

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: P331703-935

Luminaire Tested: **SA2XXRDIP-C675D1080U935-4F0-1E-UDD-F1**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P331703-935  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-8,  
Test Lab: INNOVATION CENTER  
Issue Date: 10/7/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: SA2XXRDIP-C675D1080U935-4F0-1E-UDD-F1  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 675 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 1080 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5316.2 lumens  
Efficiency: N/A  
Efficacy: 93.4 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

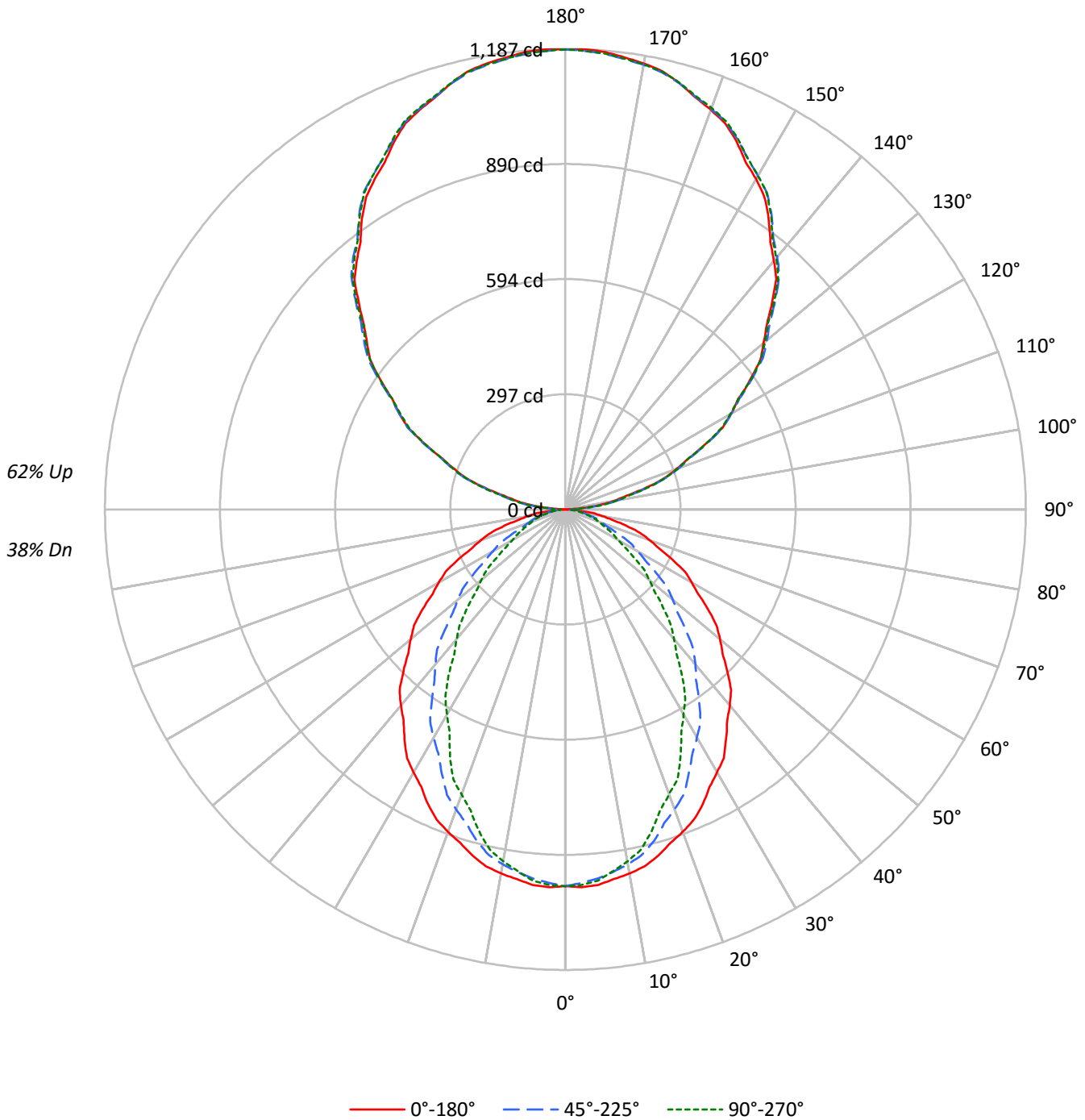
Input Watts (W): 56.9  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	50	30	10	0	
RCR																						
0	104	104	104	104	95	95	95	95	76	76	76	60	60	60	45	45	45	38				
1	95	91	88	84	86	83	80	77	67	65	63	53	52	51	40	39	38	32				
2	87	80	74	69	79	73	68	64	60	56	53	47	45	43	36	34	33	28				
3	80	71	64	58	72	64	58	54	53	48	45	42	39	37	32	30	28	24				
4	73	63	55	49	66	57	51	46	47	42	39	38	34	32	29	27	25	21				
5	67	56	48	42	61	51	44	39	42	37	33	34	30	28	26	24	22	18				
6	62	50	42	37	56	46	39	34	38	33	29	31	27	24	24	21	19	16				
7	57	45	38	32	52	42	35	30	35	30	26	28	24	22	22	19	17	15				
8	53	41	34	29	48	38	31	27	32	27	23	26	22	19	20	18	16	13				
9	49	38	30	26	45	35	28	24	29	24	21	24	20	17	19	16	14	12				
10	46	35	28	23	42	32	26	21	27	22	19	22	18	16	17	15	13	11				

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	15681	15681	15681
5°	15741	15486	15571
10°	15621	15231	15101
15°	15442	14780	14355
20°	15192	14136	13426
25°	14938	13402	12527
30°	14585	12652	11373
35°	14241	11832	10360
40°	13894	10985	9187
45°	13486	10035	8127
50°	13069	9075	7086
55°	12645	8042	6086
60°	12148	6952	5050
65°	11584	5841	4604
70°	10914	4810	4230
75°	10087	4386	3949
80°	8908	3924	3598
85°	7003	3094	3094



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	90.9	1.7
10°-20°	249.6	4.7
20°-30°	350.5	6.6
30°-40°	382.2	7.2
40°-50°	351.5	6.6
50°-60°	276.0	5.2
60°-70°	180.0	3.4
70°-80°	92.8	1.7
80°-90°	28.8	0.5
90°-100°	75.1	1.4
100°-110°	233.2	4.4
110°-120°	398.7	7.5
120°-130°	524.3	9.9
130°-140°	588.5	11.1
140°-150°	577.0	10.9
150°-160°	484.0	9.1
160°-170°	321.0	6.0
170°-180°	112.2	2.1
0°-30°	691.1	13.0
0°-40°	1073.3	20.2
0°-60°	1700.8	32.0
0°-90°	2002.3	37.7
90°-120°	707.0	13.3
90°-150°	2396.8	45.1
90°-180°	3314.0	62.3
0°-180°	5316.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	971	971	971	971	971	
5°	971	966	956	963	961	92
15°	924	913	884	868	859	260
25°	838	809	752	718	703	385
35°	722	676	600	547	526	452
45°	591	530	440	379	356	456
55°	449	379	286	235	216	401
65°	303	232	153	125	120	300
75°	162	102	70	64	63	171
85°	38	20	17	17	17	45
90°	1	14	35	33	34	4
95°	52	62	64	64	62	60
105°	215	218	220	222	222	227
115°	400	406	404	403	400	396
125°	582	590	588	585	584	520
135°	753	764	766	765	762	582
145°	914	921	927	928	924	571
155°	1045	1048	1051	1056	1053	481
165°	1137	1136	1136	1142	1138	321
175°	1183	1180	1178	1184	1179	112
180°	1185	1185	1185	1185	1185	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	971.2	971.2	971.2	971.2	971.2	971.2	971.2	971.2	971.2	971.2	971.2
2.5°	974.7	974.0	973.2	972.4	971.6	970.3	968.6	966.9	965.3	963.5	965.1
5°	971.2	970.3	969.3	968.3	967.3	965.6	963.0	960.5	957.9	955.5	957.2
7.5°	961.2	960.0	958.8	957.6	956.4	954.2	951.3	948.4	945.4	942.5	942.9
10°	952.8	951.4	950.0	948.6	947.3	944.7	940.7	936.9	933.0	929.0	928.5
12.5°	942.2	940.6	938.8	937.2	935.5	932.2	927.2	922.2	917.1	912.1	911.1
15°	923.8	921.6	919.5	917.3	915.2	910.8	904.1	897.5	890.9	884.2	880.5
17.5°	901.1	897.9	894.6	891.2	887.9	882.1	873.6	865.0	856.5	848.0	843.6
20°	884.2	880.3	876.4	872.5	868.6	861.8	852.0	842.2	832.5	822.7	817.8
22.5°	865.9	861.6	857.2	852.8	848.4	840.8	829.7	818.7	807.7	796.7	790.4
25°	838.5	832.2	826.0	819.8	813.6	803.9	791.1	778.2	765.3	752.3	744.3
27.5°	805.5	798.7	791.9	785.1	778.3	767.6	753.1	738.6	724.0	709.5	700.2
30°	782.3	774.8	767.4	760.0	752.6	741.1	725.4	709.8	694.1	678.6	668.6
32.5°	759.7	751.1	742.4	733.7	725.0	712.7	696.8	680.9	665.0	649.0	637.7
35°	722.5	712.6	702.6	692.6	682.7	669.1	651.9	634.7	617.5	600.3	588.0
37.5°	685.3	674.2	663.3	652.4	641.4	626.8	608.6	590.2	571.9	553.5	540.0
40°	659.2	647.5	635.8	624.1	612.3	597.0	578.1	559.1	540.2	521.2	507.4
42.5°	632.5	620.2	607.8	595.5	583.2	567.1	547.6	528.1	508.4	488.9	474.5
45°	590.6	577.6	564.5	551.4	538.3	521.5	501.0	480.5	459.9	439.5	425.6
47.5°	549.8	536.0	522.1	508.2	494.4	476.9	455.7	434.5	413.4	392.2	378.4
50°	520.3	506.4	492.6	478.7	464.9	447.2	425.7	404.2	382.7	361.3	347.8
52.5°	491.5	477.0	462.5	448.1	433.5	415.8	394.8	373.8	352.8	331.7	318.7
55°	449.2	433.9	418.7	403.5	388.2	370.1	349.0	327.9	306.8	285.7	274.0
57.5°	405.7	390.1	374.4	358.9	343.2	325.3	305.0	284.7	264.4	244.2	233.4
60°	376.2	360.6	344.9	329.3	313.7	295.8	275.7	255.5	235.5	215.3	205.3
62.5°	347.3	331.7	316.1	300.5	284.8	267.4	248.3	229.1	209.9	190.7	181.2
65°	303.2	287.4	271.6	255.8	240.0	223.3	205.7	188.1	170.5	152.9	146.3
67.5°	260.7	245.0	229.3	213.6	197.9	182.1	166.3	150.5	134.7	118.8	115.8
70°	231.2	215.9	200.7	185.5	170.2	155.8	142.4	128.9	115.5	101.9	100.0
72.5°	203.0	188.4	173.8	159.2	144.6	131.9	121.1	110.2	99.4	88.6	87.0
75°	161.7	148.1	134.4	120.7	107.0	96.9	90.2	83.6	77.0	70.3	69.0
77.5°	121.1	109.1	97.1	85.2	73.2	65.5	62.3	59.2	56.0	52.8	51.9
80°	95.8	85.8	75.9	66.0	56.0	50.0	48.0	46.1	44.2	42.2	41.4
82.5°	72.6	64.8	57.1	49.2	41.5	36.9	35.6	34.3	33.0	31.7	31.2
85°	37.8	33.7	29.6	25.5	21.4	19.0	18.4	17.9	17.3	16.7	16.7
87.5°	11.5	10.8	10.0	9.3	8.6	8.7	9.7	10.7	11.6	12.7	12.4
90°	1.0	3.7	6.4	9.0	11.7	15.4	20.3	25.2	30.1	35.0	34.5
92.5°	17.8	19.7	21.7	23.7	25.7	27.2	28.3	29.5	30.7	31.8	31.9
95°	52.0	54.2	56.5	58.6	60.9	62.3	62.7	63.1	63.5	64.0	64.0
97.5°	95.1	96.9	98.9	100.9	102.8	104.3	105.0	105.9	106.8	107.6	107.6
100°	127.0	128.8	130.6	132.3	134.1	135.3	136.0	136.6	137.3	138.0	138.0
102.5°	160.7	162.0	163.5	164.9	166.3	167.5	168.3	169.1	170.0	170.8	171.0
105°	215.0	215.7	216.4	217.1	217.7	218.3	218.7	219.1	219.6	220.0	220.5
107.5°	269.8	270.8	271.8	272.8	273.7	274.2	274.2	274.2	274.2	274.2	274.4
110°	305.1	306.3	307.7	309.0	310.4	311.1	311.1	311.1	311.1	311.1	311.1



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	343.5	344.7	346.1	347.4	348.8	349.4	349.1	349.0	348.8	348.6	348.1
115°	400.0	401.4	402.7	404.1	405.4	405.8	405.4	404.9	404.5	404.1	403.8
117.5°	456.4	458.2	460.0	461.8	463.6	463.8	462.6	461.3	460.1	458.8	458.3
120°	494.0	495.8	497.7	499.4	501.2	501.2	499.4	497.7	495.8	494.0	494.0
122.5°	528.5	530.6	532.7	534.9	537.0	537.4	536.2	534.9	533.7	532.4	531.9
125°	582.0	584.1	586.1	588.1	590.0	590.7	590.0	589.4	588.8	588.1	587.4
127.5°	634.3	636.8	639.4	641.9	644.4	645.3	644.5	643.7	642.9	642.0	641.3
130°	667.1	669.9	672.9	675.7	678.6	679.8	679.4	679.0	678.6	678.1	677.6
132.5°	703.9	706.3	708.6	710.9	713.3	714.5	714.6	714.7	714.8	714.9	713.9
135°	753.1	755.5	758.0	760.4	762.8	764.3	764.7	765.2	765.7	766.1	765.9
137.5°	804.9	806.9	808.9	810.9	812.9	814.2	814.8	815.4	815.9	816.5	816.3
140°	836.1	838.1	840.1	842.1	844.1	845.7	846.8	847.9	849.0	850.1	850.1
142.5°	868.1	870.1	872.1	874.1	876.1	877.4	878.2	879.0	879.8	880.5	880.7
145°	914.1	915.7	917.2	918.8	920.3	921.8	923.1	924.5	925.7	927.1	927.3
147.5°	955.1	957.0	958.8	960.7	962.6	964.0	964.8	965.8	966.6	967.5	968.0
150°	983.1	984.5	985.8	987.1	988.4	989.5	990.5	991.4	992.2	993.2	993.8
152.5°	1007.9	1009.3	1010.6	1011.9	1013.2	1014.4	1015.5	1016.6	1017.7	1018.7	1019.6
155°	1045.2	1045.8	1046.5	1047.1	1047.8	1048.4	1049.1	1049.8	1050.5	1051.1	1052.2
157.5°	1076.9	1077.4	1077.8	1078.2	1078.7	1079.1	1079.5	1080.0	1080.3	1080.7	1082.3
160°	1096.1	1096.6	1097.0	1097.4	1097.9	1098.2	1098.5	1098.7	1098.9	1099.2	1100.4
162.5°	1113.7	1113.8	1113.9	1114.0	1114.1	1114.2	1114.5	1114.7	1114.9	1115.2	1116.6
165°	1137.1	1137.0	1136.7	1136.4	1136.3	1136.2	1136.2	1136.2	1136.2	1136.2	1137.7
167.5°	1156.8	1156.1	1155.4	1154.8	1154.1	1153.7	1153.7	1153.7	1153.6	1153.6	1155.1
170°	1167.2	1166.5	1165.8	1165.1	1164.5	1164.1	1163.8	1163.6	1163.4	1163.1	1164.7
172.5°	1174.3	1173.7	1173.0	1172.3	1171.6	1171.2	1171.0	1170.8	1170.5	1170.4	1171.9
175°	1183.2	1182.5	1181.8	1181.1	1180.5	1179.9	1179.5	1179.1	1178.6	1178.1	1179.7
177.5°	1186.7	1186.2	1185.7	1185.2	1184.6	1184.1	1183.8	1183.4	1183.1	1182.8	1183.8
180°	1185.2	1185.2	1185.2	1185.2	1185.2	1185.2	1185.2	1185.2	1185.2	1185.2	1185.2



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	971.2	971.2	971.2	971.2	971.2	971.2	971.2	971.2
2.5°	966.6	968.2	969.7	970.3	970.1	969.7	969.5	969.1
5°	958.9	960.7	962.4	963.0	962.4	961.8	961.3	960.7
7.5°	943.4	943.9	944.4	944.2	943.1	942.2	941.2	940.1
10°	927.9	927.3	926.7	925.8	924.6	923.5	922.3	921.1
12.5°	910.1	909.0	907.9	906.5	904.5	902.6	900.6	898.6
15°	876.8	873.1	869.4	866.5	864.6	862.6	860.7	858.8
17.5°	839.2	834.7	830.3	826.5	823.1	819.8	816.4	813.0
20°	813.0	808.0	803.1	798.6	794.3	790.0	785.7	781.4
22.5°	784.1	777.8	771.5	766.8	763.5	760.3	757.2	754.0
25°	736.3	728.3	720.3	714.9	712.0	709.0	706.1	703.2
27.5°	690.8	681.5	672.2	665.1	660.5	655.8	651.2	646.5
30°	658.7	648.7	638.7	631.1	625.8	620.5	615.3	610.0
32.5°	626.3	614.9	603.6	595.4	590.4	585.5	580.5	575.6
35°	575.8	563.4	551.1	542.8	538.5	534.2	529.9	525.6
37.5°	526.4	512.9	499.4	490.1	485.2	480.3	475.4	470.5
40°	493.4	479.6	465.7	456.2	451.2	446.1	441.0	435.9
42.5°	460.2	445.8	431.5	421.9	417.0	412.1	407.2	402.2
45°	411.7	397.9	384.0	374.7	370.1	365.3	360.7	355.9
47.5°	364.6	350.9	337.0	328.0	323.7	319.5	315.2	311.0
50°	334.3	320.8	307.4	298.5	294.5	290.3	286.3	282.1
52.5°	305.7	292.7	279.7	271.3	267.5	263.7	259.9	256.1
55°	262.3	250.5	238.8	231.1	227.4	223.6	219.9	216.2
57.5°	222.7	212.0	201.2	194.2	191.1	188.0	184.9	181.8
60°	195.4	185.5	175.5	168.9	165.8	162.7	159.5	156.4
62.5°	171.8	162.2	152.7	147.1	145.2	143.4	141.5	139.6
65°	139.7	133.0	126.4	122.8	122.2	121.6	121.0	120.5
67.5°	112.7	109.7	106.7	104.8	104.2	103.6	103.0	102.3
70°	98.1	96.1	94.1	92.8	92.0	91.2	90.4	89.6
72.5°	85.3	83.7	82.1	81.0	80.5	80.1	79.6	79.1
75°	67.6	66.2	64.8	64.1	63.9	63.7	63.5	63.3
77.5°	51.1	50.4	49.6	49.1	48.7	48.5	48.1	47.8
80°	40.6	39.9	39.1	38.7	38.7	38.7	38.7	38.7
82.5°	30.7	30.2	29.8	29.5	29.5	29.5	29.5	29.5
85°	16.7	16.7	16.7	16.7	16.7	16.7	16.7	16.7
87.5°	12.1	11.9	11.6	11.5	11.6	11.6	11.7	11.7
90°	34.1	33.7	33.2	33.1	33.3	33.6	33.8	34.0
92.5°	31.9	32.0	32.2	32.2	32.3	32.3	32.4	32.4
95°	64.0	64.0	64.0	63.8	63.4	62.9	62.4	62.0
97.5°	107.6	107.6	107.6	107.6	107.5	107.5	107.5	107.5
100°	138.0	138.0	138.0	137.9	137.7	137.5	137.2	137.0
102.5°	171.2	171.3	171.5	171.5	171.3	171.1	170.8	170.7
105°	220.9	221.4	221.8	222.1	222.1	222.1	222.1	222.1
107.5°	274.6	274.7	274.9	274.5	273.5	272.5	271.5	270.4
110°	311.1	311.1	311.1	310.7	310.0	309.4	308.7	308.1





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	347.6	347.1	346.6	346.0	345.5	345.0	344.6	344.1
115°	403.6	403.4	403.1	402.7	402.1	401.4	400.7	400.0
117.5°	457.8	457.3	456.8	456.2	455.5	454.8	454.1	453.5
120°	494.0	494.0	494.0	493.7	493.1	492.4	491.7	491.0
122.5°	531.4	530.9	530.3	529.9	529.3	528.8	528.4	527.9
125°	586.8	586.1	585.4	585.0	584.7	584.5	584.3	584.1
127.5°	640.5	639.6	638.9	638.1	637.4	636.7	636.0	635.2
130°	677.2	676.7	676.3	675.6	674.8	673.8	673.0	672.1
132.5°	712.9	712.0	711.0	710.2	709.5	708.7	708.0	707.3
135°	765.7	765.4	765.2	764.7	764.1	763.4	762.8	762.1
137.5°	816.1	816.0	815.8	815.3	814.3	813.5	812.6	811.7
140°	850.1	850.1	850.1	849.6	848.8	847.9	847.0	846.1
142.5°	880.9	881.1	881.2	880.9	879.9	879.1	878.2	877.3
145°	927.6	927.8	928.0	927.6	926.8	925.9	925.0	924.1
147.5°	968.5	969.0	969.5	969.3	968.5	967.6	966.7	966.0
150°	994.5	995.1	995.8	995.8	995.1	994.5	993.8	993.2
152.5°	1020.5	1021.2	1022.1	1022.1	1021.2	1020.5	1019.6	1018.7
155°	1053.3	1054.5	1055.6	1055.8	1055.2	1054.5	1053.8	1053.1
157.5°	1083.7	1085.3	1086.8	1087.0	1085.9	1084.9	1083.8	1082.7
160°	1101.8	1103.1	1104.5	1104.7	1103.8	1102.9	1102.0	1101.1
162.5°	1118.2	1119.6	1121.2	1121.4	1120.3	1119.3	1118.2	1117.1
165°	1139.3	1140.8	1142.4	1142.5	1141.5	1140.4	1139.3	1138.2
167.5°	1156.7	1158.2	1159.8	1159.9	1158.8	1157.6	1156.5	1155.4
170°	1166.2	1167.8	1169.3	1169.5	1168.1	1166.8	1165.4	1164.2
172.5°	1173.5	1175.0	1176.6	1176.6	1175.4	1174.0	1172.7	1171.3
175°	1181.3	1182.8	1184.4	1184.5	1183.2	1181.8	1180.5	1179.1
177.5°	1184.9	1185.9	1187.0	1187.0	1185.9	1184.9	1183.8	1182.8
180°	1185.2	1185.2	1185.2	1185.2	1185.2	1185.2	1185.2	1185.2

(END OF REPORT)