

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: P331530

Luminaire Tested: **S122DIW-S675D435U835-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331530  
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-S675D435U835-4F0-1E-UDD-F1  
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 675 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 435 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

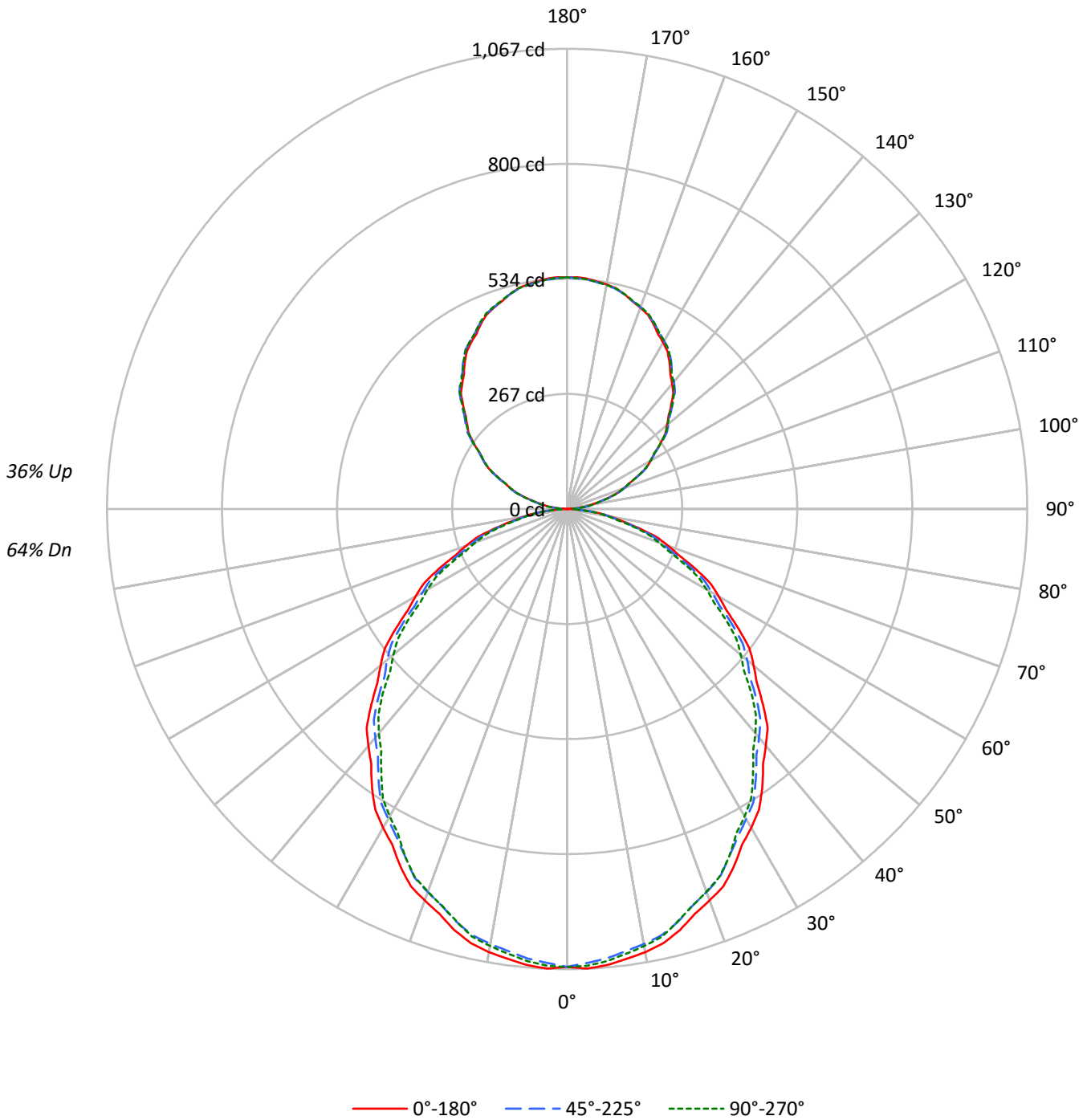
Lumens per Lamp: N/A  
Luminaire Lumens: 4204.4 lumens  
Efficiency: N/A  
Efficacy: 111.5 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.3  
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')  
CIE Type: Semi-Direct

Input Watts (W): 37.7  
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	111	111	111	111	104	104	104	104	91	91	91	80	80	80	69	69	69	64
1	101	97	93	89	95	91	87	84	80	77	75	70	68	67	61	60	58	54
2	92	84	78	73	86	79	74	69	70	66	62	62	58	56	54	51	49	45
3	84	74	67	61	79	70	63	58	62	57	52	55	51	47	48	45	42	38
4	77	66	58	51	72	62	55	49	55	49	45	49	44	40	43	39	36	33
5	71	59	50	44	66	55	48	42	49	43	39	44	39	35	39	35	32	29
6	65	53	44	38	61	50	42	37	45	38	34	40	35	31	35	31	28	25
7	60	48	40	34	56	45	38	32	41	34	30	36	31	27	32	28	25	22
8	56	43	35	30	53	41	34	29	37	31	27	33	28	24	29	25	22	20
9	52	40	32	27	49	38	31	26	34	28	24	30	26	22	27	23	20	18
10	49	37	29	24	46	35	28	23	31	26	22	28	23	20	25	21	18	16

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

	0°	45°	90°
0°	17142	17142	17142
5°	17208	16960	17058
10°	17105	16787	16870
15°	16893	16568	16552
20°	16593	16242	16225
25°	16295	15841	15841
30°	15910	15474	15340
35°	15554	15031	14808
40°	15104	14587	14309
45°	14661	14150	13798
50°	14179	13692	13205
55°	13678	13163	12673
60°	13120	12526	12064
65°	12520	11897	11351
70°	11759	11131	10603
75°	10699	10256	10000
80°	9493	9205	8731
85°	7762	7373	6614



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	99.8	2.4
10°-20°	280.9	6.7
20°-30°	412.9	9.8
30°-40°	479.6	11.4
40°-50°	479.1	11.4
50°-60°	417.8	9.9
60°-70°	308.9	7.3
70°-80°	175.0	4.2
80°-90°	49.2	1.2
90°-100°	34.0	0.8
100°-110°	105.7	2.5
110°-120°	180.6	4.3
120°-130°	237.5	5.6
130°-140°	266.6	6.3
140°-150°	261.4	6.2
150°-160°	219.2	5.2
160°-170°	145.4	3.5
170°-180°	50.8	1.2
0°-30°	793.6	18.9
0°-40°	1273.2	30.3
0°-60°	2170.1	51.6
0°-90°	2703.2	64.3
90°-120°	320.3	7.6
90°-150°	1085.7	25.8
90°-180°	1501.0	35.7
0°-180°	4204.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1062	1062	1062	1062	1062	
5°	1062	1057	1046	1054	1052	101
15°	1011	1004	991	995	990	284
25°	915	906	889	891	889	421
35°	789	779	763	756	751	492
45°	642	635	620	609	604	495
55°	486	479	468	456	450	434
65°	328	321	311	302	297	324
75°	172	169	164	159	160	183
85°	42	41	40	37	36	48
90°	0	6	16	15	15	3
95°	24	28	29	29	28	27
105°	97	99	100	101	101	103
115°	181	184	183	182	181	179
125°	264	267	266	265	265	236
135°	341	346	347	346	345	263
145°	414	417	420	420	419	259
155°	473	475	476	478	477	218
165°	515	515	515	518	516	145
175°	536	535	534	537	534	51
180°	537	537	537	537	537	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1061.7	1061.7	1061.7	1061.7	1061.7	1061.7	1061.7	1061.7	1061.7	1061.7	1061.7
2.5°	1066.6	1065.7	1064.8	1063.9	1063.0	1061.5	1059.5	1057.5	1055.5	1053.5	1055.3
5°	1061.7	1060.8	1059.9	1059.0	1058.1	1056.4	1053.9	1051.4	1048.9	1046.4	1048.2
7.5°	1052.3	1050.9	1049.5	1048.1	1046.7	1044.7	1042.2	1039.6	1037.1	1034.5	1036.3
10°	1043.3	1041.7	1040.1	1038.5	1037.0	1034.8	1032.1	1029.4	1026.6	1023.9	1025.7
12.5°	1031.1	1029.7	1028.2	1026.8	1025.4	1023.4	1020.6	1017.9	1015.2	1012.5	1013.8
15°	1010.6	1009.3	1007.9	1006.6	1005.2	1003.0	1000.1	997.1	994.2	991.2	992.2
17.5°	984.5	983.1	981.8	980.4	979.1	976.9	973.9	970.9	967.9	964.9	966.0
20°	965.7	964.4	963.0	961.6	960.3	958.0	954.8	951.7	948.5	945.3	946.0
22.5°	946.9	945.0	943.1	941.2	939.3	936.9	933.9	930.9	927.9	924.9	925.0
25°	914.7	912.9	911.1	909.2	907.4	904.6	900.7	896.9	893.0	889.2	889.6
27.5°	877.9	876.3	874.7	873.0	871.4	869.1	866.0	863.0	859.9	856.9	856.2
30°	853.4	851.6	849.8	848.0	846.2	843.6	840.2	836.8	833.4	830.0	829.3
32.5°	827.3	825.8	824.4	822.9	821.5	819.0	815.4	811.8	808.2	804.6	803.4
35°	789.1	786.9	784.6	782.3	780.0	777.1	773.5	769.8	766.2	762.6	761.2
37.5°	746.0	744.0	742.0	740.0	738.1	735.2	731.6	728.0	724.4	720.7	719.0
40°	716.6	714.8	713.0	711.2	709.4	706.7	703.0	699.4	695.8	692.1	690.1
42.5°	688.1	686.2	684.4	682.6	680.8	678.1	674.4	670.8	667.2	663.6	661.3
45°	642.1	640.5	638.9	637.4	635.8	633.3	629.9	626.5	623.1	619.7	617.2
47.5°	596.4	594.9	593.4	591.9	590.4	587.9	584.3	580.8	577.3	573.7	571.1
50°	564.5	563.4	562.3	561.1	560.0	557.8	554.7	551.5	548.3	545.1	542.0
52.5°	533.5	532.0	530.5	529.0	527.5	525.3	522.3	519.3	516.3	513.3	510.7
55°	485.9	484.6	483.2	481.8	480.5	478.4	475.7	473.0	470.3	467.6	464.8
57.5°	438.1	437.1	436.0	434.9	433.8	431.8	428.8	425.8	422.8	419.8	417.1
60°	406.3	405.4	404.5	403.6	402.7	400.6	397.5	394.3	391.1	387.9	385.4
62.5°	375.3	373.8	372.4	370.9	369.5	367.5	365.1	362.6	360.2	357.7	355.4
65°	327.7	326.3	325.0	323.6	322.2	320.4	318.2	315.9	313.6	311.4	309.3
67.5°	279.3	278.2	277.1	276.0	274.9	273.4	271.3	269.3	267.3	265.2	263.6
70°	249.1	248.2	247.3	246.4	245.5	244.0	241.9	239.9	237.9	235.8	234.2
72.5°	218.1	217.1	216.2	215.3	214.4	213.3	212.0	210.7	209.4	208.0	206.5
75°	171.5	171.0	170.6	170.1	169.7	168.9	167.8	166.6	165.5	164.4	163.0
77.5°	129.9	129.1	128.3	127.5	126.8	126.2	125.7	125.2	124.8	124.3	123.7
80°	102.1	101.9	101.6	101.4	101.2	100.8	100.4	99.9	99.5	99.0	98.3
82.5°	76.0	75.9	75.9	75.8	75.8	75.6	75.3	75.1	74.8	74.5	73.7
85°	41.9	41.6	41.4	41.2	40.9	40.7	40.5	40.3	40.0	39.8	39.1
87.5°	14.8	14.7	14.5	14.4	14.3	14.3	14.4	14.4	14.5	14.6	14.0
90°	0.5	1.7	2.9	4.1	5.3	7.0	9.2	11.4	13.6	15.9	15.7
92.5°	8.1	9.0	9.8	10.7	11.6	12.3	12.8	13.4	13.9	14.4	14.4
95°	23.6	24.6	25.6	26.6	27.6	28.2	28.4	28.6	28.8	29.0	29.0
97.5°	43.0	43.9	44.8	45.7	46.6	47.2	47.6	48.0	48.4	48.7	48.7
100°	57.5	58.3	59.1	60.0	60.8	61.3	61.6	61.9	62.2	62.5	62.5
102.5°	72.8	73.4	74.0	74.7	75.3	75.9	76.2	76.6	77.0	77.4	77.5
105°	97.4	97.7	98.0	98.3	98.6	98.9	99.1	99.3	99.5	99.7	99.9
107.5°	122.2	122.7	123.1	123.6	124.0	124.2	124.2	124.2	124.2	124.2	124.3
110°	138.2	138.8	139.4	140.0	140.6	140.9	140.9	140.9	140.9	140.9	140.9



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	155.6	156.2	156.8	157.4	158.0	158.3	158.2	158.1	158.0	157.9	157.7
115°	181.2	181.8	182.4	183.0	183.6	183.8	183.6	183.4	183.2	183.0	182.9
117.5°	206.8	207.6	208.4	209.2	210.0	210.1	209.6	209.0	208.4	207.9	207.6
120°	223.8	224.6	225.4	226.2	227.0	227.0	226.2	225.4	224.6	223.8	223.8
122.5°	239.4	240.4	241.3	242.3	243.3	243.5	242.9	242.3	241.8	241.2	241.0
125°	263.7	264.6	265.5	266.4	267.3	267.6	267.3	267.0	266.7	266.4	266.1
127.5°	287.3	288.5	289.6	290.8	291.9	292.3	292.0	291.6	291.2	290.9	290.5
130°	302.2	303.5	304.8	306.1	307.4	308.0	307.8	307.6	307.4	307.2	307.0
132.5°	318.9	319.9	321.0	322.1	323.1	323.7	323.7	323.8	323.8	323.8	323.4
135°	341.2	342.3	343.4	344.5	345.6	346.2	346.4	346.6	346.8	347.0	346.9
137.5°	364.6	365.5	366.4	367.3	368.2	368.8	369.1	369.4	369.6	369.9	369.8
140°	378.8	379.7	380.6	381.5	382.4	383.1	383.6	384.1	384.6	385.1	385.1
142.5°	393.3	394.2	395.1	396.0	396.9	397.5	397.8	398.2	398.5	398.9	399.0
145°	414.1	414.8	415.5	416.2	416.9	417.6	418.2	418.8	419.4	420.0	420.1
147.5°	432.7	433.5	434.4	435.2	436.1	436.7	437.1	437.5	437.9	438.3	438.5
150°	445.4	446.0	446.6	447.2	447.8	448.3	448.7	449.1	449.5	449.9	450.2
152.5°	456.6	457.2	457.8	458.4	459.0	459.6	460.0	460.5	461.0	461.5	461.9
155°	473.4	473.7	474.0	474.4	474.7	475.0	475.3	475.6	475.9	476.2	476.7
157.5°	487.9	488.1	488.3	488.5	488.7	488.8	489.0	489.2	489.4	489.6	490.3
160°	496.6	496.8	497.0	497.2	497.4	497.5	497.6	497.7	497.8	497.9	498.5
162.5°	504.5	504.6	504.6	504.6	504.7	504.8	504.9	505.0	505.1	505.2	505.8
165°	515.1	515.0	514.9	514.8	514.7	514.7	514.7	514.7	514.7	514.7	515.4
167.5°	524.0	523.7	523.4	523.1	522.8	522.6	522.6	522.6	522.6	522.6	523.3
170°	528.7	528.4	528.1	527.8	527.5	527.3	527.2	527.1	527.0	526.9	527.6
172.5°	532.0	531.7	531.4	531.1	530.8	530.6	530.5	530.4	530.3	530.2	530.9
175°	536.0	535.7	535.4	535.1	534.8	534.5	534.3	534.1	533.9	533.7	534.4
177.5°	537.6	537.4	537.1	536.9	536.6	536.4	536.3	536.1	535.9	535.8	536.3
180°	536.9	536.9	536.9	536.9	536.9	536.9	536.9	536.9	536.9	536.9	536.9



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1061.7	1061.7	1061.7	1061.7	1061.7	1061.7	1061.7	1061.7
2.5°	1057.1	1059.0	1060.8	1061.5	1061.1	1060.8	1060.4	1060.1
5°	1050.0	1051.8	1053.6	1054.3	1053.9	1053.4	1053.0	1052.5
7.5°	1038.2	1040.0	1041.8	1042.4	1041.9	1041.5	1041.0	1040.5
10°	1027.5	1029.4	1031.2	1031.7	1031.1	1030.4	1029.7	1029.0
12.5°	1015.0	1016.3	1017.6	1017.9	1017.4	1017.0	1016.5	1016.0
15°	993.1	994.0	994.9	994.8	993.6	992.5	991.4	990.2
17.5°	967.0	968.0	969.1	969.1	968.0	966.9	965.8	964.7
20°	946.7	947.4	948.0	947.9	947.0	946.1	945.2	944.3
22.5°	925.2	925.3	925.4	925.2	924.7	924.1	923.6	923.1
25°	890.1	890.5	891.0	891.0	890.5	890.1	889.6	889.2
27.5°	855.5	854.9	854.2	853.3	852.2	851.1	850.0	848.9
30°	828.6	827.9	827.2	826.4	825.5	824.6	823.7	822.8
32.5°	802.2	801.0	799.7	798.7	797.8	796.9	795.9	795.0
35°	759.9	758.5	757.1	755.9	754.8	753.6	752.5	751.3
37.5°	717.4	715.7	714.0	712.6	711.5	710.4	709.4	708.3
40°	688.1	686.0	684.0	682.5	681.6	680.7	679.8	678.9
42.5°	659.1	656.9	654.7	652.9	651.6	650.4	649.1	647.8
45°	614.7	612.2	609.7	608.0	607.1	606.2	605.3	604.3
47.5°	568.5	565.8	563.2	561.2	559.9	558.6	557.3	556.0
50°	538.8	535.6	532.4	530.3	529.1	528.0	526.9	525.7
52.5°	508.0	505.4	502.8	500.7	499.2	497.7	496.2	494.7
55°	462.1	459.4	456.7	454.7	453.6	452.5	451.3	450.2
57.5°	414.4	411.7	409.1	407.3	406.4	405.6	404.7	403.8
60°	382.9	380.4	377.9	376.4	375.7	375.0	374.3	373.6
62.5°	353.1	350.8	348.5	346.9	346.0	345.1	344.3	343.4
65°	307.3	305.2	303.2	301.6	300.5	299.3	298.2	297.1
67.5°	262.0	260.5	258.9	257.6	256.7	255.8	254.9	254.0
70°	232.6	231.1	229.5	228.2	227.3	226.4	225.5	224.6
72.5°	204.9	203.3	201.7	200.5	199.8	199.1	198.4	197.6
75°	161.6	160.3	158.9	158.5	158.9	159.4	159.8	160.3
77.5°	123.0	122.3	121.6	121.0	120.3	119.7	119.1	118.4
80°	97.7	97.0	96.3	95.7	95.3	94.8	94.4	93.9
82.5°	72.8	71.9	71.1	70.6	70.5	70.4	70.3	70.2
85°	38.5	37.8	37.1	36.6	36.4	36.2	36.0	35.7
87.5°	13.4	12.9	12.3	11.9	11.7	11.6	11.4	11.2
90°	15.5	15.3	15.1	15.0	15.1	15.2	15.3	15.4
92.5°	14.5	14.5	14.6	14.6	14.6	14.6	14.7	14.7
95°	29.0	29.0	29.0	28.9	28.7	28.5	28.3	28.1
97.5°	48.7	48.7	48.7	48.7	48.7	48.7	48.7	48.7
100°	62.5	62.5	62.5	62.5	62.4	62.3	62.2	62.1
102.5°	77.5	77.6	77.7	77.7	77.6	77.5	77.4	77.3
105°	100.1	100.3	100.5	100.6	100.6	100.6	100.6	100.6
107.5°	124.4	124.5	124.6	124.4	123.9	123.4	123.0	122.5
110°	140.9	140.9	140.9	140.7	140.4	140.1	139.8	139.5





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	157.5	157.2	157.0	156.7	156.5	156.3	156.1	155.9
115°	182.8	182.7	182.6	182.4	182.1	181.8	181.5	181.2
117.5°	207.4	207.1	206.9	206.6	206.3	206.0	205.7	205.4
120°	223.8	223.8	223.8	223.7	223.4	223.1	222.8	222.5
122.5°	240.7	240.5	240.2	240.0	239.8	239.6	239.3	239.1
125°	265.8	265.5	265.2	265.0	264.9	264.8	264.7	264.6
127.5°	290.1	289.8	289.4	289.1	288.7	288.4	288.1	287.8
130°	306.8	306.6	306.4	306.1	305.7	305.3	304.9	304.5
132.5°	323.0	322.5	322.1	321.7	321.4	321.0	320.7	320.4
135°	346.8	346.7	346.6	346.4	346.1	345.8	345.5	345.2
137.5°	369.7	369.6	369.6	369.3	368.9	368.5	368.1	367.7
140°	385.1	385.1	385.1	384.9	384.5	384.1	383.7	383.3
142.5°	399.0	399.1	399.2	399.0	398.6	398.2	397.8	397.4
145°	420.2	420.3	420.4	420.2	419.8	419.4	419.0	418.6
147.5°	438.7	439.0	439.2	439.1	438.7	438.3	437.9	437.6
150°	450.5	450.8	451.1	451.1	450.8	450.5	450.2	449.9
152.5°	462.2	462.6	463.0	463.0	462.6	462.2	461.9	461.5
155°	477.2	477.7	478.2	478.3	478.0	477.7	477.4	477.1
157.5°	490.9	491.6	492.3	492.4	491.9	491.4	491.0	490.5
160°	499.1	499.7	500.3	500.4	500.0	499.6	499.2	498.8
162.5°	506.5	507.2	507.9	508.0	507.5	507.0	506.5	506.1
165°	516.1	516.8	517.5	517.6	517.1	516.6	516.1	515.6
167.5°	524.0	524.7	525.4	525.5	524.9	524.4	523.9	523.4
170°	528.3	529.0	529.7	529.8	529.2	528.6	528.0	527.4
172.5°	531.6	532.3	533.0	533.0	532.4	531.8	531.2	530.6
175°	535.1	535.8	536.5	536.6	536.0	535.4	534.8	534.2
177.5°	536.8	537.2	537.7	537.7	537.2	536.8	536.3	535.8
180°	536.9	536.9	536.9	536.9	536.9	536.9	536.9	536.9

(END OF REPORT)