

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: P331488-935

Luminaire Tested: **S122DIW-S290D1240U935-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331488-935
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: S122DIW-S290D1240U935-4F0-1E-UDD-F1
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 290 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 1240 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4739.4 lumens
Efficiency: N/A
Efficacy: 101.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.3
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: Semi-Indirect

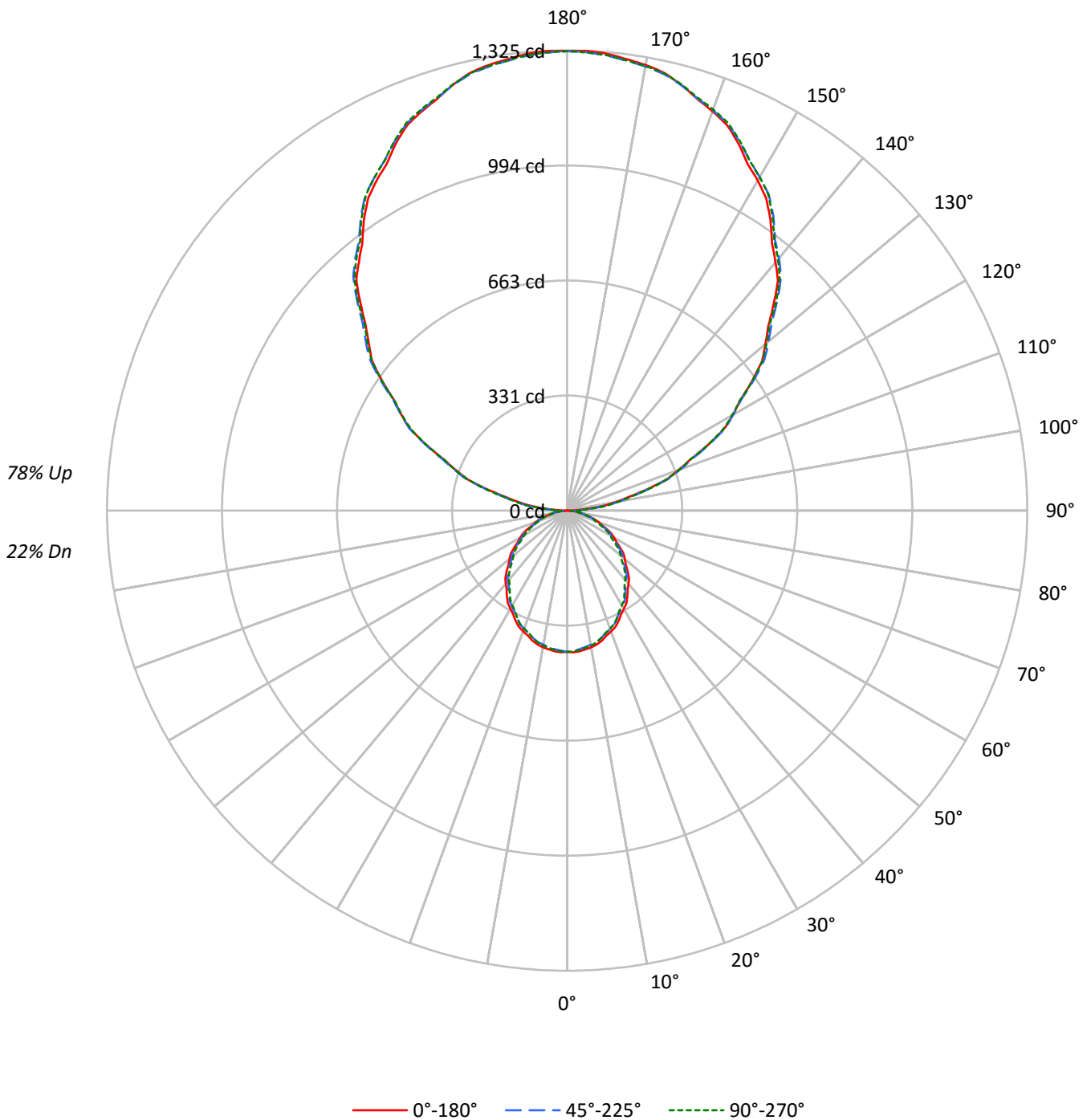
Input Watts (W): 46.6
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	100	100	100	100	89	89	89	89	68	68	68	48	48	48	30	30	30	22
1	91	87	84	80	81	78	74	72	59	57	55	42	41	40	27	26	25	18
2	83	76	70	65	74	68	63	59	52	49	46	37	35	33	23	22	21	15
3	76	67	60	54	67	59	54	49	46	42	38	33	30	28	21	19	18	13
4	69	59	52	46	61	53	46	41	40	36	33	29	26	24	19	17	16	11
5	63	52	45	39	56	47	40	35	36	31	28	26	23	21	17	15	14	10
6	58	47	39	34	51	42	35	30	32	28	24	23	20	18	15	13	12	9
7	54	42	35	29	47	38	31	26	29	24	21	21	18	16	14	12	11	8
8	50	38	31	26	44	34	28	23	26	22	19	19	16	14	13	11	9	7
9	46	35	27	23	41	31	25	21	24	20	16	18	15	12	12	10	8	6
10	43	32	25	20	38	28	22	18	22	18	15	16	13	11	11	9	8	6

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	6567	6567	6567
5°	6592	6498	6536
10°	6555	6432	6465
15°	6472	6349	6342
20°	6357	6223	6216
25°	6242	6070	6070
30°	6096	5929	5876
35°	5960	5757	5673
40°	5788	5590	5482
45°	5617	5421	5286
50°	5433	5247	5061
55°	5239	5044	4856
60°	5028	4799	4624
65°	4795	4558	4348
70°	4504	4263	4060
75°	4099	3924	3830
80°	3636	3533	3347
85°	2964	2816	2538



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	38.3	0.8
10°-20°	107.6	2.3
20°-30°	158.2	3.3
30°-40°	183.8	3.9
40°-50°	183.6	3.9
50°-60°	160.1	3.4
60°-70°	118.4	2.5
70°-80°	67.0	1.4
80°-90°	23.3	0.5
90°-100°	83.8	1.8
100°-110°	260.4	5.5
110°-120°	445.0	9.4
120°-130°	585.3	12.3
130°-140°	656.9	13.9
140°-150°	644.1	13.6
150°-160°	540.2	11.4
160°-170°	358.3	7.6
170°-180°	125.2	2.6
0°-30°	304.1	6.4
0°-40°	487.8	10.3
0°-60°	831.5	17.5
0°-90°	1040.2	21.9
90°-120°	789.2	16.7
90°-150°	2675.4	56.5
90°-180°	3699.0	78.0
0°-180°	4739.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	407	407	407	407	407	
5°	407	405	401	404	403	39
15°	387	385	380	381	379	109
25°	350	347	341	341	341	161
35°	302	298	292	290	288	189
45°	246	243	237	233	232	190
55°	186	184	179	175	172	166
65°	126	123	119	116	114	124
75°	66	65	63	61	61	70
85°	16	16	15	14	14	18
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°	406.7	406.7	406.7	406.7	406.7	406.7	406.7	406.7	406.7	406.7	406.7
2.5°	408.6	408.3	407.9	407.6	407.3	406.7	406.0	405.2	404.4	403.6	404.3
5°	406.7	406.4	406.0	405.7	405.4	404.8	403.8	402.9	401.8	400.9	401.6
7.5°	403.2	402.6	402.1	401.6	401.1	400.3	399.3	398.3	397.4	396.4	397.1
10°	399.8	399.2	398.6	398.0	397.3	396.5	395.5	394.4	393.4	392.3	393.0
12.5°	395.0	394.5	394.0	393.4	392.9	392.1	391.1	390.0	389.0	388.0	388.4
15°	387.2	386.7	386.2	385.6	385.1	384.4	383.1	382.0	380.9	379.8	380.1
17.5°	377.2	376.7	376.2	375.7	375.1	374.3	373.2	372.0	370.8	369.7	370.1
20°	370.0	369.5	368.9	368.4	367.9	367.0	365.8	364.6	363.4	362.2	362.5
22.5°	362.8	362.1	361.4	360.6	359.9	359.0	357.8	356.6	355.5	354.4	354.4
25°	350.4	349.7	349.0	348.4	347.7	346.6	345.1	343.6	342.2	340.7	340.9
27.5°	336.4	335.8	335.1	334.5	333.9	332.9	331.8	330.6	329.5	328.3	328.0
30°	327.0	326.3	325.6	324.9	324.2	323.2	321.9	320.6	319.3	318.0	317.7
32.5°	316.9	316.4	315.9	315.3	314.8	313.7	312.4	311.1	309.7	308.3	307.8
35°	302.4	301.4	300.6	299.7	298.9	297.7	296.4	295.0	293.6	292.1	291.6
37.5°	285.9	285.1	284.3	283.5	282.8	281.7	280.3	279.0	277.5	276.1	275.5
40°	274.6	273.9	273.2	272.5	271.8	270.8	269.3	267.9	266.6	265.2	264.4
42.5°	263.6	262.9	262.3	261.6	260.9	259.8	258.4	257.0	255.6	254.3	253.4
45°	246.0	245.4	244.8	244.2	243.6	242.6	241.3	240.0	238.8	237.4	236.4
47.5°	228.5	227.9	227.4	226.8	226.2	225.2	223.9	222.6	221.2	219.8	218.8
50°	216.3	215.9	215.4	215.0	214.6	213.7	212.5	211.3	210.1	208.9	207.7
52.5°	204.4	203.8	203.3	202.7	202.1	201.2	200.1	199.0	197.8	196.7	195.6
55°	186.1	185.6	185.1	184.6	184.1	183.3	182.3	181.2	180.2	179.2	178.1
57.5°	167.9	167.5	167.0	166.6	166.2	165.4	164.3	163.2	162.0	160.8	159.8
60°	155.7	155.3	155.0	154.6	154.3	153.5	152.3	151.1	149.8	148.6	147.7
62.5°	143.8	143.2	142.7	142.2	141.5	140.8	139.8	139.0	138.0	137.1	136.1
65°	125.5	125.0	124.5	124.0	123.5	122.8	121.9	121.1	120.2	119.3	118.5
67.5°	107.0	106.6	106.2	105.7	105.4	104.8	103.9	103.1	102.4	101.6	101.0
70°	95.4	95.1	94.7	94.4	94.0	93.5	92.7	92.0	91.1	90.3	89.7
72.5°	83.5	83.2	82.8	82.5	82.1	81.7	81.2	80.8	80.2	79.7	79.1
75°	65.7	65.5	65.3	65.2	65.0	64.7	64.3	63.8	63.4	62.9	62.4
77.5°	49.8	49.4	49.2	48.9	48.6	48.3	48.1	48.0	47.8	47.6	47.4
80°	39.1	39.0	38.9	38.8	38.7	38.7	38.5	38.3	38.1	38.0	37.7
82.5°	29.1	29.1	29.1	29.0	29.0	28.9	28.8	28.8	28.7	28.6	28.2
85°	16.0	15.9	15.8	15.8	15.7	15.6	15.5	15.4	15.3	15.2	15.0
87.5°	5.9	6.3	6.8	7.2	7.7	8.4	9.3	10.3	11.3	12.2	11.9
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°	406.7	406.7	406.7	406.7	406.7	406.7	406.7	406.7
2.5°	405.0	405.7	406.4	406.7	406.6	406.4	406.3	406.1
5°	402.3	403.0	403.7	404.0	403.8	403.6	403.5	403.3
7.5°	397.8	398.5	399.2	399.4	399.2	399.0	398.8	398.6
10°	393.7	394.4	395.1	395.3	395.0	394.8	394.5	394.3
12.5°	388.9	389.3	389.9	390.0	389.9	389.6	389.4	389.3
15°	380.5	380.8	381.2	381.2	380.7	380.3	379.9	379.4
17.5°	370.5	370.9	371.3	371.3	370.8	370.5	370.1	369.6
20°	362.7	363.0	363.3	363.2	362.8	362.5	362.1	361.8
22.5°	354.5	354.6	354.6	354.5	354.3	354.0	353.9	353.7
25°	341.0	341.2	341.4	341.4	341.2	341.0	340.9	340.7
27.5°	327.8	327.5	327.3	326.9	326.5	326.1	325.7	325.3
30°	317.5	317.2	316.9	316.7	316.3	316.0	315.6	315.2
32.5°	307.4	306.9	306.4	306.0	305.7	305.3	305.0	304.6
35°	291.1	290.6	290.1	289.6	289.2	288.8	288.3	287.8
37.5°	274.8	274.2	273.5	273.0	272.6	272.2	271.8	271.4
40°	263.6	262.9	262.1	261.5	261.1	260.8	260.5	260.1
42.5°	252.5	251.7	250.8	250.1	249.7	249.2	248.7	248.2
45°	235.5	234.5	233.6	232.9	232.6	232.2	231.9	231.5
47.5°	217.8	216.8	215.8	215.0	214.6	214.0	213.5	213.0
50°	206.5	205.2	204.0	203.2	202.8	202.3	201.9	201.5
52.5°	194.7	193.6	192.6	191.8	191.2	190.7	190.1	189.5
55°	177.0	176.0	175.0	174.3	173.8	173.3	172.9	172.5
57.5°	158.8	157.7	156.7	156.0	155.8	155.4	155.1	154.7
60°	146.7	145.8	144.8	144.2	144.0	143.7	143.4	143.2
62.5°	135.3	134.4	133.5	132.9	132.6	132.2	131.9	131.6
65°	117.7	116.9	116.1	115.5	115.1	114.7	114.3	113.8
67.5°	100.4	99.8	99.2	98.7	98.3	98.0	97.6	97.3
70°	89.1	88.5	87.9	87.5	87.1	86.7	86.4	86.0
72.5°	78.5	77.9	77.3	76.8	76.5	76.3	76.0	75.7
75°	61.9	61.4	60.9	60.7	60.9	61.0	61.2	61.4
77.5°	47.1	46.8	46.6	46.3	46.1	45.9	45.6	45.4
80°	37.5	37.2	36.9	36.7	36.5	36.3	36.2	36.0
82.5°	27.9	27.6	27.2	27.0	27.0	26.9	26.9	26.9
85°	14.7	14.5	14.2	14.0	13.9	13.9	13.8	13.7
87.5°	11.5	11.3	10.9	10.8	10.8	10.8	10.8	10.8
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)