

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: P332880-840

Luminaire Tested: **SA4XXRDIP-C350D810U840-4F0-1E-UDD-F**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P332880-840  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-6,  
Test Lab: INNOVATION CENTER  
Issue Date: 10/7/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: SA4XXRDIP-C350D810U840-4F0-1E-UDD-F  
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 350 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 810 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4711.0 lumens  
Efficiency: N/A  
Efficacy: 151.0 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.09 / 1.24  
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')  
CIE Type: Semi-Indirect

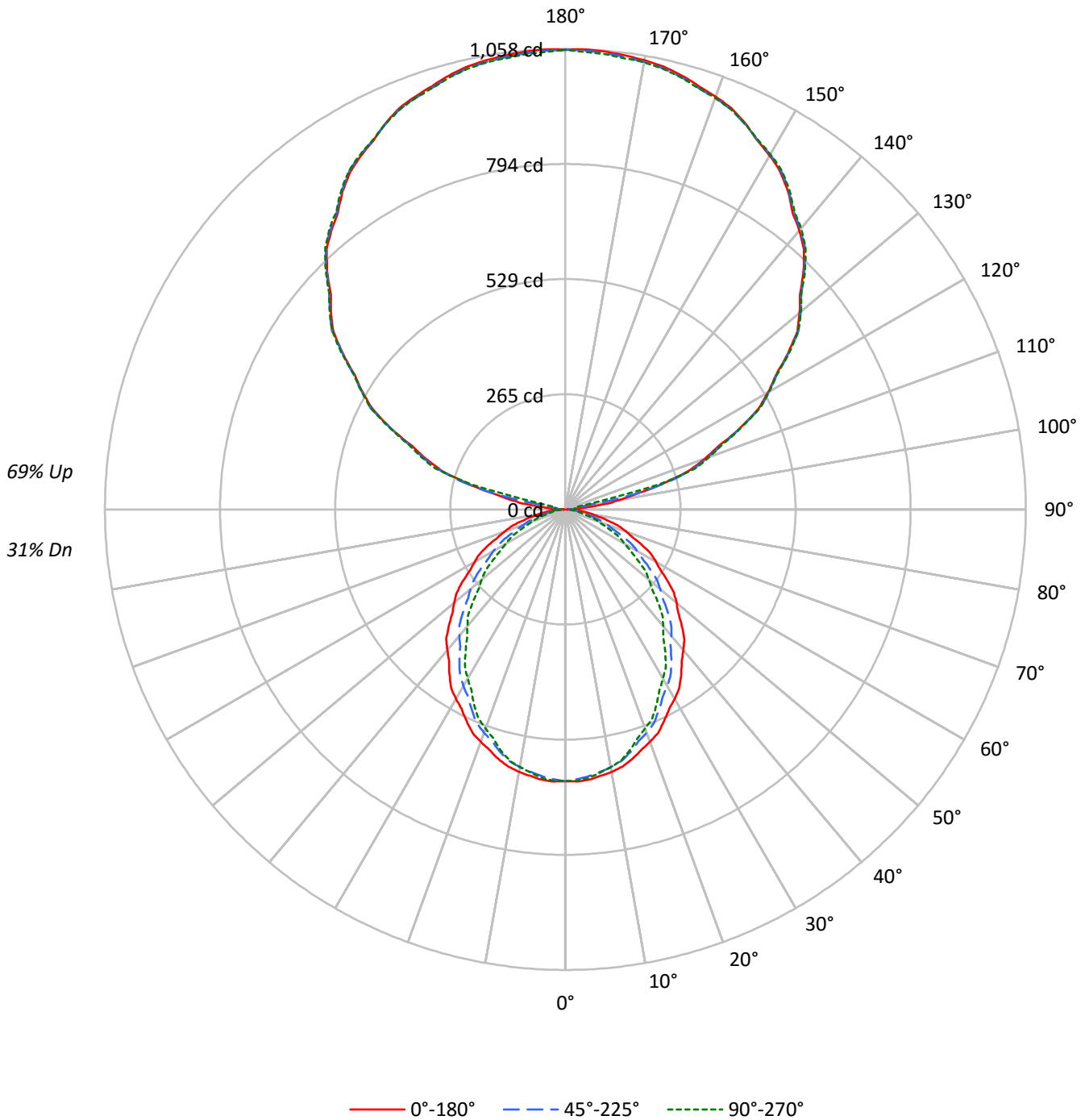
Input Watts (W): 31.2  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	103	103	103	103	92	92	92	92	73	73	73	55	55	55	38	38	38	31				
1	94	89	86	82	84	81	77	75	64	62	60	48	47	46	34	33	33	26				
2	85	78	72	68	76	71	66	61	56	53	50	43	40	38	30	29	28	22				
3	78	69	62	56	70	62	56	51	49	45	42	38	35	33	27	25	24	19				
4	71	61	53	48	64	55	49	44	44	39	36	34	31	28	24	22	21	16				
5	65	54	46	41	58	49	42	37	39	34	31	30	27	24	22	20	18	14				
6	60	49	41	35	54	44	37	32	35	30	27	27	24	21	20	18	16	13				
7	56	44	36	31	50	40	33	28	32	27	24	25	21	19	18	16	14	11				
8	51	40	32	27	46	36	30	25	29	24	21	23	19	17	17	14	13	10				
9	48	36	29	24	43	33	27	22	27	22	19	21	17	15	15	13	11	9				
10	45	33	26	21	40	30	24	20	24	20	17	19	16	13	14	12	10	8				

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

	0°	45°	90°
0°	5040	5040	5040
5°	5051	4989	5020
10°	5019	4930	4930
15°	4962	4826	4790
20°	4883	4689	4603
25°	4782	4530	4415
30°	4683	4363	4180
35°	4574	4188	3943
40°	4443	3990	3687
45°	4322	3793	3427
50°	4185	3567	3152
55°	4037	3330	2853
60°	3873	3073	2546
65°	3725	2749	2245
70°	3510	2391	1907
75°	3235	1984	1550
80°	2822	1511	1423
85°	2399	1371	1278



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	58.6	1.2
10°-20°	163.5	3.5
20°-30°	236.1	5.0
30°-40°	267.7	5.7
40°-50°	258.5	5.5
50°-60°	214.9	4.6
60°-70°	148.4	3.2
70°-80°	75.2	1.6
80°-90°	22.3	0.5
90°-100°	36.1	0.8
100°-110°	230.2	4.9
110°-120°	440.4	9.3
120°-130°	559.1	11.9
130°-140°	598.2	12.7
140°-150°	559.3	11.9
150°-160°	451.1	9.6
160°-170°	290.9	6.2
170°-180°	100.3	2.1
0°-30°	458.3	9.7
0°-40°	726.0	15.4
0°-60°	1199.4	25.5
0°-90°	1445.4	30.7
90°-120°	706.7	15.0
90°-150°	2423.3	51.4
90°-180°	3266.0	69.3
0°-180°	4711.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	624	624	624	624	624	
5°	623	621	616	620	620	59
15°	594	589	577	576	573	167
25°	537	528	509	501	496	247
35°	464	448	425	409	400	290
45°	379	360	332	310	300	292
55°	287	267	237	213	203	256
65°	195	174	144	124	118	193
75°	104	86	64	53	50	110
85°	26	17	15	14	14	29
90°	2	11	17	22	24	3
95°	43	18	17	22	23	56
105°	238	242	246	252	225	249
115°	444	446	445	447	447	437
125°	624	627	625	628	628	557
135°	774	773	776	778	779	596
145°	892	894	895	895	897	557
155°	978	979	977	980	978	451
165°	1032	1028	1028	1034	1027	292
175°	1056	1051	1052	1058	1049	100
180°	1056	1056	1056	1056	1056	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	624.3	624.3	624.3	624.3	624.3	624.3	624.3	624.3	624.3	624.3	624.3
2.5°	625.8	625.4	625.1	624.8	624.4	623.8	622.9	622.0	621.0	620.1	621.0
5°	623.3	622.9	622.5	622.1	621.6	620.8	619.5	618.2	616.9	615.7	616.7
7.5°	617.6	617.2	616.8	616.3	615.9	614.8	613.2	611.5	609.9	608.2	608.8
10°	612.3	611.8	611.3	610.8	610.2	608.9	607.0	605.1	603.2	601.4	601.8
12.5°	605.4	604.8	604.2	603.6	603.0	601.6	599.3	597.0	594.8	592.5	592.8
15°	593.7	592.7	591.8	590.8	589.9	588.0	585.4	582.7	580.1	577.4	577.2
17.5°	579.5	578.0	576.6	575.3	573.9	571.6	568.5	565.2	562.1	558.9	558.3
20°	568.4	566.9	565.6	564.2	562.8	560.4	556.7	553.1	549.5	545.8	545.0
22.5°	556.1	554.5	553.0	551.5	549.9	547.1	543.3	539.5	535.6	531.7	530.5
25°	536.8	534.9	533.0	531.1	529.2	526.0	521.7	517.4	512.9	508.6	506.8
27.5°	516.5	514.1	511.7	509.4	507.0	503.4	498.8	494.1	489.5	484.8	482.5
30°	502.4	499.7	497.1	494.4	491.8	488.0	482.9	478.0	472.9	468.0	465.3
32.5°	487.5	484.4	481.5	478.5	475.4	471.4	466.3	461.1	456.0	450.8	447.7
35°	464.1	460.7	457.4	453.9	450.5	446.2	440.9	435.6	430.3	425.0	421.3
37.5°	439.2	435.7	432.2	428.7	425.2	420.5	414.5	408.7	402.8	397.0	392.9
40°	421.6	418.1	414.5	411.1	407.6	402.8	396.8	390.7	384.7	378.6	374.2
42.5°	404.8	401.1	397.4	393.7	390.1	385.1	378.8	372.4	366.2	359.8	355.3
45°	378.6	374.7	370.7	366.8	362.8	357.7	351.3	345.0	338.6	332.2	327.0
47.5°	351.5	347.5	343.5	339.3	335.3	329.9	323.4	316.7	310.0	303.5	298.0
50°	333.2	329.0	324.9	320.7	316.6	311.1	304.4	297.5	290.7	284.0	278.6
52.5°	314.5	310.3	306.3	302.3	298.2	292.7	285.7	278.7	271.8	264.8	259.4
55°	286.8	282.6	278.3	274.1	269.8	264.2	257.3	250.4	243.5	236.6	231.1
57.5°	259.4	255.0	250.6	246.2	241.8	236.2	229.3	222.6	215.8	208.9	203.4
60°	239.9	235.7	231.5	227.2	223.0	217.4	210.7	203.8	197.0	190.3	184.7
62.5°	222.4	217.9	213.5	209.1	204.7	199.0	192.1	185.1	178.1	171.2	166.0
65°	195.0	190.5	185.9	181.4	176.7	171.1	164.3	157.4	150.7	143.9	139.4
67.5°	166.6	162.3	157.8	153.5	149.2	143.8	137.4	131.2	124.8	118.6	114.6
70°	148.7	144.2	139.8	135.3	130.8	125.5	119.5	113.4	107.3	101.3	97.9
72.5°	129.6	125.5	121.5	117.4	113.4	108.6	102.8	97.0	91.4	85.6	82.7
75°	103.7	99.8	95.8	91.9	88.0	83.5	78.6	73.5	68.6	63.6	61.1
77.5°	77.6	74.2	70.9	67.6	64.2	60.5	56.5	52.4	48.4	44.3	42.9
80°	60.7	57.7	54.5	51.5	48.4	45.2	42.1	38.9	35.6	32.5	32.2
82.5°	46.2	43.3	40.5	37.7	34.8	32.5	30.7	28.9	27.1	25.2	25.0
85°	25.9	23.7	21.6	19.4	17.3	16.1	15.8	15.5	15.1	14.8	14.6
87.5°	9.3	9.0	8.7	8.4	8.1	8.1	8.3	8.5	8.6	8.8	9.0
90°	2.3	4.3	6.3	8.2	10.1	11.7	13.1	14.5	16.0	17.4	18.4
92.5°	10.0	10.1	10.2	10.3	10.4	11.1	12.5	13.9	15.3	16.8	17.8
95°	43.4	37.5	31.5	25.5	19.6	16.7	16.9	17.1	17.2	17.4	18.4
97.5°	92.2	95.9	99.7	103.4	107.1	99.2	79.6	60.0	40.4	20.8	20.9
100°	129.5	132.7	135.8	139.0	142.1	131.6	107.3	83.2	59.0	34.7	31.7
102.5°	171.2	173.5	175.8	178.1	180.5	180.1	176.8	173.7	170.6	167.4	135.2
105°	237.6	238.7	239.7	240.9	241.9	242.9	243.7	244.6	245.5	246.3	247.9
107.5°	299.4	299.9	300.4	301.0	301.5	302.4	303.6	304.8	306.0	307.2	307.9
110°	341.1	341.6	342.1	342.6	343.3	344.0	345.1	346.1	347.2	348.2	348.6



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	381.5	382.4	383.4	384.4	385.4	386.1	386.6	387.0	387.5	388.0	388.0
115°	443.7	444.2	444.8	445.4	445.9	446.1	445.9	445.7	445.6	445.4	445.7
117.5°	499.8	500.5	501.2	501.9	502.6	503.2	503.5	503.9	504.3	504.7	504.6
120°	537.8	538.5	539.2	539.9	540.5	540.8	540.6	540.5	540.3	540.1	540.5
122.5°	573.1	573.5	573.9	574.3	574.8	575.1	575.3	575.6	575.8	576.1	576.3
125°	623.8	624.5	625.2	625.9	626.6	626.7	626.4	626.1	625.7	625.4	625.9
127.5°	671.8	672.0	672.2	672.4	672.5	673.0	673.8	674.6	675.4	676.2	676.1
130°	702.8	703.0	703.1	703.3	703.5	703.8	704.3	704.9	705.4	705.9	706.1
132.5°	731.1	731.4	731.8	732.2	732.5	733.0	733.6	734.3	734.9	735.6	735.8
135°	773.9	773.7	773.5	773.3	773.2	773.4	774.1	774.8	775.5	776.2	776.5
137.5°	811.5	811.6	811.7	811.7	811.8	812.2	813.0	813.9	814.6	815.4	815.8
140°	836.2	836.6	836.9	837.3	837.6	838.0	838.3	838.7	839.0	839.3	839.9
142.5°	858.3	858.9	859.6	860.2	860.8	861.2	861.4	861.7	861.9	862.1	862.5
145°	892.2	892.8	893.3	893.8	894.3	894.6	894.6	894.6	894.6	894.6	894.8
147.5°	919.3	920.3	921.2	922.2	923.2	923.6	923.4	923.2	923.0	922.9	923.0
150°	938.9	939.6	940.3	941.0	941.6	941.9	941.7	941.6	941.4	941.2	941.2
152.5°	955.2	955.8	956.3	956.9	957.6	957.7	957.4	957.0	956.6	956.3	956.6
155°	978.4	978.5	978.7	978.9	979.1	978.9	978.4	977.8	977.2	976.7	977.4
157.5°	997.7	997.6	997.5	997.4	997.3	996.9	996.3	995.8	995.2	994.6	995.5
160°	1009.2	1008.6	1008.0	1007.5	1007.0	1006.6	1006.5	1006.3	1006.1	1005.9	1007.0
162.5°	1019.3	1018.5	1017.8	1017.2	1016.5	1016.1	1015.9	1015.8	1015.6	1015.4	1016.5
165°	1032.0	1031.2	1030.3	1029.4	1028.5	1028.0	1028.0	1028.0	1028.0	1028.0	1029.5
167.5°	1042.1	1041.2	1040.3	1039.4	1038.4	1037.9	1037.8	1037.7	1037.6	1037.5	1039.1
170°	1047.8	1046.7	1045.7	1044.6	1043.6	1043.2	1043.3	1043.5	1043.7	1043.9	1045.2
172.5°	1051.6	1050.6	1049.5	1048.4	1047.4	1046.9	1047.1	1047.3	1047.4	1047.6	1049.0
175°	1055.7	1054.6	1053.6	1052.6	1051.5	1051.1	1051.3	1051.4	1051.6	1051.8	1053.3
177.5°	1057.6	1056.6	1055.6	1054.6	1053.7	1053.3	1053.6	1053.9	1054.2	1054.4	1055.5
180°	1055.7	1055.7	1055.7	1055.7	1055.7	1055.7	1055.7	1055.7	1055.7	1055.7	1055.7



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	624.3	624.3	624.3	624.3	624.3	624.3	624.3	624.3
2.5°	622.0	622.9	623.8	624.2	624.1	624.1	624.0	623.9
5°	617.8	618.8	620.0	620.4	620.2	620.0	619.7	619.5
7.5°	609.6	610.3	611.0	611.1	610.8	610.5	610.1	609.8
10°	602.2	602.6	603.0	603.0	602.6	602.2	601.8	601.4
12.5°	593.0	593.3	593.6	593.4	592.8	592.2	591.6	591.0
15°	577.0	576.8	576.5	576.1	575.3	574.6	573.9	573.1
17.5°	557.6	557.1	556.5	555.6	554.5	553.4	552.3	551.2
20°	544.2	543.3	542.5	541.4	540.0	538.6	537.2	535.8
22.5°	529.2	527.9	526.6	525.4	524.3	523.2	522.1	520.9
25°	504.9	503.2	501.4	500.0	498.9	497.8	496.8	495.6
27.5°	480.3	478.1	475.8	474.0	472.4	470.9	469.4	467.9
30°	462.6	460.0	457.4	455.1	453.4	451.8	450.1	448.4
32.5°	444.6	441.5	438.5	436.1	434.4	432.8	431.2	429.6
35°	417.7	414.1	410.5	407.8	405.9	403.9	402.0	400.1
37.5°	388.9	384.9	380.8	377.8	375.9	374.0	372.0	370.1
40°	369.6	365.2	360.7	357.6	355.7	353.8	351.8	349.9
42.5°	350.7	346.2	341.6	338.4	336.4	334.4	332.3	330.4
45°	321.8	316.6	311.3	307.8	305.9	304.0	302.1	300.2
47.5°	292.7	287.2	281.9	278.1	276.0	273.9	271.8	269.7
50°	273.3	268.0	262.7	259.0	257.0	255.0	253.0	251.0
52.5°	254.0	248.6	243.3	239.4	237.4	235.3	233.2	231.1
55°	225.6	220.0	214.5	210.8	208.7	206.7	204.7	202.7
57.5°	197.7	192.2	186.5	183.0	181.5	180.0	178.3	176.8
60°	179.2	173.7	168.1	164.5	162.8	161.2	159.5	157.7
62.5°	161.0	155.8	150.8	147.5	146.1	144.8	143.4	142.1
65°	134.7	130.2	125.6	122.7	121.4	120.2	118.9	117.5
67.5°	110.7	106.7	102.8	100.2	98.8	97.4	95.9	94.5
70°	94.3	90.8	87.4	85.0	83.9	82.9	81.8	80.8
72.5°	79.7	76.6	73.7	71.7	70.7	69.8	68.8	67.8
75°	58.7	56.2	53.8	52.3	51.6	51.0	50.4	49.7
77.5°	41.5	40.1	38.7	37.9	37.7	37.5	37.3	37.1
80°	31.9	31.5	31.2	31.0	30.9	30.8	30.7	30.6
82.5°	24.7	24.5	24.3	24.1	24.0	23.9	23.8	23.7
85°	14.4	14.1	13.9	13.8	13.8	13.8	13.8	13.8
87.5°	9.1	9.2	9.3	9.5	9.6	9.8	9.9	10.1
90°	19.5	20.5	21.6	22.3	22.6	23.0	23.3	23.7
92.5°	18.9	19.9	20.9	21.5	21.6	21.6	21.7	21.8
95°	19.5	20.5	21.6	22.2	22.4	22.5	22.7	22.9
97.5°	21.1	21.2	21.3	21.4	21.6	21.7	21.9	22.1
100°	28.8	25.8	22.8	21.4	21.6	21.7	21.9	22.1
102.5°	103.0	70.9	38.7	22.6	22.6	22.6	22.7	22.7
105°	249.5	251.1	252.7	250.3	244.0	237.6	231.4	225.0
107.5°	308.7	309.4	310.2	310.9	311.6	312.3	313.0	313.7
110°	348.9	349.3	349.6	350.0	350.6	351.1	351.6	352.1





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	387.9	387.8	387.7	388.0	388.7	389.4	390.0	390.7
115°	446.1	446.4	446.8	447.0	447.0	447.0	447.0	447.0
117.5°	504.5	504.5	504.4	504.3	504.3	504.2	504.1	504.1
120°	540.8	541.2	541.5	541.5	541.2	540.8	540.5	540.1
122.5°	576.5	576.7	576.9	576.8	576.5	576.1	575.8	575.4
125°	626.4	626.9	627.4	627.8	628.0	628.1	628.3	628.5
127.5°	676.0	675.9	675.8	675.7	675.5	675.4	675.3	675.1
130°	706.3	706.4	706.6	706.7	706.7	706.7	706.7	706.7
132.5°	736.0	736.1	736.3	736.3	736.2	736.0	735.9	735.8
135°	776.9	777.2	777.6	777.9	778.3	778.6	779.0	779.3
137.5°	816.1	816.5	816.9	817.0	816.9	816.8	816.7	816.6
140°	840.4	840.9	841.4	841.8	842.0	842.1	842.3	842.5
142.5°	862.8	863.2	863.6	863.8	863.8	863.9	863.9	863.9
145°	894.9	895.1	895.3	895.5	896.0	896.3	896.7	897.0
147.5°	923.2	923.3	923.4	923.6	923.8	923.9	924.1	924.3
150°	941.2	941.2	941.2	941.3	941.5	941.6	941.8	942.0
152.5°	956.9	957.3	957.5	957.6	957.5	957.4	957.3	957.2
155°	978.2	978.9	979.6	979.7	979.1	978.6	978.1	977.5
157.5°	996.4	997.3	998.3	998.3	997.3	996.4	995.5	994.6
160°	1008.0	1009.2	1010.2	1010.2	1009.2	1008.0	1007.0	1005.9
162.5°	1017.5	1018.5	1019.7	1019.6	1018.3	1017.1	1016.0	1014.8
165°	1030.9	1032.3	1033.7	1033.6	1032.0	1030.5	1028.9	1027.2
167.5°	1040.7	1042.2	1043.7	1043.6	1041.9	1040.1	1038.3	1036.6
170°	1046.6	1048.0	1049.5	1049.2	1047.5	1045.8	1044.0	1042.3
172.5°	1050.5	1051.9	1053.3	1053.0	1051.2	1049.2	1047.3	1045.4
175°	1054.9	1056.5	1058.0	1057.8	1055.7	1053.6	1051.5	1049.4
177.5°	1056.7	1057.8	1058.9	1058.6	1056.9	1055.3	1053.6	1051.9
180°	1055.7	1055.7	1055.7	1055.7	1055.7	1055.7	1055.7	1055.7

(END OF REPORT)