

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: P197453

Luminaire Tested: **8WSL-LD2-160-UPL8-UNV-L830-CD2-U**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P197453
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-LD2-160-UPL8-UNV-L830-CD2-U
Description: 8FT. Linear Wavestream System, 8% Uplight, L830
Light Source: (476) 3000K CCT, 80 CRI LEDS
EL236N0119D830
Ballast/Driver: OSRAM
OT85W1202772A0DIML

Summary

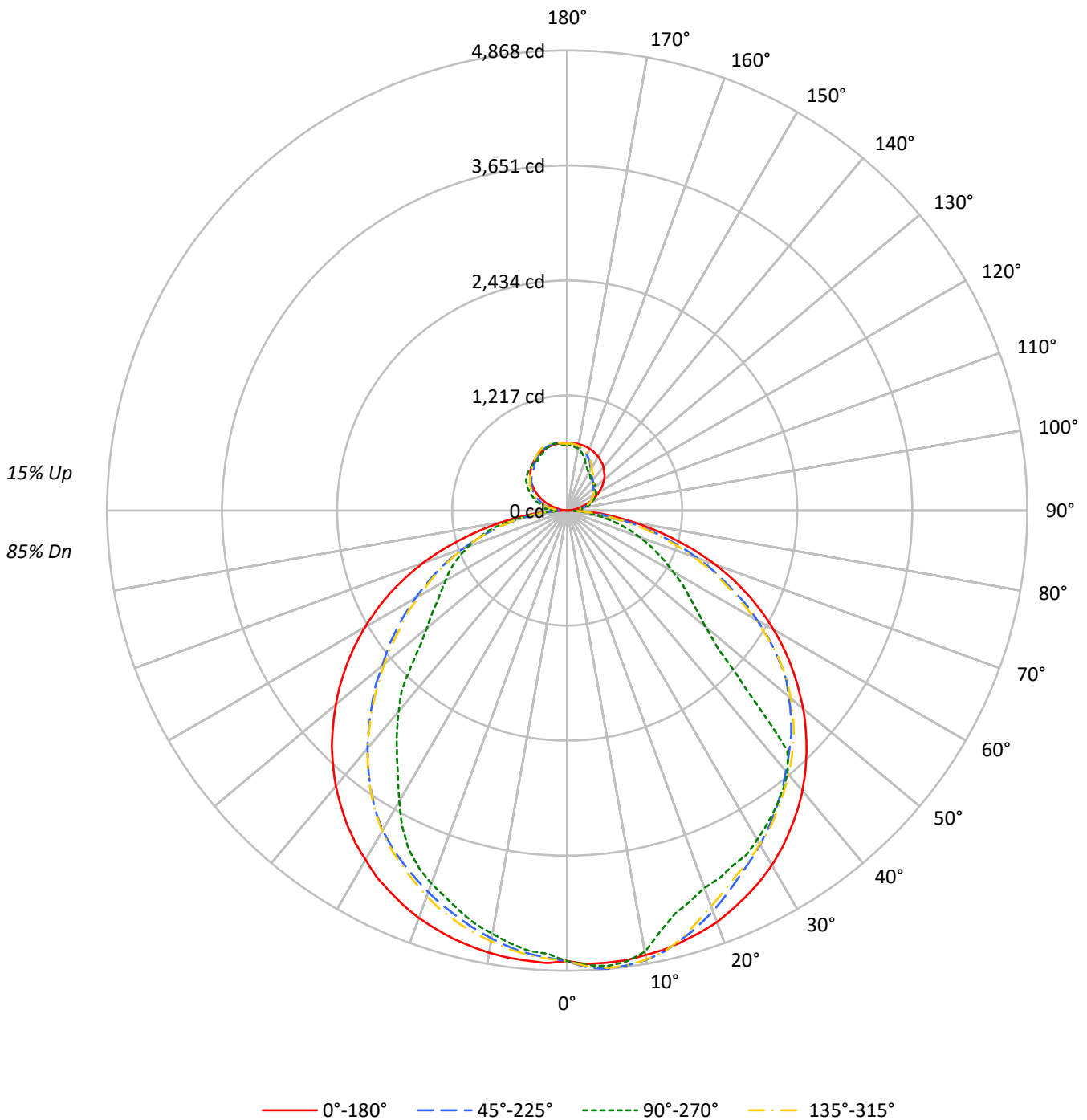
Lumens per Lamp: N/A
Luminaire Lumens: 15807.4 lumens
Efficiency: N/A
Efficacy: 103.4 lumens/watt
Spacing Criteria (0/90/45): 1.34 / 1.19 / 1.36
Luminous Opening: Rectangular (W 0.5' x L: 7.6' x H: 0')
CIE Type: Semi-Direct

Input Watts (W): 152.9
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°	13499	13499	13499	13499
5°	13652	13754	13594	13290
10°	13737	13634	13664	13077
15°	13841	12943	13736	12868
20°	13966	12797	13827	12658
25°	14050	12949	13890	12375
30°	14169	13151	13952	11616
35°	14239	13286	14027	10851
40°	14320	13415	14075	10245
45°	14349	10792	14104	9361
50°	14368	8387	14076	8544
55°	14338	7761	14061	8290
60°	14309	7313	13991	8412
65°	14158	7011	13851	8823
70°	13776	6761	13438	9212
75°	12900	6366	12509	9716
80°	11735	5827	11236	9239
85°	11443	6302	10283	8291



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	453.0	2.9
10°-20°	1286.5	8.1
20°-30°	1947.5	12.3
30°-40°	2351.7	14.9
40°-50°	2400.9	15.2
50°-60°	2099.1	13.3
60°-70°	1627.0	10.3
70°-80°	978.2	6.2
80°-90°	302.0	1.9
90°-100°	127.3	0.8
100°-110°	243.4	1.5
110°-120°	330.7	2.1
120°-130°	375.9	2.4
130°-140°	381.3	2.4
140°-150°	351.0	2.2
150°-160°	289.5	1.8
160°-170°	194.7	1.2
170°-180°	67.7	0.4
0°-30°	3687.1	23.3
0°-40°	6038.7	38.2
0°-60°	10538.7	66.7
0°-90°	13445.9	85.1
90°-120°	701.4	4.4
90°-150°	1809.6	11.4
90°-180°	2362.0	14.9
0°-180°	15807.4	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	4766	4766	4766	4766	4766	
5°	4801	4837	4781	4674	4801	458
15°	4720	4414	4684	4388	4720	1334
25°	4495	4143	4444	3960	4495	2075
35°	4118	3842	4056	3138	4118	2578
45°	3582	2694	3521	2337	3582	2763
55°	2903	1572	2847	1679	2903	2595
65°	2112	1046	2066	1316	2112	2084
75°	1179	582	1143	888	1179	1251
85°	352	194	316	255	352	355
90°	5	107	5	122	5	23
95°	31	148	31	235	31	39
105°	163	250	158	316	163	175
115°	316	322	311	429	316	313
125°	454	367	444	526	454	403
135°	556	403	551	582	556	429
145°	628	429	622	617	628	394
155°	679	500	674	653	679	313
165°	709	622	704	709	709	200
175°	719	684	719	704	719	68
180°	709	709	709	709	709	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°	112.5°	135°	157.5°	180°	202.5°	225°
0°	4765.7	4765.7	4765.7	4765.7	4765.7	4765.7	4765.7	4765.7	4765.7	4765.7	4765.7
2.5°	4801.4	4775.9	4837.1	4847.4	4811.6	4821.8	4826.9	4770.8	4791.2	4714.7	4735.1
5°	4801.4	4796.3	4867.8	4857.6	4837.1	4842.2	4857.6	4791.2	4781.0	4689.2	4704.5
7.5°	4796.3	4806.5	4852.5	4842.2	4811.6	4826.9	4852.5	4801.4	4770.8	4663.7	4658.6
10°	4775.9	4791.2	4826.9	4796.3	4740.2	4765.7	4821.8	4791.2	4750.4	4622.8	4597.3
12.5°	4755.5	4765.7	4775.9	4648.4	4556.5	4617.7	4775.9	4765.7	4719.8	4576.9	4531.0
15°	4719.8	4735.1	4694.3	4510.6	4413.6	4474.9	4684.1	4724.9	4684.1	4510.6	4454.5
17.5°	4679.0	4694.3	4607.5	4403.4	4332.0	4362.6	4566.7	4673.9	4638.1	4449.4	4377.9
20°	4633.0	4648.4	4510.6	4291.2	4245.3	4270.8	4454.5	4617.7	4587.1	4377.9	4296.3
22.5°	4566.7	4592.2	4398.3	4214.6	4209.5	4209.5	4347.3	4551.4	4520.8	4291.2	4204.4
25°	4495.3	4520.8	4286.1	4143.2	4143.2	4143.2	4250.4	4464.7	4444.3	4199.3	4112.6
27.5°	4418.7	4444.3	4184.0	4092.2	4107.5	4082.0	4168.7	4367.7	4367.7	4107.5	4015.6
30°	4332.0	4357.5	4082.0	4010.5	4020.7	4010.5	4076.9	4265.7	4265.7	4000.3	3903.4
32.5°	4230.0	4255.5	3969.7	3913.6	3934.0	3923.8	3990.1	4163.6	4168.7	3888.1	3770.7
35°	4117.7	4148.3	3852.4	3821.8	3842.2	3826.9	3872.8	4056.5	4056.5	3765.6	3617.7
37.5°	4000.3	4031.0	3729.9	3719.7	3740.1	3724.8	3760.5	3944.2	3934.0	3638.1	3454.4
40°	3872.8	3908.5	3602.3	3602.3	3627.9	3617.7	3648.3	3826.9	3806.4	3510.5	3286.0
42.5°	3729.9	3775.8	3474.8	3479.9	3449.3	3490.1	3520.7	3704.4	3663.6	3367.6	3102.3
45°	3581.9	3638.1	3352.3	3260.5	2694.1	3224.8	3388.0	3581.9	3520.7	3224.8	2923.7
47.5°	3423.8	3495.2	3209.5	2872.7	2168.6	2826.8	3245.2	3428.9	3357.4	3071.7	2750.2
50°	3260.5	3342.1	3061.5	2541.0	1903.2	2490.0	3087.0	3275.8	3194.1	2913.5	2551.2
52.5°	3081.9	3173.7	2918.6	2250.2	1724.6	2204.3	2923.7	3127.8	3025.8	2745.1	2388.0
55°	2903.3	3000.3	2724.7	2000.2	1571.6	1959.3	2734.9	2939.0	2847.2	2571.6	2209.4
57.5°	2719.6	2816.6	2530.8	1780.8	1438.9	1739.9	2520.6	2765.5	2663.5	2393.1	2030.8
60°	2525.7	2622.7	2321.6	1581.8	1290.9	1551.2	2301.2	2571.6	2469.6	2209.4	1857.3
62.5°	2321.6	2418.6	2122.6	1398.1	1168.5	1372.6	2061.4	2382.9	2270.6	2015.5	1678.7
65°	2112.4	2183.9	1887.9	1224.6	1046.0	1204.2	1847.1	2148.1	2066.5	1811.4	1510.3
67.5°	1893.0	1964.5	1683.8	1071.5	928.7	1051.1	1637.9	1938.9	1847.1	1612.4	1342.0
70°	1663.4	1724.6	1469.5	923.5	816.4	908.2	1418.5	1704.2	1622.6	1403.2	1163.4
72.5°	1428.7	1484.8	1239.9	785.8	699.0	775.6	1188.9	1469.5	1387.9	1183.8	1000.1
75°	1178.7	1234.8	1025.6	648.0	581.7	637.8	979.7	1219.5	1143.0	974.6	831.7
77.5°	944.0	1010.3	811.3	510.2	464.3	500.0	770.5	984.8	908.2	780.7	668.4
80°	719.4	775.6	602.1	387.8	357.2	382.7	561.3	750.1	688.8	602.1	520.5
82.5°	520.5	551.1	413.3	285.7	270.4	280.6	382.7	530.7	500.0	433.7	382.7
85°	352.1	347.0	255.1	199.0	193.9	199.0	229.6	321.5	316.4	290.8	244.9
87.5°	148.0	137.8	117.4	81.6	71.4	76.5	91.8	122.5	117.4	122.5	117.4
90°	5.1	51.0	81.6	102.0	107.2	102.0	81.6	51.0	5.1	56.1	91.8
92.5°	10.2	66.3	96.9	112.3	122.5	112.3	91.8	66.3	10.2	86.7	91.8
95°	30.6	91.8	112.3	137.8	148.0	137.8	112.3	86.7	30.6	76.5	137.8
97.5°	61.2	117.4	132.7	153.1	158.2	148.0	127.6	117.4	56.1	137.8	142.9
100°	91.8	148.0	173.5	173.5	178.6	173.5	168.4	142.9	86.7	153.1	173.5
102.5°	127.6	168.4	199.0	214.3	214.3	214.3	199.0	168.4	117.4	188.8	239.8
105°	163.3	183.7	219.4	239.8	250.0	239.8	219.4	188.8	158.2	219.4	255.1
107.5°	204.1	199.0	239.8	260.2	270.4	260.2	239.8	204.1	193.9	244.9	285.7
110°	244.9	219.4	260.2	280.6	285.7	280.6	260.2	219.4	234.7	275.5	316.4



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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°	280.6	234.7	280.6	301.0	306.1	301.0	280.6	239.8	270.4	295.9	347.0
115°	316.4	250.0	290.8	316.4	321.5	316.4	290.8	255.1	311.3	321.5	372.5
117.5°	352.1	270.4	301.0	331.7	336.8	331.7	306.1	275.5	347.0	352.1	398.0
120°	387.8	295.9	316.4	341.9	352.1	347.0	316.4	301.0	377.6	377.6	418.4
122.5°	418.4	316.4	331.7	352.1	362.3	352.1	331.7	326.6	413.3	403.1	443.9
125°	454.1	336.8	341.9	362.3	367.4	362.3	347.0	341.9	443.9	423.5	459.2
127.5°	479.6	362.3	352.1	372.5	377.6	372.5	357.2	367.4	474.5	464.3	474.5
130°	510.2	387.8	362.3	382.7	387.8	387.8	362.3	398.0	500.0	494.9	494.9
132.5°	535.8	413.3	372.5	392.9	398.0	398.0	377.6	418.4	525.6	520.5	510.2
135°	556.2	449.0	392.9	392.9	403.1	403.1	398.0	454.1	551.1	546.0	535.8
137.5°	576.6	479.6	408.2	398.0	403.1	403.1	418.4	484.7	571.5	571.5	551.1
140°	597.0	510.2	418.4	408.2	408.2	418.4	433.7	515.3	591.9	591.9	556.2
142.5°	617.4	535.8	433.7	423.5	413.3	433.7	449.0	546.0	607.2	612.3	571.5
145°	627.6	561.3	454.1	438.8	428.6	454.1	474.5	571.5	622.5	632.7	602.1
147.5°	642.9	586.8	479.6	449.0	449.0	464.3	494.9	591.9	637.8	648.0	617.4
150°	658.2	607.2	500.0	464.3	454.1	479.6	515.3	612.3	653.1	663.3	637.8
152.5°	668.4	627.6	530.7	484.7	474.5	505.1	551.1	627.6	663.3	673.5	658.2
155°	678.6	642.9	566.4	505.1	500.0	525.6	581.7	642.9	673.5	683.7	673.5
157.5°	688.8	658.2	591.9	535.8	515.3	556.2	607.2	663.3	683.7	693.9	688.8
160°	693.9	668.4	622.5	566.4	556.2	591.9	632.7	668.4	688.8	704.1	699.0
162.5°	704.1	678.6	642.9	602.1	591.9	622.5	653.1	683.7	699.0	709.2	709.2
165°	709.2	688.8	663.3	632.7	622.5	653.1	668.4	693.9	704.1	709.2	714.3
167.5°	709.2	699.0	678.6	653.1	648.0	673.5	688.8	704.1	709.2	709.2	719.4
170°	714.3	704.1	688.8	673.5	668.4	688.8	693.9	709.2	714.3	709.2	724.6
172.5°	714.3	709.2	699.0	683.7	673.5	699.0	704.1	709.2	714.3	709.2	719.4
175°	719.4	709.2	709.2	699.0	683.7	709.2	709.2	709.2	719.4	709.2	714.3
177.5°	719.4	709.2	709.2	704.1	693.9	709.2	709.2	709.2	719.4	709.2	714.3
180°	709.2	709.2	709.2	709.2	709.2	709.2	709.2	709.2	709.2	709.2	709.2



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CATALOG NUMBER: 8WSL-LD2-160-UPL8-UNV-L830-CD2-U

CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
0°	4765.7	4765.7	4765.7	4765.7	4765.7	4765.7
2.5°	4730.0	4694.3	4704.5	4745.3	4730.0	4801.4
5°	4694.3	4673.9	4673.9	4719.8	4714.7	4801.4
7.5°	4638.1	4617.7	4627.9	4679.0	4689.2	4796.3
10°	4571.8	4546.3	4556.5	4627.9	4653.5	4775.9
12.5°	4500.4	4480.0	4490.2	4571.8	4607.5	4755.5
15°	4418.7	4388.1	4418.7	4505.5	4551.4	4719.8
17.5°	4326.9	4286.1	4321.8	4434.0	4490.2	4679.0
20°	4235.1	4199.3	4219.7	4342.2	4423.8	4633.0
22.5°	4143.2	4092.2	4112.6	4240.2	4342.2	4566.7
25°	4036.1	3959.5	4000.3	4138.1	4255.5	4495.3
27.5°	3893.2	3775.8	3862.6	4036.1	4153.4	4418.7
30°	3704.4	3551.3	3678.9	3913.6	4046.3	4332.0
32.5°	3495.2	3331.9	3474.8	3775.8	3934.0	4230.0
35°	3286.0	3138.0	3265.6	3622.8	3816.7	4117.7
37.5°	3087.0	2959.4	3076.8	3459.5	3694.2	4000.3
40°	2898.2	2770.6	2893.1	3280.9	3561.5	3872.8
42.5°	2709.4	2592.1	2709.4	3092.1	3423.8	3729.9
45°	2520.6	2336.9	2510.4	2908.4	3275.8	3581.9
47.5°	2316.5	2102.2	2301.2	2709.4	3117.6	3423.8
50°	2122.6	1938.9	2112.4	2525.7	2954.3	3260.5
52.5°	1954.2	1806.3	1944.0	2336.9	2786.0	3081.9
55°	1796.1	1678.7	1796.1	2153.2	2607.4	2903.3
57.5°	1653.2	1576.7	1658.3	1995.1	2423.7	2719.6
60°	1530.7	1484.8	1535.8	1801.2	2240.0	2525.7
62.5°	1413.4	1408.3	1418.5	1648.1	2046.1	2321.6
65°	1290.9	1316.4	1290.9	1484.8	1852.2	2112.4
67.5°	1168.5	1219.5	1178.7	1321.5	1643.0	1893.0
70°	1056.2	1112.3	1056.2	1153.2	1433.8	1663.4
72.5°	928.7	1000.1	928.7	995.0	1214.4	1428.7
75°	806.2	887.8	811.3	831.7	1005.2	1178.7
77.5°	673.5	750.1	688.8	673.5	811.3	944.0
80°	535.8	566.4	535.8	530.7	627.6	719.4
82.5°	372.5	398.0	372.5	387.8	459.2	520.5
85°	244.9	255.1	244.9	250.0	306.1	352.1
87.5°	102.0	102.0	102.0	127.6	137.8	148.0
90°	112.3	122.5	112.3	91.8	56.1	5.1
92.5°	117.4	127.6	117.4	102.0	66.3	10.2
95°	209.2	234.7	199.0	127.6	107.2	30.6
97.5°	168.4	183.7	173.5	148.0	132.7	61.2
100°	199.0	214.3	199.0	209.2	163.3	91.8
102.5°	234.7	244.9	239.8	244.9	199.0	127.6
105°	306.1	316.4	306.1	265.3	229.6	163.3
107.5°	326.6	352.1	331.7	295.9	260.2	204.1
110°	352.1	372.5	357.2	326.6	285.7	244.9



TEST NUMBER: P197453

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CANDELA DISTRIBUTION (continued):

	247.5°	270°	292.5°	315°	337.5°	360°
112.5°	377.6	403.1	387.8	362.3	306.1	280.6
115°	408.2	428.6	418.4	387.8	336.8	316.4
117.5°	438.8	454.1	443.9	408.2	367.4	352.1
120°	464.3	484.7	474.5	433.7	392.9	387.8
122.5°	484.7	505.1	494.9	459.2	418.4	418.4
125°	505.1	525.6	515.3	479.6	438.8	454.1
127.5°	520.5	546.0	535.8	494.9	484.7	479.6
130°	540.9	556.2	551.1	510.2	510.2	510.2
132.5°	551.1	571.5	561.3	530.7	540.9	535.8
135°	556.2	581.7	571.5	556.2	566.4	556.2
137.5°	566.4	586.8	581.7	571.5	591.9	576.6
140°	581.7	591.9	597.0	581.7	612.3	597.0
142.5°	597.0	602.1	612.3	597.0	632.7	617.4
145°	607.2	617.4	627.6	627.6	648.0	627.6
147.5°	607.2	622.5	622.5	637.8	668.4	642.9
150°	622.5	612.3	642.9	658.2	678.6	658.2
152.5°	642.9	637.8	663.3	678.6	688.8	668.4
155°	648.0	653.1	668.4	693.9	699.0	678.6
157.5°	668.4	663.3	688.8	709.2	709.2	688.8
160°	683.7	683.7	709.2	719.4	714.3	693.9
162.5°	699.0	699.0	724.6	724.6	719.4	704.1
165°	709.2	709.2	734.8	729.7	719.4	709.2
167.5°	714.3	719.4	739.9	734.8	719.4	709.2
170°	719.4	719.4	739.9	729.7	719.4	714.3
172.5°	719.4	714.3	734.8	724.6	714.3	714.3
175°	714.3	704.1	724.6	714.3	714.3	719.4
177.5°	709.2	693.9	709.2	709.2	714.3	719.4
180°	709.2	709.2	709.2	709.2	709.2	709.2

(END OF REPORT)