

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: P332520-930

Luminaire Tested: **S124DIP-S350D1035U930-4F0-1E-UDD-D**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332520-930  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-6,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S124DIP-S350D1035U930-4F0-1E-UDD-D  
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 350 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 1035 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4543.9 lumens  
Efficiency: N/A  
Efficacy: 121.8 lumens/watt  
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39  
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.08')  
CIE Type: Semi-Indirect

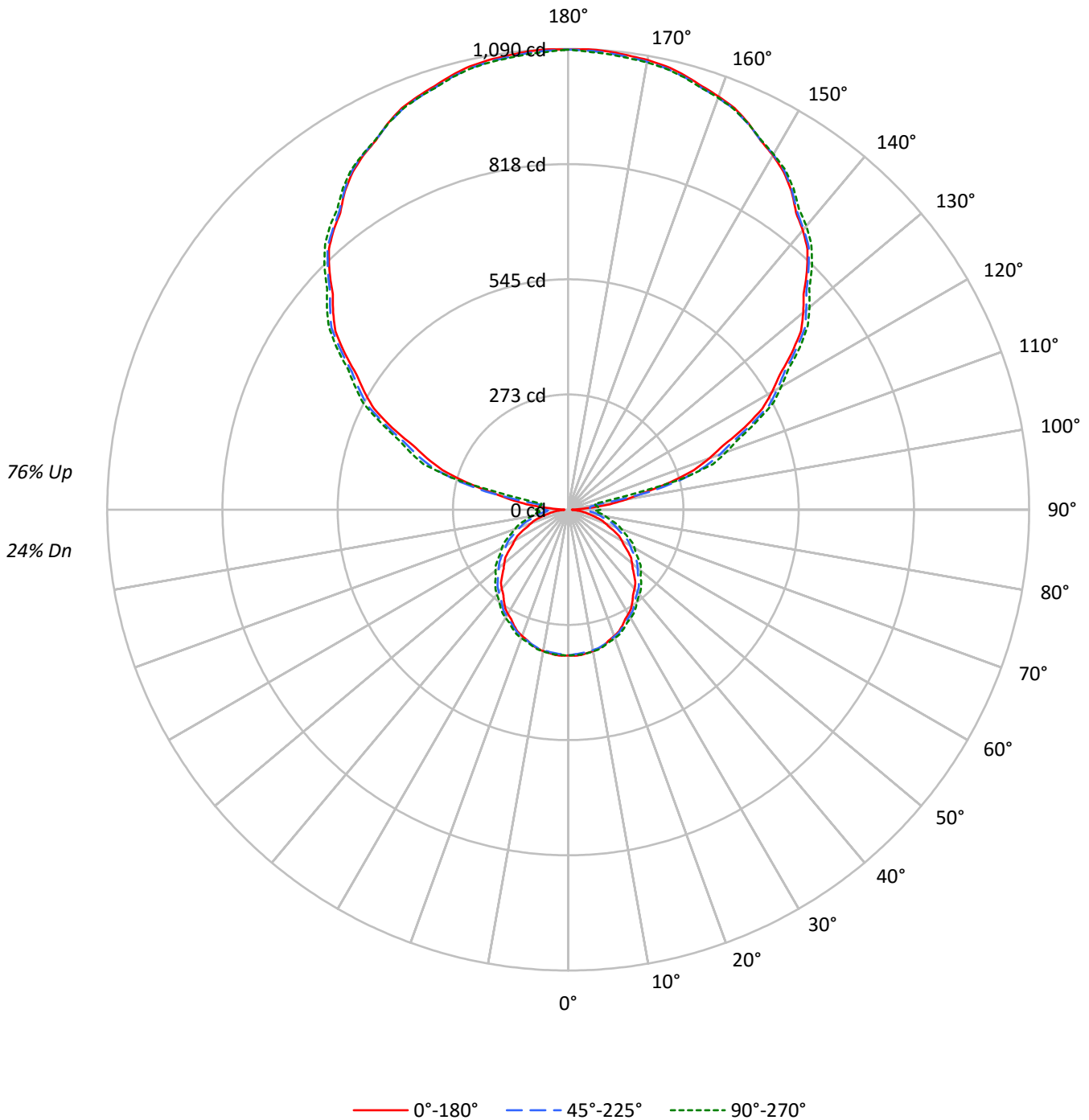
Input Watts (W): 37.3  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	101	101	101	101	90	90	90	90	69	69	69	50	50	50	32	32	32	24
1	91	87	83	80	81	77	74	71	59	57	55	43	42	40	28	27	26	19
2	83	76	70	65	73	67	62	58	52	48	45	37	35	33	24	23	22	16
3	76	66	59	53	67	59	53	48	45	41	38	33	30	28	21	19	18	13
4	69	58	51	45	61	52	46	40	40	36	32	29	26	24	19	17	15	11
5	63	52	44	38	56	46	39	34	36	31	27	26	23	20	17	15	13	9
6	58	46	38	33	51	41	35	30	32	27	23	23	20	17	15	13	12	8
7	53	42	34	28	47	37	30	26	29	24	20	21	18	15	14	12	10	7
8	49	37	30	25	44	34	27	23	26	21	18	19	16	14	13	11	9	6
9	46	34	27	22	41	31	24	20	24	19	16	18	14	12	12	10	8	6
10	43	31	24	19	38	28	22	18	22	17	14	16	13	11	11	9	7	5

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

	0°	45°	90°
0°	2782	2782	2782
5°	2791	2719	2726
10°	2774	2675	2673
15°	2749	2623	2608
20°	2711	2566	2547
25°	2669	2503	2478
30°	2623	2439	2408
35°	2571	2374	2347
40°	2530	2313	2282
45°	2468	2256	2228
50°	2417	2190	2169
55°	2363	2129	2101
60°	2280	2049	2039
65°	2187	1965	1962
70°	2076	1868	1874
75°	1922	1763	1793
80°	1750	1660	1713
85°	1534	1571	1669



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	32.6	0.7
10°-20°	93.5	2.1
20°-30°	141.4	3.1
30°-40°	171.1	3.8
40°-50°	180.8	4.0
50°-60°	170.2	3.7
60°-70°	141.2	3.1
70°-80°	99.2	2.2
80°-90°	59.2	1.3
90°-100°	70.5	1.6
100°-110°	261.9	5.8
110°-120°	470.5	10.4
120°-130°	585.6	12.9
130°-140°	620.6	13.7
140°-150°	577.4	12.7
150°-160°	465.0	10.2
160°-170°	299.9	6.6
170°-180°	103.4	2.3
0°-30°	267.5	5.9
0°-40°	438.6	9.7
0°-60°	789.6	17.4
0°-90°	1089.2	24.0
90°-120°	803.0	17.7
90°-150°	2586.5	56.9
90°-180°	3455.0	76.0
0°-180°	4543.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	345	345	345	345	345	
5°	345	344	341	344	344	33
15°	331	331	330	333	333	93
25°	303	305	306	310	311	139
35°	265	269	273	278	280	166
45°	221	228	235	242	244	171
55°	173	181	193	200	203	154
65°	120	132	145	154	158	119
75°	66	81	97	107	111	71
85°	20	37	54	65	70	22
90°	9	33	56	72	77	6
95°	50	37	51	66	71	62
105°	248	261	279	294	270	260
115°	460	466	477	487	490	452
125°	644	648	655	665	668	575
135°	798	798	804	811	815	615
145°	920	922	922	925	928	575
155°	1008	1009	1007	1010	1008	465
165°	1064	1060	1060	1065	1059	300
175°	1088	1084	1084	1090	1082	104
180°	1088	1088	1088	1088	1088	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	344.6	344.6	344.6	344.6	344.6	344.6	344.6	344.6	344.6	344.6	344.6
2.5°	345.8	345.6	345.4	345.2	345.0	344.6	344.1	343.6	343.0	342.4	342.9
5°	345.0	344.7	344.5	344.2	344.0	343.6	342.9	342.3	341.8	341.1	341.9
7.5°	342.1	341.9	341.8	341.6	341.4	341.1	340.6	340.1	339.7	339.2	339.9
10°	339.6	339.5	339.4	339.3	339.2	339.0	338.6	338.1	337.7	337.3	338.0
12.5°	336.2	336.1	336.1	336.1	336.1	336.0	335.7	335.4	335.1	334.8	335.5
15°	330.7	330.8	330.9	331.0	331.1	331.0	330.7	330.4	330.2	330.0	330.7
17.5°	323.3	323.5	323.8	324.0	324.2	324.4	324.3	324.2	324.2	324.2	325.0
20°	318.0	318.2	318.5	318.8	319.0	319.2	319.3	319.4	319.4	319.5	320.4
22.5°	312.1	312.4	312.7	313.1	313.4	313.6	313.8	314.0	314.1	314.3	315.1
25°	302.6	303.0	303.6	304.1	304.6	305.0	305.2	305.5	305.7	306.1	307.0
27.5°	291.9	292.7	293.4	294.2	294.9	295.5	295.9	296.3	296.7	297.1	297.9
30°	284.8	285.5	286.2	286.8	287.6	288.2	288.8	289.3	290.0	290.6	291.6
32.5°	277.1	277.9	278.8	279.6	280.4	281.1	281.8	282.4	283.2	283.8	284.9
35°	264.7	265.8	266.8	267.8	268.9	269.8	270.7	271.5	272.4	273.2	274.4
37.5°	252.3	253.5	254.7	255.8	257.1	258.1	259.3	260.3	261.4	262.4	263.7
40°	244.3	245.4	246.5	247.6	248.7	249.9	251.1	252.3	253.5	254.7	256.0
42.5°	235.1	236.3	237.5	238.8	240.0	241.3	242.8	244.2	245.6	247.0	248.4
45°	220.7	222.3	224.0	225.6	227.2	228.9	230.5	232.1	233.7	235.4	236.8
47.5°	207.1	208.8	210.4	212.1	213.8	215.6	217.4	219.4	221.3	223.1	224.6
50°	197.2	199.1	201.0	202.8	204.7	206.6	208.6	210.4	212.3	214.2	215.9
52.5°	187.4	189.2	191.1	193.0	194.9	196.9	199.0	201.2	203.3	205.5	207.2
55°	172.9	174.7	176.5	178.3	180.1	182.3	184.8	187.4	190.0	192.6	194.3
57.5°	156.8	159.0	161.2	163.5	165.7	168.0	170.6	173.2	175.7	178.3	180.3
60°	146.3	148.5	150.7	153.0	155.2	157.7	160.5	163.4	166.2	169.0	171.0
62.5°	136.1	138.5	141.0	143.4	145.8	148.5	151.2	154.1	156.9	159.8	161.8
65°	119.6	122.4	125.1	127.8	130.6	133.5	136.3	139.3	142.2	145.1	147.2
67.5°	103.8	106.7	109.7	112.6	115.4	118.5	121.6	124.7	127.8	130.9	133.1
70°	93.0	95.9	98.8	101.7	104.7	107.8	111.0	114.3	117.6	120.8	123.1
72.5°	82.5	85.5	88.5	91.5	94.4	97.7	101.1	104.6	108.0	111.5	113.7
75°	66.4	69.5	72.7	75.9	79.1	82.4	86.1	89.7	93.3	96.9	99.3
77.5°	51.4	54.7	58.0	61.4	64.7	68.3	72.1	75.9	79.7	83.4	85.9
80°	42.1	45.5	48.9	52.3	55.8	59.4	63.2	66.9	70.7	74.5	77.0
82.5°	32.8	36.4	39.9	43.5	47.0	50.7	54.5	58.3	62.0	65.9	68.5
85°	20.5	24.1	27.6	31.2	34.9	38.6	42.5	46.3	50.1	54.1	56.6
87.5°	11.9	15.8	19.7	23.6	27.5	31.5	35.5	39.5	43.6	47.6	50.4
90°	8.6	14.0	19.5	24.9	30.3	35.5	40.7	45.8	51.0	56.1	59.7
92.5°	16.1	19.3	22.5	25.7	28.9	33.1	38.2	43.4	48.5	53.6	57.1
95°	49.8	46.5	43.1	39.8	36.5	36.7	40.4	44.1	47.8	51.4	54.9
97.5°	99.6	105.9	112.2	118.5	124.7	119.4	102.8	86.1	69.4	52.7	55.0
100°	137.7	143.2	148.7	154.2	159.6	151.6	130.0	108.4	86.7	65.1	64.4
102.5°	180.7	185.1	189.4	193.7	198.0	200.2	200.2	200.3	200.3	200.3	169.4
105°	248.4	251.3	254.0	256.8	259.7	263.1	267.2	271.3	275.3	279.4	283.2
107.5°	312.0	314.0	315.9	317.9	319.8	322.9	327.2	331.3	335.6	339.8	342.8
110°	354.7	356.4	358.2	360.0	361.7	364.6	368.7	372.8	376.8	380.9	383.3



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	396.1	398.1	400.1	402.2	404.2	406.9	410.3	413.7	417.0	420.4	422.2
115°	459.7	461.1	462.4	463.7	465.0	466.9	469.4	472.1	474.6	477.2	479.4
117.5°	517.5	518.6	519.8	521.0	522.2	524.2	527.2	530.2	533.1	536.1	537.8
120°	556.2	557.2	558.2	559.1	560.1	561.7	564.0	566.4	568.7	571.0	573.1
122.5°	592.6	593.1	593.6	594.1	594.6	596.1	598.8	601.4	604.0	606.6	608.5
125°	644.5	645.1	645.8	646.5	647.1	648.2	650.0	651.8	653.6	655.4	657.5
127.5°	693.9	694.0	694.1	694.2	694.3	695.6	698.1	700.6	703.0	705.5	706.9
130°	725.5	725.6	725.7	725.8	725.9	726.9	728.8	730.8	732.6	734.6	736.3
132.5°	754.8	755.0	755.3	755.5	755.8	756.8	758.6	760.3	762.1	763.9	765.6
135°	798.4	798.2	798.0	797.9	797.7	798.3	799.6	800.9	802.2	803.6	805.3
137.5°	837.3	837.3	837.2	837.2	837.2	837.8	838.9	839.9	841.1	842.1	843.8
140°	862.7	863.0	863.2	863.5	863.8	864.1	864.6	865.0	865.5	865.9	867.6
142.5°	885.2	885.8	886.4	887.0	887.7	888.1	888.3	888.4	888.6	888.8	890.1
145°	920.1	920.6	921.0	921.5	921.9	922.1	922.1	922.1	922.1	922.1	922.8
147.5°	947.9	948.8	949.7	950.7	951.6	952.0	951.8	951.6	951.5	951.3	951.5
150°	968.1	968.7	969.4	970.0	970.6	970.9	970.7	970.5	970.4	970.1	970.1
152.5°	984.7	985.3	985.9	986.4	987.0	987.1	986.8	986.4	986.1	985.8	986.1
155°	1008.4	1008.6	1008.8	1008.9	1009.1	1008.9	1008.4	1007.9	1007.3	1006.8	1007.5
157.5°	1028.4	1028.3	1028.2	1028.1	1028.0	1027.6	1027.0	1026.4	1025.8	1025.2	1026.1
160°	1040.2	1039.6	1039.1	1038.5	1038.0	1037.6	1037.5	1037.2	1037.1	1036.9	1038.0
162.5°	1050.6	1049.9	1049.2	1048.5	1047.8	1047.4	1047.2	1047.0	1046.8	1046.7	1047.7
165°	1063.7	1062.8	1061.9	1061.0	1060.1	1059.6	1059.6	1059.6	1059.6	1059.6	1061.1
167.5°	1074.2	1073.3	1072.3	1071.4	1070.4	1069.9	1069.8	1069.7	1069.6	1069.4	1071.1
170°	1080.0	1079.0	1077.8	1076.8	1075.7	1075.2	1075.4	1075.6	1075.8	1076.0	1077.4
172.5°	1083.9	1082.9	1081.7	1080.7	1079.6	1079.1	1079.3	1079.5	1079.7	1079.9	1081.3
175°	1088.2	1087.1	1086.0	1084.9	1083.9	1083.4	1083.5	1083.8	1083.9	1084.1	1085.7
177.5°	1090.1	1089.1	1088.1	1087.1	1086.1	1085.7	1086.0	1086.3	1086.5	1086.9	1088.0
180°	1088.2	1088.2	1088.2	1088.2	1088.2	1088.2	1088.2	1088.2	1088.2	1088.2	1088.2



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	344.6	344.6	344.6	344.6	344.6	344.6	344.6	344.6
2.5°	343.4	343.9	344.4	344.5	344.5	344.5	344.4	344.3
5°	342.5	343.2	343.9	344.2	344.1	344.0	343.9	343.8
7.5°	340.7	341.4	342.3	342.6	342.5	342.4	342.3	342.3
10°	338.8	339.6	340.4	340.7	340.6	340.6	340.5	340.4
12.5°	336.2	337.0	337.6	337.9	337.9	337.9	337.9	337.9
15°	331.5	332.2	333.0	333.4	333.3	333.2	333.1	333.0
17.5°	325.7	326.5	327.3	327.7	327.6	327.5	327.5	327.4
20°	321.2	322.1	322.9	323.4	323.4	323.4	323.4	323.4
22.5°	316.0	316.8	317.7	318.2	318.4	318.5	318.6	318.8
25°	307.9	308.8	309.8	310.3	310.4	310.5	310.5	310.6
27.5°	298.8	299.7	300.6	301.1	301.2	301.3	301.3	301.5
30°	292.4	293.4	294.3	294.9	295.1	295.3	295.5	295.6
32.5°	285.9	287.1	288.1	288.8	288.9	289.1	289.3	289.4
35°	275.7	276.8	278.0	278.8	279.0	279.2	279.6	279.8
37.5°	264.9	266.0	267.3	268.1	268.3	268.6	268.9	269.1
40°	257.3	258.5	259.8	260.7	261.0	261.4	261.7	262.0
42.5°	249.8	251.3	252.7	253.6	253.8	254.0	254.4	254.6
45°	238.3	239.8	241.2	242.1	242.6	243.0	243.4	243.9
47.5°	226.2	227.6	229.2	230.2	230.7	231.2	231.7	232.3
50°	217.6	219.3	221.0	222.2	222.7	223.1	223.7	224.2
52.5°	209.0	210.7	212.4	213.5	214.0	214.5	215.1	215.6
55°	196.0	197.7	199.4	200.6	201.1	201.5	202.1	202.6
57.5°	182.4	184.4	186.5	187.7	188.2	188.7	189.1	189.6
60°	173.0	175.0	176.9	178.2	179.0	179.6	180.3	181.0
62.5°	163.7	165.7	167.6	169.0	169.7	170.3	171.0	171.7
65°	149.4	151.6	153.7	155.1	155.8	156.5	157.2	157.8
67.5°	135.3	137.5	139.7	141.1	141.8	142.4	143.1	143.8
70°	125.4	127.8	130.0	131.5	132.1	132.7	133.3	133.9
72.5°	116.0	118.3	120.5	122.0	122.6	123.3	124.0	124.7
75°	101.7	104.0	106.5	108.0	108.8	109.6	110.4	111.1
77.5°	88.3	90.7	93.2	94.8	95.6	96.4	97.3	98.1
80°	79.7	82.2	84.8	86.4	87.1	87.8	88.5	89.1
82.5°	71.1	73.8	76.4	78.1	78.8	79.6	80.4	81.1
85°	59.2	61.7	64.3	66.0	66.9	67.8	68.6	69.5
87.5°	53.1	55.8	58.5	60.3	61.1	61.9	62.7	63.5
90°	63.3	66.9	70.4	72.7	73.8	74.8	75.8	76.9
92.5°	60.6	64.1	67.6	69.8	70.5	71.3	72.0	72.8
95°	58.3	61.7	65.1	67.3	68.2	69.1	70.1	71.1
97.5°	57.4	59.8	62.1	63.8	64.7	65.6	66.4	67.4
100°	63.6	62.9	62.1	62.1	62.9	63.7	64.5	65.2
102.5°	138.5	107.5	76.6	61.6	62.2	62.9	63.7	64.3
105°	287.0	290.7	294.5	293.4	287.6	281.8	276.0	270.2
107.5°	345.6	348.5	351.5	353.6	354.9	356.2	357.5	358.8
110°	385.6	387.9	390.3	392.1	393.3	394.5	395.7	397.0





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	424.0	425.9	427.7	429.3	430.7	432.1	433.4	434.8
115°	481.7	483.9	486.2	487.5	488.2	488.8	489.4	490.0
117.5°	539.5	541.2	542.9	544.0	544.7	545.3	545.9	546.5
120°	575.1	577.2	579.3	580.5	580.8	581.1	581.5	581.8
122.5°	610.4	612.4	614.2	615.4	615.6	615.9	616.1	616.4
125°	659.7	661.9	664.1	665.5	666.3	666.9	667.6	668.3
127.5°	708.4	709.8	711.3	712.2	712.7	713.1	713.5	714.0
130°	738.0	739.7	741.4	742.6	743.1	743.6	744.1	744.6
132.5°	767.3	768.9	770.5	771.6	771.9	772.3	772.7	773.1
135°	807.0	808.7	810.5	811.8	812.6	813.5	814.4	815.3
137.5°	845.4	847.1	848.7	849.7	850.0	850.4	850.7	851.0
140°	869.3	870.9	872.5	873.7	874.3	874.9	875.5	876.1
142.5°	891.5	892.9	894.2	895.1	895.5	895.9	896.3	896.7
145°	923.5	924.2	925.0	925.6	926.3	927.0	927.7	928.5
147.5°	951.7	951.9	952.1	952.4	952.9	953.4	953.8	954.3
150°	970.1	970.1	970.1	970.2	970.5	970.6	970.8	970.9
152.5°	986.3	986.7	986.9	987.0	986.9	986.8	986.7	986.6
155°	1008.2	1008.9	1009.7	1009.7	1009.3	1008.7	1008.1	1007.6
157.5°	1027.0	1028.0	1028.9	1028.9	1028.0	1027.0	1026.1	1025.2
160°	1039.1	1040.2	1041.2	1041.2	1040.2	1039.1	1038.0	1036.9
162.5°	1048.8	1049.9	1051.0	1050.9	1049.7	1048.5	1047.3	1046.0
165°	1062.6	1064.0	1065.4	1065.4	1063.7	1062.1	1060.5	1058.8
167.5°	1072.6	1074.2	1075.8	1075.7	1073.9	1072.1	1070.2	1068.4
170°	1078.9	1080.3	1081.7	1081.6	1079.8	1078.0	1076.1	1074.3
172.5°	1082.8	1084.2	1085.7	1085.4	1083.5	1081.5	1079.5	1077.6
175°	1087.4	1089.0	1090.6	1090.3	1088.2	1086.0	1083.9	1081.7
177.5°	1089.2	1090.3	1091.5	1091.2	1089.5	1087.8	1086.0	1084.3
180°	1088.2	1088.2	1088.2	1088.2	1088.2	1088.2	1088.2	1088.2

(END OF REPORT)