1
80°	423.5	447.7	423.5	419.4	496.1	568.7
82.5°	294.4	314.6	294.4	306.5	363.0	411.4
85°	193.6	201.7	193.6	197.6	242.0	278.3
87.5°	80.7	80.7	80.7	100.8	108.9	117.0
90°	88.7	96.8	88.7	72.6	44.4	4.0
92.5°	92.8	100.8	92.8	80.7	52.4	8.1
95°	165.4	185.5	157.3	100.8	84.7	24.2
97.5°	133.1	145.2	137.1	117.0	104.9	48.4
100°	157.3	169.4	157.3	165.4	129.1	72.6
102.5°	185.5	193.6	189.6	193.6	157.3	100.8
105°	242.0	250.0	242.0	209.7	181.5	129.1
107.5°	258.1	278.3	262.1	233.9	205.7	161.3
110°	278.3	294.4	282.3	258.1	225.8	193.6





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**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	298.4	318.6	306.5	286.3	242.0	221.8
115°	322.6	338.8	330.7	306.5	266.2	250.0
117.5°	346.8	358.9	350.9	322.6	290.4	278.3
120°	367.0	383.1	375.1	342.8	310.5	306.5
122.5°	383.1	399.3	391.2	363.0	330.7	330.7
125°	399.3	415.4	407.3	379.1	346.8	358.9
127.5°	411.4	431.5	423.5	391.2	383.1	379.1
130°	427.5	439.6	435.6	403.3	403.3	403.3
132.5°	435.6	451.7	443.6	419.4	427.5	423.5
135°	439.6	459.8	451.7	439.6	447.7	439.6
137.5°	447.7	463.8	459.8	451.7	467.8	455.7
140°	459.8	467.8	471.9	459.8	484.0	471.9
142.5°	471.9	475.9	484.0	471.9	500.1	488.0
145°	479.9	488.0	496.1	496.1	512.2	496.1
147.5°	479.9	492.0	492.0	504.1	528.3	508.2
150°	492.0	484.0	508.2	520.3	536.4	520.3
152.5°	508.2	504.1	524.3	536.4	544.5	528.3
155°	512.2	516.2	528.3	548.5	552.5	536.4
157.5°	528.3	524.3	544.5	560.6	560.6	544.5
160°	540.4	540.4	560.6	568.7	564.6	548.5
162.5°	552.5	552.5	572.7	572.7	568.7	556.6
165°	560.6	560.6	580.8	576.7	568.7	560.6
167.5°	564.6	568.7	584.8	580.8	568.7	560.6
170°	568.7	568.7	584.8	576.7	568.7	564.6
172.5°	568.7	564.6	580.8	572.7	564.6	564.6
175°	564.6	556.6	572.7	564.6	564.6	568.7
177.5°	560.6	548.5	560.6	560.6	564.6	568.7
180°	560.6	560.6	560.6	560.6	560.6	560.6

(END OF REPORT)