

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: P331370-930

Luminaire Tested: **S122DIP-S675D1080U930-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331370-930  
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: S122DIP-S675D1080U930-4F0-1E-UDD-D1  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 675 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 1080 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5333.4 lumens  
Efficiency: N/A  
Efficacy: 93.7 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.32 / 1.42  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')  
CIE Type: Semi-Indirect

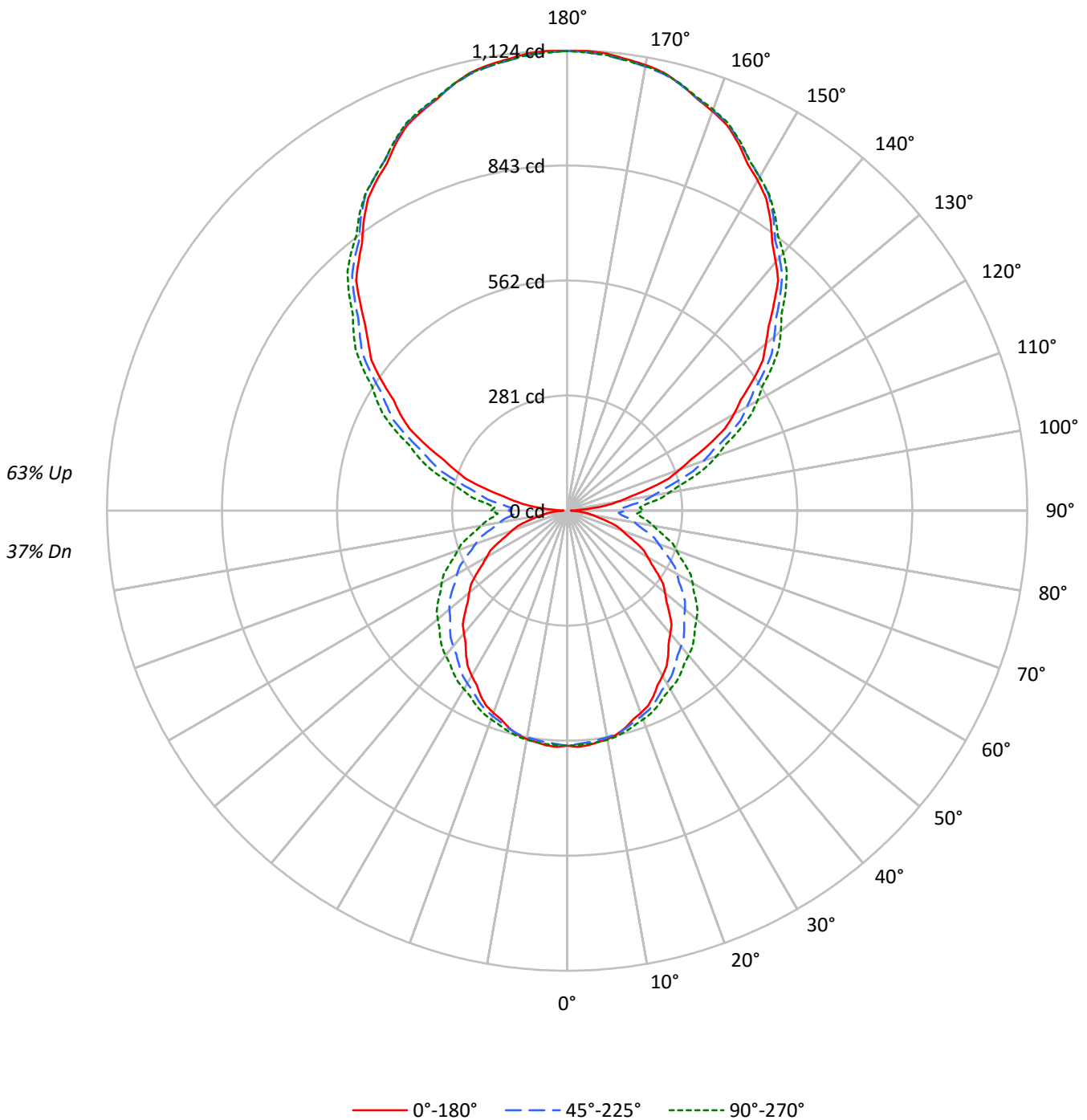
Input Watts (W): 56.9  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	104	104	104	104	94	94	94	94	76	76	76	59	59	59	44	44	44	37
1	94	89	85	81	85	81	77	74	65	62	60	50	49	47	37	36	35	29
2	85	77	71	65	76	70	64	59	56	52	49	43	41	38	32	30	28	23
3	77	67	60	54	69	61	54	49	49	44	40	38	35	32	28	26	24	19
4	70	59	51	45	63	54	47	41	43	38	34	34	30	27	25	22	20	16
5	64	53	44	38	58	48	40	35	39	33	29	30	26	23	22	19	17	14
6	59	47	39	33	53	43	35	30	35	29	25	27	23	20	20	17	15	12
7	55	42	34	29	49	38	31	26	31	26	22	24	21	18	18	15	13	10
8	50	38	30	25	45	35	28	23	28	23	19	22	18	16	17	14	12	9
9	47	35	27	22	42	32	25	20	26	21	17	20	17	14	15	13	11	8
10	44	32	24	20	39	29	23	18	24	19	15	19	15	12	14	11	10	7

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

	0°	45°	90°
0°	9273	9273	9273
5°	9317	8925	8891
10°	9259	8661	8564
15°	9131	8383	8221
20°	8970	8083	7889
25°	8811	7795	7587
30°	8587	7498	7284
35°	8359	7211	7072
40°	8120	6969	6858
45°	7894	6750	6677
50°	7650	6553	6497
55°	7394	6340	6314
60°	7081	6122	6123
65°	6755	5864	5892
70°	6394	5587	5644
75°	5927	5315	5415
80°	5197	5036	5185
85°	4489	4797	5004



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	54.4	1.0
10°-20°	156.0	2.9
20°-30°	236.5	4.4
30°-40°	288.0	5.4
40°-50°	309.9	5.8
50°-60°	300.9	5.6
60°-70°	262.7	4.9
70°-80°	202.3	3.8
80°-90°	140.2	2.6
90°-100°	164.6	3.1
100°-110°	289.1	5.4
110°-120°	422.6	7.9
120°-130°	521.6	9.8
130°-140°	567.8	10.6
140°-150°	548.2	10.3
150°-160°	458.3	8.6
160°-170°	304.0	5.7
170°-180°	106.2	2.0
0°-30°	446.9	8.4
0°-40°	734.9	13.8
0°-60°	1345.7	25.2
0°-90°	1950.9	36.6
90°-120°	876.4	16.4
90°-150°	2514.0	47.1
90°-180°	3382.0	63.4
0°-180°	5333.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	574	574	574	574	574	
5°	576	573	568	573	573	55
15°	549	551	551	558	558	155
25°	499	505	513	522	525	229
35°	430	445	460	478	484	269
45°	353	376	404	429	439	272
55°	270	301	344	373	384	242
65°	185	226	275	308	320	183
75°	102	149	202	237	249	108
85°	30	82	135	168	181	32
90°	9	70	143	173	185	8
95°	56	105	156	187	196	62
105°	208	236	280	310	320	220
115°	382	398	432	456	463	378
125°	553	562	585	604	611	494
135°	714	724	735	750	755	552
145°	866	872	878	884	884	541
155°	990	992	995	1000	997	455
165°	1077	1076	1076	1082	1078	304
175°	1120	1118	1116	1122	1117	106
180°	1122	1122	1122	1122	1122	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	574.3	574.3	574.3	574.3	574.3	574.3	574.3	574.3	574.3	574.3	574.3
2.5°	577.6	577.2	576.7	576.3	575.8	575.1	574.1	573.0	572.0	571.0	571.7
5°	575.9	575.4	574.9	574.3	573.7	572.9	571.8	570.7	569.6	568.4	569.6
7.5°	570.8	570.4	570.1	569.6	569.3	568.7	567.9	567.0	566.1	565.3	566.6
10°	566.8	566.4	566.1	565.7	565.3	564.8	564.3	563.8	563.2	562.6	564.1
12.5°	560.1	560.2	560.3	560.4	560.4	560.3	559.9	559.5	559.1	558.6	560.1
15°	549.3	549.7	550.1	550.4	550.8	551.0	551.0	551.0	551.0	551.0	552.6
17.5°	535.3	536.1	536.9	537.7	538.4	539.2	539.7	540.3	540.9	541.5	543.2
20°	526.0	526.9	527.8	528.8	529.7	530.5	531.2	532.1	532.8	533.5	535.6
22.5°	516.0	517.1	518.2	519.3	520.3	521.4	522.4	523.4	524.5	525.5	527.6
25°	499.4	500.7	502.0	503.3	504.6	506.1	507.7	509.4	511.0	512.7	514.9
27.5°	479.4	481.5	483.6	485.8	487.9	489.9	491.9	493.8	495.8	497.7	500.5
30°	466.1	468.5	470.9	473.3	475.7	478.1	480.5	482.9	485.3	487.7	490.6
32.5°	451.4	454.1	456.8	459.5	462.3	465.0	467.9	470.7	473.5	476.4	479.8
35°	430.3	433.4	436.6	439.7	442.9	446.2	449.7	453.2	456.7	460.2	464.3
37.5°	407.3	411.0	414.6	418.2	421.8	425.9	430.5	435.0	439.5	444.1	448.7
40°	392.0	396.1	400.1	404.2	408.3	412.8	417.8	422.8	427.8	432.8	437.6
42.5°	377.4	381.4	385.5	389.6	393.6	398.5	404.3	410.0	415.7	421.5	426.7
45°	352.9	357.9	362.9	367.9	372.8	378.6	385.1	391.6	398.0	404.5	410.3
47.5°	328.7	334.2	339.7	345.0	350.5	357.0	364.6	372.2	379.8	387.3	393.4
50°	312.1	317.9	323.6	329.3	335.0	342.1	350.4	358.7	367.0	375.4	381.6
52.5°	296.1	302.1	308.2	314.2	320.2	327.7	336.4	345.2	353.9	362.7	369.2
55°	270.5	277.1	283.8	290.5	297.1	305.2	314.9	324.5	334.1	343.7	350.4
57.5°	245.2	252.7	260.2	267.7	275.2	283.9	293.7	303.5	313.3	323.1	330.3
60°	227.2	235.1	243.1	251.1	259.0	268.3	278.8	289.3	299.9	310.5	317.5
62.5°	211.2	219.5	227.7	235.9	244.3	253.6	264.2	274.7	285.3	295.8	303.3
65°	184.7	193.8	202.9	212.0	221.0	231.0	241.9	252.8	263.7	274.7	282.3
67.5°	160.5	169.9	179.4	188.9	198.4	208.6	219.8	231.0	242.1	253.3	261.0
70°	143.2	152.8	162.4	172.0	181.6	192.2	203.7	215.1	226.6	238.1	246.0
72.5°	127.2	137.1	147.0	156.9	166.8	177.6	189.2	200.8	212.5	224.0	231.9
75°	102.4	112.8	123.1	133.5	143.8	154.9	166.7	178.6	190.4	202.3	210.2
77.5°	78.4	89.3	100.1	110.9	121.7	133.2	145.2	157.3	169.3	181.2	189.2
80°	62.5	73.7	85.0	96.3	107.5	119.2	131.3	143.2	155.2	167.3	175.0
82.5°	49.1	60.3	71.3	82.5	93.7	105.3	117.5	129.6	141.8	154.0	161.8
85°	30.0	41.4	52.9	64.3	75.8	87.5	99.3	111.1	123.0	134.9	142.6
87.5°	16.5	28.0	39.5	51.1	62.6	74.8	87.6	100.3	113.1	125.8	133.3
90°	9.3	22.5	35.8	49.0	62.3	77.1	93.6	110.1	126.5	143.0	150.0
92.5°	24.5	36.4	48.2	60.0	71.9	84.1	96.5	109.0	121.5	134.0	141.3
95°	55.9	66.7	77.5	88.3	99.1	110.2	121.8	133.3	144.8	156.3	163.4
97.5°	95.8	105.4	115.0	124.6	134.1	144.6	156.1	167.5	179.0	190.5	197.3
100°	126.1	134.6	143.2	151.6	160.2	170.0	180.9	191.9	202.9	213.9	220.8
102.5°	157.3	164.9	172.4	180.0	187.7	196.9	207.7	218.6	229.4	240.4	247.2
105°	207.7	213.8	219.8	225.8	231.8	239.8	249.8	259.8	269.9	279.9	286.8
107.5°	259.5	264.7	269.9	275.2	280.4	287.6	296.8	306.0	315.2	324.4	330.8
110°	292.2	297.2	302.1	307.0	312.0	319.0	328.1	337.1	346.3	355.3	361.2



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	328.6	332.9	337.3	341.7	346.0	352.5	360.9	369.3	377.8	386.2	391.7
115°	382.1	385.5	388.7	392.0	395.3	401.0	408.9	416.7	424.6	432.5	437.9
117.5°	434.7	437.7	440.8	443.8	446.8	451.5	458.0	464.6	471.1	477.6	482.6
120°	470.3	472.8	475.2	477.6	480.0	484.1	489.8	495.5	501.2	507.0	512.2
122.5°	502.9	505.2	507.5	509.9	512.2	516.2	522.0	527.7	533.5	539.3	543.9
125°	552.9	554.7	556.6	558.6	560.4	564.0	569.3	574.6	579.8	585.1	589.5
127.5°	602.3	604.5	606.7	608.9	611.1	614.2	618.2	622.2	626.3	630.3	634.1
130°	633.3	635.9	638.5	641.0	643.5	646.5	650.0	653.5	657.0	660.4	664.4
132.5°	668.2	670.3	672.3	674.3	676.4	678.9	682.0	685.1	688.2	691.3	694.6
135°	714.0	716.2	718.6	720.9	723.3	725.5	727.7	730.0	732.3	734.6	738.3
137.5°	763.0	764.8	766.7	768.6	770.5	772.0	773.4	774.8	776.2	777.5	780.7
140°	792.6	794.3	796.0	797.7	799.4	801.0	802.4	803.8	805.2	806.7	809.6
142.5°	822.9	824.6	826.3	828.0	829.7	831.0	831.8	832.5	833.3	834.1	836.7
145°	865.6	867.1	868.5	870.0	871.5	872.9	874.1	875.4	876.6	877.9	879.2
147.5°	904.4	906.2	907.9	909.7	911.5	912.8	913.6	914.5	915.3	916.2	916.8
150°	930.9	932.2	933.4	934.7	936.0	937.0	937.9	938.7	939.6	940.4	941.0
152.5°	954.4	955.7	956.9	958.2	959.4	960.6	961.6	962.6	963.7	964.7	965.5
155°	989.7	990.3	990.9	991.6	992.2	992.8	993.4	994.1	994.7	995.3	996.4
157.5°	1019.8	1020.2	1020.6	1021.0	1021.5	1021.8	1022.2	1022.6	1023.0	1023.4	1024.8
160°	1038.0	1038.4	1038.8	1039.2	1039.7	1039.9	1040.2	1040.4	1040.6	1040.8	1042.0
162.5°	1054.6	1054.7	1054.8	1054.8	1055.0	1055.1	1055.3	1055.5	1055.7	1056.0	1057.4
165°	1076.8	1076.6	1076.4	1076.1	1076.0	1075.9	1075.9	1075.9	1075.9	1075.9	1077.3
167.5°	1095.4	1094.7	1094.1	1093.5	1092.8	1092.5	1092.4	1092.4	1092.3	1092.3	1093.8
170°	1105.2	1104.6	1103.9	1103.3	1102.7	1102.3	1102.0	1101.8	1101.6	1101.4	1102.9
172.5°	1112.0	1111.4	1110.8	1110.1	1109.5	1109.1	1108.9	1108.6	1108.4	1108.2	1109.7
175°	1120.4	1119.7	1119.1	1118.4	1117.9	1117.3	1116.9	1116.5	1116.1	1115.6	1117.1
177.5°	1123.7	1123.2	1122.7	1122.3	1121.8	1121.3	1121.0	1120.6	1120.3	1120.0	1121.0
180°	1122.3	1122.3	1122.3	1122.3	1122.3	1122.3	1122.3	1122.3	1122.3	1122.3	1122.3



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	574.3	574.3	574.3	574.3	574.3	574.3	574.3	574.3
2.5°	572.4	573.2	573.9	574.1	573.8	573.6	573.2	573.0
5°	570.7	571.8	572.9	573.4	573.2	573.0	572.8	572.6
7.5°	567.9	569.3	570.6	571.2	571.0	570.8	570.6	570.5
10°	565.6	567.0	568.6	569.2	569.0	568.8	568.7	568.4
12.5°	561.6	563.0	564.6	565.2	565.0	564.8	564.7	564.4
15°	554.3	556.0	557.7	558.4	558.2	558.0	557.8	557.7
17.5°	544.9	546.7	548.5	549.3	549.3	549.3	549.3	549.3
20°	537.6	539.6	541.6	542.7	542.7	542.7	542.7	542.7
22.5°	529.6	531.7	533.6	534.8	535.1	535.4	535.7	536.0
25°	517.1	519.3	521.5	522.9	523.5	524.1	524.6	525.2
27.5°	503.4	506.1	509.0	510.5	510.9	511.4	511.8	512.2
30°	493.7	496.6	499.5	501.3	501.9	502.5	503.0	503.5
32.5°	483.2	486.7	490.0	492.2	493.3	494.2	495.2	496.2
35°	468.4	472.5	476.5	479.2	480.5	481.8	483.1	484.4
37.5°	453.1	457.6	462.2	465.1	466.5	467.8	469.2	470.6
40°	442.4	447.2	452.0	455.3	456.9	458.6	460.2	461.9
42.5°	431.9	437.2	442.5	446.0	447.6	449.3	450.9	452.6
45°	416.0	421.7	427.5	431.2	433.1	435.0	436.8	438.6
47.5°	399.3	405.4	411.3	415.3	417.4	419.4	421.4	423.5
50°	387.9	394.2	400.6	404.7	406.8	408.8	410.7	412.8
52.5°	375.6	382.0	388.5	392.8	394.9	397.1	399.3	401.5
55°	357.0	363.7	370.4	374.9	377.3	379.7	382.1	384.5
57.5°	337.5	344.6	351.8	356.6	359.1	361.5	363.9	366.4
60°	324.5	331.5	338.6	343.4	345.9	348.5	351.1	353.8
62.5°	310.7	318.2	325.7	330.7	333.0	335.5	337.9	340.4
65°	289.8	297.4	305.0	310.0	312.4	314.8	317.2	319.6
67.5°	268.6	276.3	284.0	289.1	291.6	294.1	296.6	299.1
70°	254.0	261.9	269.9	274.9	277.1	279.4	281.6	283.8
72.5°	239.7	247.4	255.3	260.5	263.2	265.9	268.5	271.2
75°	218.2	226.1	234.1	239.2	241.7	244.0	246.5	248.8
77.5°	197.1	205.0	213.0	218.2	220.8	223.4	225.9	228.5
80°	182.8	190.6	198.4	203.6	206.1	208.7	211.3	213.9
82.5°	169.5	177.2	185.1	190.1	192.6	195.0	197.5	199.9
85°	150.3	158.2	165.9	171.0	173.7	176.3	178.9	181.4
87.5°	140.7	148.2	155.6	160.6	163.0	165.4	167.8	170.2
90°	156.9	164.0	170.9	175.6	178.1	180.5	183.0	185.3
92.5°	148.6	156.0	163.3	168.1	170.4	172.7	174.9	177.2
95°	170.4	177.4	184.4	188.8	190.6	192.4	194.3	196.1
97.5°	204.2	211.0	217.8	222.3	224.5	226.6	228.8	230.9
100°	227.6	234.5	241.3	245.6	247.4	249.2	251.1	252.9
102.5°	254.0	260.9	267.7	272.1	273.9	275.7	277.6	279.4
105°	293.8	300.6	307.5	311.9	314.0	316.0	318.0	320.1
107.5°	337.2	343.6	349.9	353.7	354.7	355.8	356.9	357.9
110°	367.1	373.1	379.0	382.6	384.0	385.4	386.9	388.2





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	397.1	402.5	407.9	411.4	412.9	414.5	416.1	417.7
115°	443.2	448.6	453.9	457.3	458.7	460.1	461.5	462.8
117.5°	487.5	492.5	497.5	500.6	501.9	503.1	504.3	505.6
120°	517.3	522.5	527.7	530.9	532.4	533.8	535.2	536.5
122.5°	548.4	552.9	557.4	560.4	561.6	562.9	564.2	565.4
125°	593.9	598.3	602.6	605.5	607.0	608.5	609.8	611.3
127.5°	638.0	641.8	645.6	648.0	649.0	650.0	650.9	651.8
130°	668.5	672.5	676.5	678.8	679.5	680.0	680.7	681.3
132.5°	698.0	701.3	704.7	706.8	707.6	708.4	709.2	710.0
135°	741.9	745.6	749.3	751.5	752.4	753.3	754.1	755.0
137.5°	784.0	787.2	790.4	792.2	792.6	793.1	793.5	793.9
140°	812.5	815.5	818.5	820.1	820.4	820.6	820.9	821.2
142.5°	839.2	841.7	844.2	845.5	845.7	845.8	846.0	846.0
145°	880.5	881.8	883.2	883.9	883.9	884.0	884.1	884.2
147.5°	917.4	918.0	918.6	918.8	918.4	918.0	917.7	917.3
150°	941.7	942.3	943.0	943.0	942.3	941.7	941.0	940.4
152.5°	966.3	967.0	967.8	967.8	967.0	966.3	965.5	964.7
155°	997.4	998.5	999.6	999.7	999.1	998.5	997.8	997.2
157.5°	1026.2	1027.7	1029.1	1029.3	1028.3	1027.3	1026.3	1025.2
160°	1043.3	1044.6	1045.9	1046.0	1045.2	1044.4	1043.5	1042.7
162.5°	1058.8	1060.2	1061.7	1061.8	1060.9	1059.9	1058.8	1057.9
165°	1078.8	1080.3	1081.7	1081.9	1080.9	1079.9	1078.8	1077.7
167.5°	1095.3	1096.7	1098.2	1098.4	1097.3	1096.2	1095.1	1094.1
170°	1104.3	1105.8	1107.3	1107.4	1106.1	1104.9	1103.6	1102.4
172.5°	1111.2	1112.6	1114.1	1114.2	1113.0	1111.7	1110.4	1109.1
175°	1118.6	1120.1	1121.5	1121.6	1120.4	1119.1	1117.9	1116.6
177.5°	1122.0	1123.0	1124.0	1124.0	1123.0	1122.0	1121.0	1120.0
180°	1122.3	1122.3	1122.3	1122.3	1122.3	1122.3	1122.3	1122.3

(END OF REPORT)