

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: P331540

Luminaire Tested: **S122DIW-S675D970U835-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331540  
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-S675D970U835-4F0-1E-UDD-D1  
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 675 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 970 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6048.2 lumens  
Efficiency: N/A  
Efficacy: 115.0 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

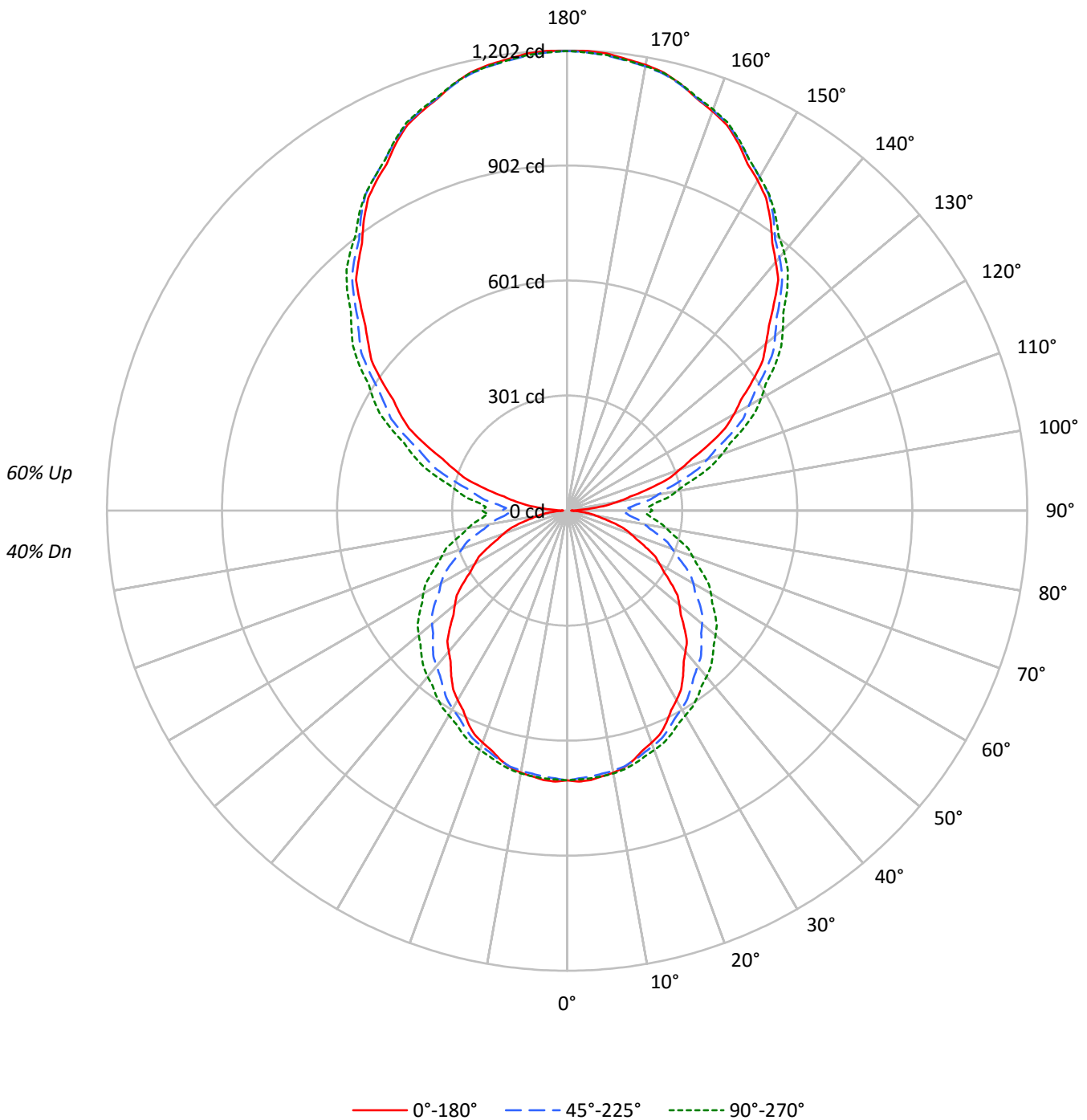
Input Watts (W): 52.6  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	50	30	10	0	
RCR																						
0	105	105	105	105	95	95	95	95	78	78	78	61	61	61	47	47	47	40				
1	94	89	85	81	85	81	78	74	66	63	61	52	50	49	39	38	37	31				
2	85	77	71	65	77	70	65	60	57	53	50	45	42	40	34	32	30	25				
3	78	68	60	54	70	62	55	50	50	45	41	39	36	33	30	27	25	21				
4	71	60	51	45	64	54	47	42	44	39	35	35	31	28	26	24	21	17				
5	65	53	44	38	58	48	41	35	39	34	30	31	27	24	23	21	18	15				
6	59	47	39	33	54	43	36	30	35	30	26	28	24	21	21	18	16	13				
7	55	42	34	29	50	39	32	27	32	26	22	25	21	18	19	16	14	11				
8	51	38	31	25	46	35	28	23	29	24	20	23	19	16	18	15	13	10				
9	47	35	27	22	43	32	25	21	26	21	17	21	17	14	16	13	11	9				
10	44	32	25	20	40	29	23	18	24	19	16	20	16	13	15	12	10	8				

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

	0°	45°	90°
0°	11373	11373	11373
5°	11428	10947	10905
10°	11356	10624	10504
15°	11200	10282	10083
20°	11002	9915	9676
25°	10807	9560	9307
30°	10532	9197	8935
35°	10254	8846	8673
40°	9960	8547	8413
45°	9681	8279	8190
50°	9382	8037	7969
55°	9070	7777	7745
60°	8686	7508	7509
65°	8287	7191	7227
70°	7841	6852	6923
75°	7270	6518	6643
80°	6370	6177	6361
85°	5506	5882	6138



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	66.7	1.1
10°-20°	191.4	3.2
20°-30°	290.0	4.8
30°-40°	353.3	5.8
40°-50°	380.0	6.3
50°-60°	369.1	6.1
60°-70°	322.3	5.3
70°-80°	248.1	4.1
80°-90°	171.3	2.8
90°-100°	190.8	3.2
100°-110°	320.0	5.3
110°-120°	459.1	7.6
120°-130°	561.8	9.3
130°-140°	608.9	10.1
140°-150°	586.6	9.7
150°-160°	490.1	8.1
160°-170°	325.1	5.4
170°-180°	113.6	1.9
0°-30°	548.2	9.1
0°-40°	901.4	14.9
0°-60°	1650.6	27.3
0°-90°	2392.2	39.6
90°-120°	969.8	16.0
90°-150°	2727.1	45.1
90°-180°	3656.0	60.4
0°-180°	6048.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	704	704	704	704	704	
5°	706	703	697	703	702	67
15°	674	676	676	684	684	190
25°	612	620	629	641	644	281
35°	528	545	564	586	594	330
45°	433	461	496	527	538	334
55°	332	369	422	457	472	297
65°	227	277	337	377	392	225
75°	126	183	248	290	305	133
85°	37	100	165	207	222	40
90°	11	84	170	208	222	10
95°	61	119	182	219	231	67
105°	223	257	311	347	360	236
115°	409	428	470	499	508	404
125°	592	602	630	654	663	529
135°	764	775	787	807	813	590
145°	926	933	939	946	947	578
155°	1058	1061	1064	1069	1066	487
165°	1152	1151	1151	1157	1153	325
175°	1198	1195	1193	1200	1194	114
180°	1200	1200	1200	1200	1200	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	704.4	704.4	704.4	704.4	704.4	704.4	704.4	704.4	704.4	704.4	704.4
2.5°	708.5	707.9	707.4	706.8	706.3	705.4	704.1	702.8	701.6	700.3	701.2
5°	706.4	705.7	705.1	704.4	703.7	702.7	701.3	700.0	698.6	697.2	698.6
7.5°	700.1	699.6	699.2	698.7	698.3	697.5	696.5	695.4	694.4	693.4	695.0
10°	695.2	694.7	694.3	693.8	693.4	692.8	692.1	691.5	690.8	690.1	691.9
12.5°	687.0	687.1	687.2	687.3	687.4	687.2	686.7	686.2	685.7	685.2	687.0
15°	673.8	674.2	674.7	675.1	675.6	675.8	675.8	675.8	675.8	675.8	677.8
17.5°	656.6	657.6	658.5	659.5	660.4	661.3	662.0	662.7	663.4	664.2	666.3
20°	645.2	646.3	647.4	648.6	649.7	650.7	651.6	652.6	653.5	654.4	656.9
22.5°	632.9	634.2	635.6	636.9	638.2	639.5	640.8	642.0	643.3	644.6	647.1
25°	612.5	614.1	615.7	617.3	618.9	620.7	622.7	624.8	626.8	628.8	631.6
27.5°	588.0	590.6	593.2	595.8	598.4	600.9	603.3	605.7	608.1	610.5	613.9
30°	571.7	574.6	577.6	580.5	583.5	586.4	589.4	592.3	595.3	598.2	601.8
32.5°	553.7	557.0	560.3	563.6	567.0	570.4	573.9	577.3	580.8	584.3	588.5
35°	527.8	531.6	535.5	539.3	543.2	547.3	551.6	555.9	560.2	564.5	569.5
37.5°	499.6	504.1	508.5	512.9	517.4	522.4	528.0	533.6	539.1	544.7	550.3
40°	480.8	485.8	490.8	495.8	500.8	506.3	512.5	518.6	524.7	530.8	536.7
42.5°	462.9	467.8	472.8	477.8	482.8	488.8	495.9	502.9	509.9	517.0	523.4
45°	432.8	439.0	445.1	451.2	457.3	464.4	472.3	480.3	488.2	496.1	503.2
47.5°	403.2	409.9	416.6	423.2	429.9	437.9	447.2	456.5	465.8	475.1	482.5
50°	382.8	389.9	396.9	403.9	410.9	419.6	429.8	440.0	450.2	460.4	468.1
52.5°	363.2	370.6	378.0	385.4	392.8	401.9	412.6	423.4	434.1	444.9	452.8
55°	331.8	339.9	348.1	356.3	364.4	374.4	386.2	398.0	409.8	421.6	429.8
57.5°	300.7	310.0	319.2	328.4	337.6	348.2	360.2	372.2	384.3	396.3	405.1
60°	278.7	288.4	298.2	308.0	317.7	329.1	342.0	354.9	367.8	380.8	389.4
62.5°	259.1	269.2	279.3	289.4	299.6	311.1	324.0	336.9	349.9	362.8	372.0
65°	226.6	237.7	248.9	260.0	271.1	283.3	296.7	310.1	323.5	336.9	346.2
67.5°	196.8	208.4	220.1	231.7	243.3	255.9	269.6	283.3	297.0	310.7	320.1
70°	175.6	187.4	199.2	211.0	222.8	235.7	249.8	263.8	277.9	292.0	301.7
72.5°	156.0	168.1	180.3	192.5	204.6	217.8	232.1	246.3	260.6	274.8	284.4
75°	125.6	138.3	151.0	163.7	176.4	190.0	204.5	219.0	233.5	248.1	257.8
77.5°	96.2	109.5	122.8	136.0	149.3	163.4	178.1	192.9	207.6	222.3	232.1
80°	76.6	90.4	104.2	118.1	131.9	146.2	161.0	175.7	190.4	205.2	214.7
82.5°	60.2	73.9	87.5	101.2	114.9	129.1	144.1	159.0	173.9	188.9	198.4
85°	36.8	50.8	64.9	78.9	93.0	107.3	121.8	136.3	150.9	165.4	174.9
87.5°	20.2	34.3	48.3	62.4	76.5	91.2	106.7	122.3	137.8	153.3	162.4
90°	11.2	27.1	42.9	58.8	74.7	92.3	111.8	131.3	150.7	170.2	178.8
92.5°	27.4	41.7	55.9	70.1	84.3	99.0	114.2	129.3	144.5	159.6	168.6
95°	60.8	73.7	86.7	99.6	112.5	126.0	140.0	154.1	168.2	182.2	190.8
97.5°	103.4	114.8	126.3	137.8	149.2	161.9	175.8	189.8	203.7	217.6	226.0
100°	135.8	146.0	156.2	166.4	176.6	188.3	201.7	215.1	228.5	241.9	250.3
102.5°	169.0	178.1	187.2	196.3	205.4	216.6	229.8	243.0	256.2	269.4	277.8
105°	222.9	230.1	237.4	244.6	251.9	261.6	273.9	286.1	298.4	310.6	319.0
107.5°	278.2	284.4	290.7	296.9	303.2	312.0	323.3	334.6	345.8	357.1	364.9
110°	313.0	318.9	324.8	330.7	336.6	345.1	356.2	367.3	378.4	389.5	396.8



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	351.9	357.1	362.2	367.4	372.5	380.3	390.7	401.1	411.5	421.9	428.6
115°	409.2	413.1	416.9	420.8	424.6	431.4	441.2	450.9	460.7	470.4	477.0
117.5°	465.3	468.8	472.2	475.6	479.1	484.9	493.0	501.2	509.4	517.6	523.8
120°	503.4	506.1	508.8	511.5	514.2	519.2	526.5	533.8	541.1	548.3	554.7
122.5°	538.3	540.8	543.3	545.8	548.4	553.2	560.5	567.8	575.1	582.3	588.0
125°	591.5	593.5	595.6	597.6	599.6	603.9	610.5	617.1	623.7	630.3	635.7
127.5°	644.4	646.7	649.1	651.4	653.8	657.4	662.5	667.5	672.6	677.6	682.4
130°	677.6	680.3	683.0	685.7	688.4	691.9	696.2	700.5	704.9	709.2	714.2
132.5°	714.9	717.0	719.2	721.4	723.5	726.5	730.3	734.0	737.8	741.5	745.8
135°	763.7	766.2	768.7	771.1	773.6	776.2	778.9	781.6	784.4	787.1	791.6
137.5°	816.2	818.1	820.1	822.1	824.1	825.9	827.5	829.0	830.6	832.2	836.2
140°	847.8	849.6	851.4	853.2	855.0	856.7	858.2	859.8	861.4	863.0	866.6
142.5°	880.2	882.0	883.8	885.6	887.4	888.7	889.6	890.4	891.3	892.1	895.2
145°	925.7	927.3	928.9	930.5	932.1	933.5	934.9	936.2	937.6	938.9	940.5
147.5°	967.3	969.2	971.1	972.9	974.8	976.2	977.1	978.0	978.9	979.8	980.5
150°	995.6	997.0	998.3	999.7	1001.0	1002.2	1003.1	1004.0	1004.9	1005.8	1006.4
152.5°	1020.8	1022.1	1023.5	1024.8	1026.2	1027.4	1028.5	1029.5	1030.6	1031.7	1032.5
155°	1058.4	1059.1	1059.8	1060.5	1061.1	1061.8	1062.5	1063.2	1063.8	1064.5	1065.6
157.5°	1090.6	1091.1	1091.5	1092.0	1092.4	1092.9	1093.3	1093.7	1094.1	1094.5	1096.0
160°	1110.1	1110.5	1111.0	1111.4	1111.9	1112.2	1112.5	1112.7	1112.9	1113.1	1114.5
162.5°	1127.9	1128.0	1128.1	1128.2	1128.3	1128.4	1128.7	1128.9	1129.1	1129.3	1130.9
165°	1151.6	1151.4	1151.2	1150.9	1150.7	1150.6	1150.6	1150.6	1150.6	1150.6	1152.2
167.5°	1171.5	1170.8	1170.1	1169.4	1168.8	1168.4	1168.4	1168.3	1168.3	1168.2	1169.8
170°	1182.0	1181.3	1180.7	1180.0	1179.3	1178.9	1178.6	1178.4	1178.2	1178.0	1179.5
172.5°	1189.3	1188.6	1187.9	1187.3	1186.6	1186.1	1185.9	1185.7	1185.5	1185.2	1186.8
175°	1198.2	1197.5	1196.9	1196.2	1195.5	1194.9	1194.5	1194.0	1193.6	1193.1	1194.7
177.5°	1201.9	1201.3	1200.8	1200.2	1199.7	1199.2	1198.9	1198.5	1198.2	1197.8	1198.9
180°	1200.2	1200.2	1200.2	1200.2	1200.2	1200.2	1200.2	1200.2	1200.2	1200.2	1200.2



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	704.4	704.4	704.4	704.4	704.4	704.4	704.4	704.4
2.5°	702.1	703.0	703.9	704.2	703.8	703.5	703.1	702.8
5°	700.0	701.3	702.7	703.3	703.0	702.8	702.6	702.3
7.5°	696.6	698.3	699.9	700.6	700.4	700.1	699.9	699.7
10°	693.7	695.5	697.4	698.1	697.9	697.7	697.5	697.2
12.5°	688.8	690.6	692.5	693.2	693.0	692.8	692.6	692.3
15°	679.9	681.9	684.0	684.9	684.7	684.4	684.2	684.0
17.5°	668.4	670.6	672.7	673.8	673.8	673.8	673.8	673.8
20°	659.4	661.9	664.3	665.6	665.6	665.6	665.6	665.6
22.5°	649.6	652.1	654.5	656.0	656.3	656.7	657.1	657.4
25°	634.3	637.0	639.7	641.4	642.1	642.8	643.5	644.2
27.5°	617.4	620.8	624.3	626.2	626.7	627.2	627.7	628.2
30°	605.5	609.1	612.7	614.9	615.6	616.3	616.9	617.6
32.5°	592.7	596.9	601.0	603.7	605.0	606.2	607.4	608.6
35°	574.5	579.5	584.5	587.8	589.4	591.0	592.5	594.1
37.5°	555.8	561.3	566.9	570.5	572.2	573.8	575.5	577.2
40°	542.6	548.5	554.4	558.4	560.4	562.5	564.5	566.6
42.5°	529.8	536.3	542.7	547.0	549.0	551.1	553.1	555.1
45°	510.2	517.2	524.3	528.9	531.2	533.5	535.7	538.0
47.5°	489.8	497.2	504.5	509.4	511.9	514.4	516.9	519.4
50°	475.8	483.5	491.3	496.4	498.9	501.4	503.8	506.3
52.5°	460.7	468.6	476.5	481.8	484.4	487.1	489.8	492.5
55°	437.9	446.1	454.3	459.8	462.8	465.7	468.7	471.6
57.5°	413.9	422.7	431.5	437.4	440.4	443.4	446.4	449.4
60°	398.0	406.6	415.3	421.2	424.3	427.5	430.7	433.9
62.5°	381.1	390.3	399.5	405.6	408.5	411.5	414.5	417.5
65°	355.5	364.8	374.1	380.2	383.2	386.1	389.1	392.0
67.5°	329.5	338.9	348.3	354.6	357.6	360.7	363.8	366.9
70°	311.5	321.2	331.0	337.2	339.9	342.7	345.4	348.1
72.5°	294.0	303.5	313.1	319.5	322.8	326.1	329.3	332.6
75°	267.6	277.3	287.1	293.4	296.4	299.3	302.3	305.2
77.5°	241.8	251.5	261.2	267.6	270.8	274.0	277.1	280.3
80°	224.2	233.8	243.3	249.7	252.8	256.0	259.2	262.4
82.5°	207.9	217.4	227.0	233.2	236.2	239.2	242.2	245.2
85°	184.4	194.0	203.5	209.8	213.0	216.2	219.4	222.5
87.5°	171.6	180.8	189.9	196.0	198.9	201.9	204.8	207.8
90°	187.5	196.1	204.7	210.5	213.4	216.4	219.3	222.3
92.5°	177.6	186.6	195.5	201.4	204.2	207.0	209.7	212.5
95°	199.5	208.1	216.7	222.1	224.4	226.7	229.0	231.2
97.5°	234.4	242.8	251.2	256.7	259.3	262.0	264.6	267.2
100°	258.6	267.0	275.4	280.8	283.0	285.3	287.6	289.8
102.5°	286.1	294.5	302.9	308.3	310.5	312.8	315.1	317.3
105°	327.4	335.8	344.2	349.6	352.1	354.6	357.1	359.6
107.5°	372.8	380.6	388.4	393.0	394.4	395.9	397.4	398.8
110°	404.0	411.3	418.6	423.1	424.9	426.7	428.6	430.4





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	435.3	442.0	448.8	453.1	455.1	457.1	459.1	461.1
115°	483.6	490.2	496.8	501.0	502.8	504.6	506.4	508.2
117.5°	529.9	536.1	542.3	546.2	547.8	549.5	551.1	552.7
120°	561.0	567.4	573.7	577.8	579.6	581.5	583.3	585.1
122.5°	593.6	599.2	604.8	608.5	610.1	611.8	613.4	615.0
125°	641.2	646.6	652.1	655.7	657.5	659.3	661.2	663.0
127.5°	687.2	692.1	696.9	699.9	701.2	702.5	703.7	705.0
130°	719.2	724.2	729.2	732.1	733.0	733.9	734.9	735.8
132.5°	750.1	754.4	758.6	761.3	762.4	763.5	764.6	765.7
135°	796.2	800.7	805.2	808.1	809.2	810.4	811.5	812.6
137.5°	840.2	844.2	848.2	850.5	851.1	851.8	852.4	853.1
140°	870.2	873.9	877.5	879.5	880.0	880.5	880.9	881.4
142.5°	898.3	901.4	904.5	906.1	906.4	906.7	907.0	907.3
145°	942.1	943.7	945.3	946.2	946.4	946.6	946.9	947.1
147.5°	981.2	981.9	982.5	982.7	982.4	982.1	981.8	981.5
150°	1007.1	1007.8	1008.5	1008.5	1007.8	1007.1	1006.4	1005.8
152.5°	1033.4	1034.3	1035.1	1035.1	1034.3	1033.4	1032.5	1031.7
155°	1066.8	1067.9	1069.0	1069.2	1068.6	1067.9	1067.2	1066.5
157.5°	1097.6	1099.1	1100.6	1100.8	1099.8	1098.7	1097.6	1096.5
160°	1115.8	1117.2	1118.5	1118.8	1117.9	1117.0	1116.1	1115.2
162.5°	1132.4	1133.9	1135.5	1135.7	1134.6	1133.5	1132.4	1131.4
165°	1153.8	1155.3	1156.9	1157.1	1156.0	1154.9	1153.8	1152.6
167.5°	1171.4	1173.0	1174.5	1174.7	1173.6	1172.4	1171.2	1170.1
170°	1181.1	1182.7	1184.3	1184.4	1183.0	1181.7	1180.3	1179.0
172.5°	1188.4	1190.0	1191.5	1191.7	1190.3	1189.0	1187.6	1186.3
175°	1196.3	1197.9	1199.4	1199.6	1198.2	1196.9	1195.5	1194.2
177.5°	1200.0	1201.0	1202.1	1202.1	1201.0	1200.0	1198.9	1197.8
180°	1200.2	1200.2	1200.2	1200.2	1200.2	1200.2	1200.2	1200.2

(END OF REPORT)