

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: NEO-RAY

Report Number: P331780-935

Luminaire Tested: **S122RDIW-S290D1240U935-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331780-935
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-8,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S122RDIW-S290D1240U935-4F0-1E-UDD-F1
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 290 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 1240 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4593.4 lumens
Efficiency: N/A
Efficacy: 98.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: Semi-Indirect

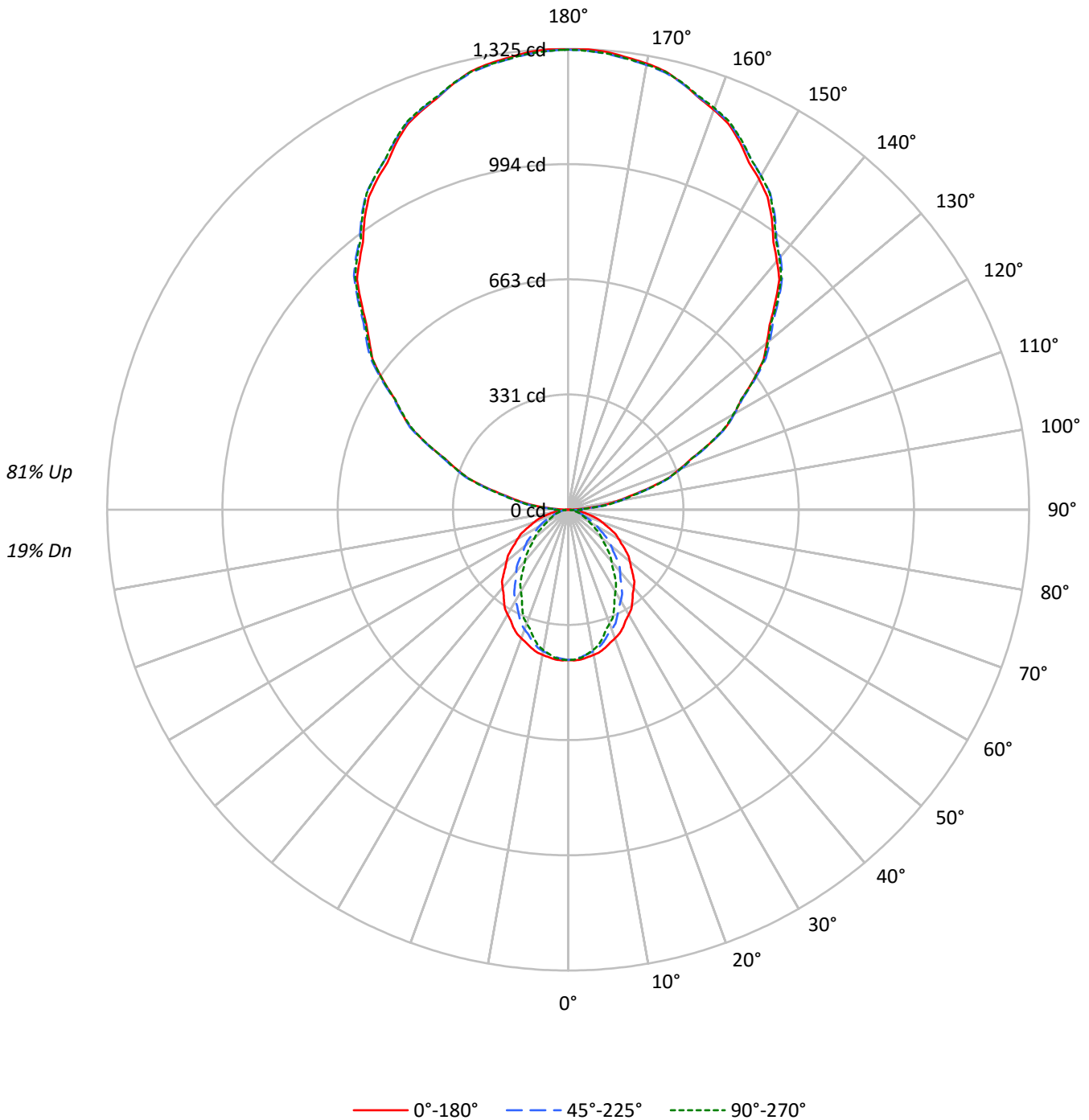
Input Watts (W): 46.6
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	100	100	100	100	88	88	88	88	66	66	66	46	46	46	28	28	28	19
1	91	87	83	80	80	77	74	71	58	56	54	41	40	39	25	24	24	17
2	83	76	70	66	73	67	63	59	51	48	45	36	34	33	22	21	20	14
3	76	67	60	55	67	59	54	49	45	41	38	32	30	28	20	19	18	12
4	69	59	52	46	61	53	46	42	40	36	33	29	26	24	18	16	15	11
5	64	53	45	39	56	47	40	36	36	31	28	26	23	21	16	15	13	9
6	58	47	40	34	51	42	36	31	32	28	24	23	20	18	15	13	12	8
7	54	42	35	30	48	38	31	27	29	25	21	21	18	16	13	12	11	8
8	50	38	31	26	44	34	28	24	26	22	19	19	16	14	12	11	9	7
9	46	35	28	23	41	31	25	21	24	20	17	18	15	13	11	10	9	6
10	43	32	25	21	38	29	23	19	22	18	15	16	13	11	10	9	8	6

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	6978	6978	6978
5°	7005	6891	6929
10°	6951	6779	6720
15°	6870	6578	6387
20°	6761	6290	5976
25°	6649	5964	5574
30°	6490	5630	5062
35°	6337	5267	4610
40°	6182	4890	4089
45°	6003	4464	3617
50°	5815	4037	3152
55°	5624	3578	2711
60°	5406	3094	2251
65°	5154	2598	2048
70°	4858	2143	1884
75°	4492	1953	1759
80°	3961	1748	1599
85°	3112	1371	1371



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	40.5	0.9
10°-20°	111.1	2.4
20°-30°	156.0	3.4
30°-40°	170.1	3.7
40°-50°	156.4	3.4
50°-60°	122.8	2.7
60°-70°	80.1	1.7
70°-80°	41.3	0.9
80°-90°	16.0	0.3
90°-100°	83.8	1.8
100°-110°	260.4	5.7
110°-120°	445.0	9.7
120°-130°	585.3	12.7
130°-140°	656.9	14.3
140°-150°	644.1	14.0
150°-160°	540.2	11.8
160°-170°	358.3	7.8
170°-180°	125.2	2.7
0°-30°	307.5	6.7
0°-40°	477.6	10.4
0°-60°	756.8	16.5
0°-90°	894.2	19.5
90°-120°	789.2	17.2
90°-150°	2675.4	58.2
90°-180°	3699.0	80.5
0°-180°	4593.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	432	432	432	432	432	
5°	432	430	425	428	428	41
15°	411	406	394	386	382	116
25°	373	360	335	319	313	172
35°	322	301	267	243	234	201
45°	263	236	196	169	158	203
55°	200	169	127	104	96	179
65°	135	103	68	55	54	134
75°	72	45	31	29	28	76
85°	17	9	7	7	7	20
90°	1	15	39	37	38	4
95°	58	69	72	71	69	67
105°	240	243	246	248	248	253
115°	447	453	451	450	447	442
125°	650	659	656	653	652	580
135°	841	852	855	854	851	649
145°	1020	1028	1035	1036	1032	637
155°	1167	1170	1173	1178	1176	537
165°	1269	1268	1268	1275	1270	358
175°	1321	1318	1315	1322	1316	125
180°	1323	1323	1323	1323	1323	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	432.2	432.2	432.2	432.2	432.2	432.2	432.2	432.2	432.2	432.2	432.2
2.5°	433.8	433.4	433.1	432.7	432.4	431.8	431.0	430.3	429.6	428.8	429.5
5°	432.2	431.8	431.4	430.9	430.5	429.6	428.5	427.4	426.3	425.2	425.9
7.5°	427.7	427.2	426.6	426.1	425.6	424.6	423.4	422.0	420.7	419.4	419.6
10°	424.0	423.4	422.8	422.1	421.5	420.3	418.6	416.9	415.2	413.5	413.2
12.5°	419.3	418.5	417.8	417.1	416.3	414.8	412.6	410.4	408.1	405.9	405.4
15°	411.0	410.1	409.1	408.2	407.3	405.3	402.3	399.4	396.4	393.5	391.8
17.5°	401.0	399.5	398.0	396.6	395.1	392.5	388.7	385.0	381.2	377.4	375.4
20°	393.5	391.8	390.0	388.2	386.5	383.5	379.1	374.8	370.5	366.1	363.9
22.5°	385.4	383.4	381.4	379.5	377.5	374.1	369.2	364.3	359.5	354.6	351.7
25°	373.2	370.3	367.6	364.8	362.1	357.7	352.0	346.3	340.5	334.8	331.2
27.5°	358.4	355.4	352.4	349.4	346.3	341.6	335.1	328.6	322.2	315.7	311.6
30°	348.1	344.8	341.5	338.2	334.9	329.8	322.8	315.9	308.9	302.0	297.6
32.5°	338.1	334.2	330.4	326.5	322.6	317.2	310.1	303.0	295.9	288.8	283.8
35°	321.5	317.1	312.6	308.2	303.8	297.7	290.1	282.4	274.8	267.2	261.7
37.5°	305.0	300.1	295.2	290.3	285.4	279.0	270.8	262.6	254.5	246.3	240.3
40°	293.3	288.2	282.9	277.7	272.5	265.7	257.3	248.8	240.4	232.0	225.8
42.5°	281.5	276.0	270.4	265.0	259.5	252.4	243.7	235.0	226.3	217.6	211.2
45°	262.9	257.0	251.2	245.4	239.5	232.0	222.9	213.8	204.7	195.5	189.4
47.5°	244.7	238.5	232.4	226.2	220.0	212.2	202.8	193.4	183.9	174.5	168.4
50°	231.5	225.4	219.2	213.0	206.9	199.0	189.4	179.9	170.3	160.7	154.7
52.5°	218.7	212.2	205.9	199.4	193.0	185.0	175.6	166.3	157.0	147.6	141.8
55°	199.8	193.1	186.3	179.5	172.7	164.7	155.2	145.9	136.5	127.1	121.9
57.5°	180.6	173.6	166.6	159.7	152.7	144.7	135.7	126.7	117.7	108.7	103.8
60°	167.4	160.5	153.5	146.5	139.6	131.6	122.7	113.7	104.8	95.8	91.4
62.5°	154.5	147.7	140.7	133.7	126.7	119.0	110.5	101.9	93.4	84.9	80.7
65°	134.9	127.9	120.9	113.8	106.8	99.4	91.5	83.7	75.9	68.0	65.1
67.5°	116.0	109.0	102.0	95.1	88.1	81.0	74.0	67.0	59.9	52.9	51.5
70°	102.9	96.1	89.3	82.6	75.8	69.4	63.4	57.3	51.4	45.4	44.5
72.5°	90.3	83.9	77.3	70.9	64.3	58.7	53.9	49.1	44.3	39.4	38.7
75°	72.0	65.9	59.8	53.7	47.6	43.1	40.1	37.2	34.3	31.3	30.7
77.5°	53.9	48.6	43.2	37.9	32.5	29.2	27.7	26.3	24.9	23.5	23.2
80°	42.6	38.2	33.8	29.4	24.9	22.2	21.4	20.5	19.6	18.8	18.4
82.5°	32.3	28.8	25.4	22.0	18.5	16.4	15.8	15.2	14.6	14.1	13.9
85°	16.8	15.0	13.2	11.4	9.6	8.4	8.2	7.9	7.7	7.4	7.4
87.5°	5.3	5.3	5.3	5.3	5.4	5.9	7.1	8.1	9.2	10.3	10.2
90°	1.1	4.1	7.1	10.1	13.0	17.2	22.7	28.2	33.6	39.1	38.6
92.5°	19.9	22.0	24.3	26.4	28.6	30.3	31.6	32.9	34.2	35.5	35.6
95°	58.0	60.5	63.0	65.5	68.0	69.5	70.0	70.4	70.9	71.5	71.5
97.5°	106.1	108.2	110.5	112.6	114.8	116.3	117.3	118.2	119.2	120.1	120.1
100°	141.8	143.8	145.8	147.7	149.7	151.1	151.8	152.6	153.3	154.0	154.0
102.5°	179.3	180.9	182.4	184.1	185.6	186.9	187.9	188.8	189.8	190.7	190.9
105°	240.0	240.7	241.5	242.3	243.0	243.7	244.1	244.6	245.1	245.6	246.1
107.5°	301.2	302.3	303.4	304.4	305.6	306.1	306.1	306.1	306.1	306.1	306.3
110°	340.5	342.0	343.5	345.0	346.5	347.2	347.2	347.2	347.2	347.2	347.2



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	383.4	384.9	386.3	387.9	389.3	389.9	389.8	389.6	389.3	389.2	388.6
115°	446.6	448.1	449.5	451.0	452.5	453.0	452.5	452.0	451.5	451.0	450.8
117.5°	509.5	511.5	513.5	515.5	517.5	517.8	516.3	515.0	513.6	512.2	511.6
120°	551.5	553.5	555.5	557.5	559.5	559.5	557.5	555.5	553.5	551.5	551.5
122.5°	589.9	592.3	594.7	597.0	599.4	599.9	598.6	597.2	595.7	594.3	593.7
125°	649.7	651.9	654.2	656.4	658.7	659.4	658.7	658.0	657.2	656.4	655.7
127.5°	708.0	710.8	713.7	716.5	719.4	720.3	719.5	718.5	717.6	716.7	715.8
130°	744.7	747.9	751.1	754.3	757.5	758.9	758.5	757.9	757.4	756.9	756.4
132.5°	785.7	788.3	791.0	793.6	796.3	797.6	797.7	797.8	797.9	798.0	796.9
135°	840.7	843.3	846.1	848.9	851.6	853.2	853.7	854.2	854.7	855.1	854.9
137.5°	898.5	900.7	902.9	905.2	907.4	908.9	909.5	910.2	910.8	911.5	911.3
140°	933.3	935.6	937.8	940.0	942.3	944.0	945.2	946.5	947.7	948.9	948.9
142.5°	969.1	971.3	973.5	975.8	978.0	979.5	980.3	981.2	982.1	982.9	983.1
145°	1020.4	1022.2	1023.9	1025.6	1027.3	1029.0	1030.4	1031.9	1033.5	1034.9	1035.2
147.5°	1066.2	1068.2	1070.3	1072.5	1074.5	1076.1	1077.0	1078.1	1079.0	1080.0	1080.6
150°	1097.4	1098.9	1100.4	1101.9	1103.4	1104.7	1105.6	1106.6	1107.6	1108.6	1109.3
152.5°	1125.2	1126.6	1128.1	1129.5	1131.1	1132.4	1133.6	1134.8	1136.0	1137.2	1138.2
155°	1166.7	1167.4	1168.1	1168.9	1169.7	1170.4	1171.1	1171.8	1172.6	1173.4	1174.6
157.5°	1202.1	1202.6	1203.2	1203.7	1204.1	1204.6	1205.1	1205.5	1205.9	1206.4	1208.1
160°	1223.6	1224.1	1224.6	1225.1	1225.5	1226.0	1226.2	1226.4	1226.7	1226.9	1228.4
162.5°	1243.2	1243.4	1243.5	1243.5	1243.6	1243.8	1244.1	1244.3	1244.6	1244.8	1246.5
165°	1269.4	1269.1	1268.9	1268.6	1268.3	1268.3	1268.3	1268.3	1268.3	1268.3	1270.0
167.5°	1291.2	1290.5	1289.8	1289.0	1288.2	1287.9	1287.8	1287.8	1287.7	1287.6	1289.4
170°	1302.9	1302.1	1301.4	1300.6	1299.9	1299.4	1299.2	1298.9	1298.6	1298.4	1300.1
172.5°	1310.9	1310.2	1309.4	1308.6	1307.9	1307.4	1307.2	1306.9	1306.7	1306.4	1308.2
175°	1320.7	1320.0	1319.2	1318.4	1317.8	1317.2	1316.6	1316.1	1315.6	1315.1	1316.9
177.5°	1324.7	1324.1	1323.5	1322.9	1322.3	1321.9	1321.5	1321.0	1320.7	1320.3	1321.5
180°	1322.9	1322.9	1322.9	1322.9	1322.9	1322.9	1322.9	1322.9	1322.9	1322.9	1322.9



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	432.2	432.2	432.2	432.2	432.2	432.2	432.2	432.2
2.5°	430.2	430.8	431.5	431.8	431.7	431.5	431.4	431.3
5°	426.7	427.5	428.3	428.5	428.3	428.0	427.7	427.5
7.5°	419.8	420.1	420.3	420.2	419.7	419.2	418.8	418.4
10°	412.9	412.7	412.4	412.0	411.5	411.0	410.4	409.9
12.5°	405.0	404.5	404.1	403.4	402.5	401.7	400.8	399.9
15°	390.2	388.5	386.8	385.6	384.8	383.8	383.0	382.1
17.5°	373.4	371.4	369.5	367.8	366.3	364.8	363.3	361.8
20°	361.8	359.6	357.4	355.3	353.4	351.5	349.7	347.8
22.5°	349.0	346.1	343.4	341.2	339.8	338.4	336.9	335.5
25°	327.7	324.1	320.6	318.1	316.8	315.5	314.2	312.9
27.5°	307.4	303.2	299.1	296.0	293.9	291.9	289.8	287.7
30°	293.1	288.7	284.2	280.9	278.4	276.1	273.8	271.5
32.5°	278.7	273.6	268.5	264.9	262.8	260.5	258.3	256.1
35°	256.2	250.7	245.2	241.5	239.6	237.7	235.8	233.9
37.5°	234.3	228.3	222.2	218.1	215.9	213.7	211.5	209.3
40°	219.6	213.4	207.2	203.0	200.8	198.5	196.2	194.0
42.5°	204.7	198.4	192.0	187.8	185.5	183.4	181.2	179.0
45°	183.2	177.0	170.9	166.8	164.7	162.6	160.5	158.4
47.5°	162.2	156.1	150.0	145.9	144.0	142.2	140.3	138.4
50°	148.8	142.8	136.7	132.9	131.0	129.2	127.3	125.5
52.5°	136.0	130.3	124.5	120.7	119.1	117.4	115.6	114.0
55°	116.7	111.5	106.2	102.8	101.2	99.5	97.9	96.3
57.5°	99.1	94.3	89.5	86.4	85.1	83.7	82.3	80.8
60°	87.0	82.6	78.1	75.2	73.8	72.4	71.0	69.7
62.5°	76.5	72.2	68.0	65.4	64.6	63.8	62.9	62.1
65°	62.2	59.2	56.2	54.6	54.3	54.1	53.8	53.6
67.5°	50.2	48.8	47.4	46.7	46.3	46.1	45.8	45.5
70°	43.7	42.8	41.9	41.3	40.9	40.6	40.2	39.9
72.5°	38.0	37.2	36.5	36.1	35.8	35.6	35.4	35.2
75°	30.0	29.4	28.8	28.5	28.4	28.3	28.2	28.2
77.5°	22.7	22.4	22.0	21.9	21.7	21.5	21.4	21.3
80°	18.1	17.7	17.4	17.2	17.2	17.2	17.2	17.2
82.5°	13.7	13.4	13.3	13.2	13.2	13.2	13.2	13.2
85°	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4
87.5°	10.0	9.8	9.6	9.6	9.6	9.6	9.7	9.8
90°	38.1	37.6	37.1	36.9	37.2	37.5	37.7	38.0
92.5°	35.7	35.8	35.9	36.0	36.0	36.1	36.2	36.2
95°	71.5	71.5	71.5	71.2	70.7	70.2	69.7	69.2
97.5°	120.1	120.1	120.1	120.1	120.0	120.0	119.9	119.9
100°	154.0	154.0	154.0	153.9	153.7	153.4	153.2	152.9
102.5°	191.1	191.3	191.5	191.5	191.2	191.0	190.7	190.5
105°	246.6	247.1	247.6	247.9	247.9	247.9	247.9	247.9
107.5°	306.5	306.7	306.9	306.4	305.3	304.2	303.0	301.9
110°	347.2	347.2	347.2	346.8	346.1	345.3	344.6	343.9



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	388.0	387.4	386.8	386.2	385.6	385.1	384.6	384.0
115°	450.6	450.3	450.0	449.5	448.8	448.1	447.3	446.6
117.5°	511.0	510.4	509.8	509.2	508.4	507.6	507.0	506.2
120°	551.5	551.5	551.5	551.1	550.4	549.7	548.9	548.2
122.5°	593.2	592.6	592.0	591.4	590.9	590.3	589.8	589.3
125°	655.0	654.2	653.5	653.0	652.7	652.5	652.2	651.9
127.5°	715.0	714.0	713.2	712.3	711.5	710.8	710.0	709.1
130°	756.0	755.4	754.9	754.2	753.2	752.3	751.2	750.2
132.5°	795.8	794.7	793.7	792.7	791.9	791.1	790.3	789.5
135°	854.7	854.5	854.2	853.7	852.9	852.2	851.4	850.7
137.5°	911.0	910.9	910.7	910.1	909.0	908.1	907.1	906.1
140°	948.9	948.9	948.9	948.5	947.4	946.5	945.5	944.5
142.5°	983.3	983.5	983.7	983.3	982.3	981.3	980.3	979.3
145°	1035.4	1035.7	1035.9	1035.5	1034.6	1033.5	1032.6	1031.6
147.5°	1081.1	1081.7	1082.2	1082.0	1081.1	1080.1	1079.2	1078.2
150°	1110.1	1110.9	1111.6	1111.6	1110.9	1110.1	1109.3	1108.6
152.5°	1139.1	1140.0	1140.9	1140.9	1140.0	1139.1	1138.2	1137.2
155°	1175.9	1177.1	1178.3	1178.5	1177.8	1177.1	1176.3	1175.6
157.5°	1209.8	1211.4	1213.1	1213.4	1212.2	1211.0	1209.8	1208.6
160°	1229.9	1231.4	1232.9	1233.1	1232.2	1231.1	1230.2	1229.2
162.5°	1248.2	1249.8	1251.5	1251.8	1250.6	1249.4	1248.2	1247.1
165°	1271.7	1273.4	1275.2	1275.4	1274.2	1273.0	1271.7	1270.5
167.5°	1291.2	1292.9	1294.6	1294.9	1293.6	1292.3	1291.0	1289.7
170°	1301.8	1303.6	1305.4	1305.4	1304.0	1302.5	1301.0	1299.5
172.5°	1309.9	1311.6	1313.4	1313.5	1312.0	1310.5	1309.1	1307.5
175°	1318.6	1320.3	1322.1	1322.2	1320.7	1319.2	1317.8	1316.2
177.5°	1322.7	1323.9	1325.0	1325.0	1323.9	1322.7	1321.5	1320.3
180°	1322.9	1322.9	1322.9	1322.9	1322.9	1322.9	1322.9	1322.9

(END OF REPORT)