

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: P197435

Luminaire Tested: **8WSL-LD2-110-UPL8-UNV-L840-CD2-U**

Issue Date: 3/3/2020



**Test Information**

Test Method: LM-79-08  
Report Number: P197435  
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-L840-CD2-U  
Description: 8FT. Linear Wavestream System, 8% Uplight, L840  
Light Source: (476) 4000K CCT, 80 CRI LEDS  
EL236N0119D840  
Ballast/Driver: OSRAM  
OT50W

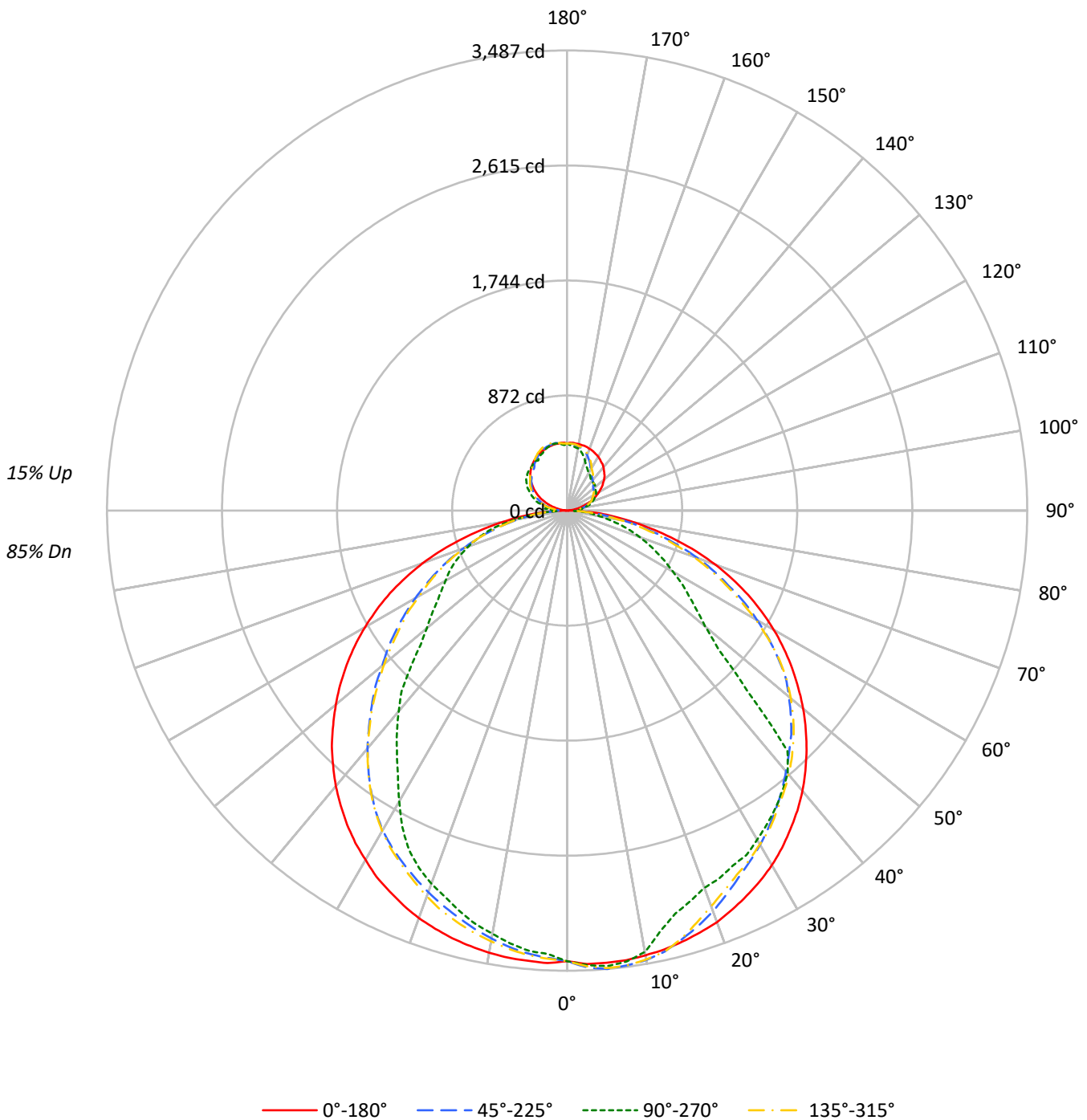
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 11324.0 lumens  
Efficiency: N/A  
Efficacy: 114.5 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°	9671	9671	9671	9671
5°	9780	9853	9739	9520
10°	9841	9767	9788	9368
15°	9915	9272	9840	9218
20°	10005	9167	9906	9068
25°	10065	9277	9950	8865
30°	10150	9421	9995	8321
35°	10200	9518	10049	7774
40°	10259	9610	10083	7339
45°	10279	7731	10103	6706
50°	10293	6008	10084	6121
55°	10271	5560	10073	5939
60°	10251	5239	10022	6026
65°	10143	5022	9922	6321
70°	9869	4843	9627	6599
75°	9241	4561	8961	6961
80°	8407	4174	8050	6618
85°	8197	4514	7365	5941



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	324.5	2.9
10°-20°	921.6	8.1
20°-30°	1395.2	12.3
30°-40°	1684.7	14.9
40°-50°	1719.9	15.2
50°-60°	1503.7	13.3
60°-70°	1165.5	10.3
70°-80°	700.7	6.2
80°-90°	216.3	1.9
90°-100°	91.2	0.8
100°-110°	174.4	1.5
110°-120°	236.9	2.1
120°-130°	269.3	2.4
130°-140°	273.2	2.4
140°-150°	251.4	2.2
150°-160°	207.4	1.8
160°-170°	139.5	1.2
170°-180°	48.5	0.4
0°-30°	2641.3	23.3
0°-40°	4326.0	38.2
0°-60°	7549.6	66.7
0°-90°	9632.2	85.1
90°-120°	502.5	4.4
90°-150°	1296.4	11.4
90°-180°	1692.0	14.9
0°-180°	11324.0	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	3414	3414	3414	3414	3414	
5°	3440	3465	3425	3348	3440	328
15°	3381	3162	3356	3144	3381	956
25°	3220	2968	3184	2836	3220	1486
35°	2950	2752	2906	2248	2950	1847
45°	2566	1930	2522	1674	2566	1979
55°	2080	1126	2040	1203	2080	1859
65°	1513	749	1480	943	1513	1493
75°	844	417	819	636	844	896
85°	252	139	227	183	252	254
90°	4	77	4	88	4	17
95°	22	106	22	168	22	28
105°	117	179	113	227	117	125
115°	227	230	223	307	227	224
125°	325	263	318	376	325	289
135°	398	289	395	417	398	308
145°	450	307	446	442	450	283
155°	486	358	482	468	486	224
165°	508	446	504	508	508	143
175°	515	490	515	504	515	49
180°	508	508	508	508	508	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	3414.0	3414.0	3414.0	3414.0	3414.0	3414.0	3414.0	3414.0	3414.0	3414.0	3414.0
2.5°	3439.6	3421.3	3465.2	3472.5	3446.9	3454.2	3457.9	3417.7	3432.3	3377.5	3392.1
5°	3439.6	3435.9	3487.1	3479.8	3465.2	3468.8	3479.8	3432.3	3425.0	3359.2	3370.2
7.5°	3435.9	3443.3	3476.2	3468.8	3446.9	3457.9	3476.2	3439.6	3417.7	3340.9	3337.3
10°	3421.3	3432.3	3457.9	3435.9	3395.7	3414.0	3454.2	3432.3	3403.1	3311.7	3293.4
12.5°	3406.7	3414.0	3421.3	3329.9	3264.2	3308.0	3421.3	3414.0	3381.1	3278.8	3245.9
15°	3381.1	3392.1	3362.8	3231.3	3161.8	3205.7	3355.5	3384.8	3355.5	3231.3	3191.0
17.5°	3351.9	3362.8	3300.7	3154.5	3103.3	3125.3	3271.5	3348.2	3322.6	3187.4	3136.2
20°	3319.0	3329.9	3231.3	3074.1	3041.2	3059.5	3191.0	3308.0	3286.1	3136.2	3077.7
22.5°	3271.5	3289.7	3150.8	3019.2	3015.6	3015.6	3114.3	3260.5	3238.6	3074.1	3011.9
25°	3220.3	3238.6	3070.4	2968.1	2968.1	2968.1	3044.8	3198.4	3183.7	3008.3	2946.1
27.5°	3165.5	3183.7	2997.3	2931.5	2942.5	2924.2	2986.4	3128.9	3128.9	2942.5	2876.7
30°	3103.3	3121.6	2924.2	2873.0	2880.3	2873.0	2920.6	3055.8	3055.8	2865.7	2796.3
32.5°	3030.2	3048.5	2843.8	2803.6	2818.2	2810.9	2858.4	2982.7	2986.4	2785.3	2701.2
35°	2949.8	2971.7	2759.7	2737.8	2752.4	2741.4	2774.3	2905.9	2905.9	2697.6	2591.6
37.5°	2865.7	2887.7	2672.0	2664.7	2679.3	2668.3	2693.9	2825.5	2818.2	2606.2	2474.6
40°	2774.3	2799.9	2580.6	2580.6	2598.9	2591.6	2613.5	2741.4	2726.8	2514.8	2354.0
42.5°	2672.0	2704.9	2489.2	2492.9	2471.0	2500.2	2522.1	2653.7	2624.5	2412.5	2222.4
45°	2566.0	2606.2	2401.5	2335.7	1930.0	2310.1	2427.1	2566.0	2522.1	2310.1	2094.5
47.5°	2452.7	2503.9	2299.2	2057.9	1553.5	2025.0	2324.7	2456.3	2405.2	2200.5	1970.2
50°	2335.7	2394.2	2193.2	1820.3	1363.4	1783.8	2211.4	2346.7	2288.2	2087.2	1827.6
52.5°	2207.8	2273.6	2090.8	1612.0	1235.5	1579.1	2094.5	2240.7	2167.6	1966.5	1710.7
55°	2079.8	2149.3	1951.9	1432.9	1125.8	1403.6	1959.2	2105.4	2039.6	1842.3	1582.7
57.5°	1948.3	2017.7	1813.0	1275.7	1030.8	1246.4	1805.7	1981.2	1908.0	1714.3	1454.8
60°	1809.4	1878.8	1663.1	1133.1	924.8	1111.2	1648.5	1842.3	1769.1	1582.7	1330.5
62.5°	1663.1	1732.6	1520.6	1001.5	837.1	983.3	1476.7	1707.0	1626.6	1443.8	1202.6
65°	1513.3	1564.5	1352.4	877.3	749.3	862.6	1323.2	1538.9	1480.4	1297.6	1082.0
67.5°	1356.1	1407.3	1206.2	767.6	665.3	753.0	1173.3	1389.0	1323.2	1155.1	961.3
70°	1191.6	1235.5	1052.7	661.6	584.8	650.6	1016.2	1220.9	1162.4	1005.2	833.4
72.5°	1023.5	1063.7	888.2	562.9	500.8	555.6	851.7	1052.7	994.2	848.0	716.4
75°	844.4	884.6	734.7	464.2	416.7	456.9	701.8	873.6	818.8	698.2	595.8
77.5°	676.2	723.7	581.2	365.5	332.6	358.2	551.9	705.5	650.6	559.3	478.8
80°	515.4	555.6	431.3	277.8	255.9	274.1	402.1	537.3	493.5	431.3	372.8
82.5°	372.8	394.8	296.1	204.7	193.7	201.0	274.1	380.1	358.2	310.7	274.1
85°	252.2	248.6	182.8	142.6	138.9	142.6	164.5	230.3	226.6	208.4	175.5
87.5°	106.0	98.7	84.1	58.5	51.2	54.8	65.8	87.7	84.1	87.7	84.1
90°	3.7	36.6	58.5	73.1	76.8	73.1	58.5	36.6	3.7	40.2	65.8
92.5°	7.3	47.5	69.5	80.4	87.7	80.4	65.8	47.5	7.3	62.1	65.8
95°	21.9	65.8	80.4	98.7	106.0	98.7	80.4	62.1	21.9	54.8	98.7
97.5°	43.9	84.1	95.0	109.7	113.3	106.0	91.4	84.1	40.2	98.7	102.3
100°	65.8	106.0	124.3	124.3	127.9	124.3	120.6	102.3	62.1	109.7	124.3
102.5°	91.4	120.6	142.6	153.5	153.5	153.5	142.6	120.6	84.1	135.2	171.8
105°	117.0	131.6	157.2	171.8	179.1	171.8	157.2	135.2	113.3	157.2	182.8
107.5°	146.2	142.6	171.8	186.4	193.7	186.4	171.8	146.2	138.9	175.5	204.7
110°	175.5	157.2	186.4	201.0	204.7	201.0	186.4	157.2	168.1	197.4	226.6



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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°	201.0	168.1	201.0	215.7	219.3	215.7	201.0	171.8	193.7	212.0	248.6
115°	226.6	179.1	208.4	226.6	230.3	226.6	208.4	182.8	223.0	230.3	266.8
117.5°	252.2	193.7	215.7	237.6	241.2	237.6	219.3	197.4	248.6	252.2	285.1
120°	277.8	212.0	226.6	244.9	252.2	248.6	226.6	215.7	270.5	270.5	299.7
122.5°	299.7	226.6	237.6	252.2	259.5	252.2	237.6	233.9	296.1	288.8	318.0
125°	325.3	241.2	244.9	259.5	263.2	259.5	248.6	244.9	318.0	303.4	329.0
127.5°	343.6	259.5	252.2	266.8	270.5	266.8	255.9	263.2	339.9	332.6	339.9
130°	365.5	277.8	259.5	274.1	277.8	277.8	259.5	285.1	358.2	354.6	354.6
132.5°	383.8	296.1	266.8	281.5	285.1	285.1	270.5	299.7	376.5	372.8	365.5
135°	398.4	321.7	281.5	281.5	288.8	288.8	285.1	325.3	394.8	391.1	383.8
137.5°	413.0	343.6	292.4	285.1	288.8	288.8	299.7	347.3	409.4	409.4	394.8
140°	427.7	365.5	299.7	292.4	292.4	299.7	310.7	369.2	424.0	424.0	398.4
142.5°	442.3	383.8	310.7	303.4	296.1	310.7	321.7	391.1	435.0	438.6	409.4
145°	449.6	402.1	325.3	314.4	307.0	325.3	339.9	409.4	445.9	453.3	431.3
147.5°	460.6	420.4	343.6	321.7	321.7	332.6	354.6	424.0	456.9	464.2	442.3
150°	471.5	435.0	358.2	332.6	325.3	343.6	369.2	438.6	467.9	475.2	456.9
152.5°	478.8	449.6	380.1	347.3	339.9	361.9	394.8	449.6	475.2	482.5	471.5
155°	486.2	460.6	405.7	361.9	358.2	376.5	416.7	460.6	482.5	489.8	482.5
157.5°	493.5	471.5	424.0	383.8	369.2	398.4	435.0	475.2	489.8	497.1	493.5
160°	497.1	478.8	445.9	405.7	398.4	424.0	453.3	478.8	493.5	504.4	500.8
162.5°	504.4	486.2	460.6	431.3	424.0	445.9	467.9	489.8	500.8	508.1	508.1
165°	508.1	493.5	475.2	453.3	445.9	467.9	478.8	497.1	504.4	508.1	511.7
167.5°	508.1	500.8	486.2	467.9	464.2	482.5	493.5	504.4	508.1	508.1	515.4
170°	511.7	504.4	493.5	482.5	478.8	493.5	497.1	508.1	511.7	508.1	519.0
172.5°	511.7	508.1	500.8	489.8	482.5	500.8	504.4	508.1	511.7	508.1	515.4
175°	515.4	508.1	508.1	500.8	489.8	508.1	508.1	508.1	515.4	508.1	511.7
177.5°	515.4	508.1	508.1	504.4	497.1	508.1	508.1	508.1	515.4	508.1	511.7
180°	508.1	508.1	508.1	508.1	508.1	508.1	508.1	508.1	508.1	508.1	508.1



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CATALOG NUMBER: 8WSL-LD2-110-UPL8-UNV-L840-CD2-U

**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
0°	3414.0	3414.0	3414.0	3414.0	3414.0	3414.0
2.5°	3388.4	3362.8	3370.2	3399.4	3388.4	3439.6
5°	3362.8	3348.2	3348.2	3381.1	3377.5	3439.6
7.5°	3322.6	3308.0	3315.3	3351.9	3359.2	3435.9
10°	3275.1	3256.8	3264.2	3315.3	3333.6	3421.3
12.5°	3223.9	3209.3	3216.6	3275.1	3300.7	3406.7
15°	3165.5	3143.5	3165.5	3227.6	3260.5	3381.1
17.5°	3099.7	3070.4	3096.0	3176.4	3216.6	3351.9
20°	3033.9	3008.3	3022.9	3110.6	3169.1	3319.0
22.5°	2968.1	2931.5	2946.1	3037.5	3110.6	3271.5
25°	2891.3	2836.5	2865.7	2964.4	3048.5	3220.3
27.5°	2789.0	2704.9	2767.0	2891.3	2975.4	3165.5
30°	2653.7	2544.1	2635.4	2803.6	2898.6	3103.3
32.5°	2503.9	2386.9	2489.2	2704.9	2818.2	3030.2
35°	2354.0	2248.0	2339.4	2595.2	2734.1	2949.8
37.5°	2211.4	2120.1	2204.1	2478.3	2646.4	2865.7
40°	2076.2	1984.8	2072.5	2350.3	2551.4	2774.3
42.5°	1940.9	1856.9	1940.9	2215.1	2452.7	2672.0
45°	1805.7	1674.1	1798.4	2083.5	2346.7	2566.0
47.5°	1659.5	1506.0	1648.5	1940.9	2233.4	2452.7
50°	1520.6	1389.0	1513.3	1809.4	2116.4	2335.7
52.5°	1400.0	1294.0	1392.7	1674.1	1995.8	2207.8
55°	1286.7	1202.6	1286.7	1542.5	1867.8	2079.8
57.5°	1184.3	1129.5	1188.0	1429.2	1736.3	1948.3
60°	1096.6	1063.7	1100.2	1290.3	1604.7	1809.4
62.5°	1012.5	1008.9	1016.2	1180.7	1465.8	1663.1
65°	924.8	943.1	924.8	1063.7	1326.9	1513.3
67.5°	837.1	873.6	844.4	946.7	1177.0	1356.1
70°	756.6	796.8	756.6	826.1	1027.1	1191.6
72.5°	665.3	716.4	665.3	712.8	870.0	1023.5
75°	577.5	636.0	581.2	595.8	720.1	844.4
77.5°	482.5	537.3	493.5	482.5	581.2	676.2
80°	383.8	405.7	383.8	380.1	449.6	515.4
82.5°	266.8	285.1	266.8	277.8	329.0	372.8
85°	175.5	182.8	175.5	179.1	219.3	252.2
87.5°	73.1	73.1	73.1	91.4	98.7	106.0
90°	80.4	87.7	80.4	65.8	40.2	3.7
92.5°	84.1	91.4	84.1	73.1	47.5	7.3
95°	149.9	168.1	142.6	91.4	76.8	21.9
97.5°	120.6	131.6	124.3	106.0	95.0	43.9
100°	142.6	153.5	142.6	149.9	117.0	65.8
102.5°	168.1	175.5	171.8	175.5	142.6	91.4
105°	219.3	226.6	219.3	190.1	164.5	117.0
107.5°	233.9	252.2	237.6	212.0	186.4	146.2
110°	252.2	266.8	255.9	233.9	204.7	175.5





TEST NUMBER: P197435

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**CANDELA DISTRIBUTION (continued):**

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	270.5	288.8	277.8	259.5	219.3	201.0
115°	292.4	307.0	299.7	277.8	241.2	226.6
117.5°	314.4	325.3	318.0	292.4	263.2	252.2
120°	332.6	347.3	339.9	310.7	281.5	277.8
122.5°	347.3	361.9	354.6	329.0	299.7	299.7
125°	361.9	376.5	369.2	343.6	314.4	325.3
127.5°	372.8	391.1	383.8	354.6	347.3	343.6
130°	387.5	398.4	394.8	365.5	365.5	365.5
132.5°	394.8	409.4	402.1	380.1	387.5	383.8
135°	398.4	416.7	409.4	398.4	405.7	398.4
137.5°	405.7	420.4	416.7	409.4	424.0	413.0
140°	416.7	424.0	427.7	416.7	438.6	427.7
142.5°	427.7	431.3	438.6	427.7	453.3	442.3
145°	435.0	442.3	449.6	449.6	464.2	449.6
147.5°	435.0	445.9	445.9	456.9	478.8	460.6
150°	445.9	438.6	460.6	471.5	486.2	471.5
152.5°	460.6	456.9	475.2	486.2	493.5	478.8
155°	464.2	467.9	478.8	497.1	500.8	486.2
157.5°	478.8	475.2	493.5	508.1	508.1	493.5
160°	489.8	489.8	508.1	515.4	511.7	497.1
162.5°	500.8	500.8	519.0	519.0	515.4	504.4
165°	508.1	508.1	526.4	522.7	515.4	508.1
167.5°	511.7	515.4	530.0	526.4	515.4	508.1
170°	515.4	515.4	530.0	522.7	515.4	511.7
172.5°	515.4	511.7	526.4	519.0	511.7	511.7
175°	511.7	504.4	519.0	511.7	511.7	515.4
177.5°	508.1	497.1	508.1	508.1	511.7	515.4
180°	508.1	508.1	508.1	508.1	508.1	508.1

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