

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: P331271-840

Luminaire Tested: **S122DIP-S290D925U840-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331271-840  
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-S290D925U840-4F0-1E-UDD-D1  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 290 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 925 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4551.7 lumens  
Efficiency: N/A  
Efficacy: 122.0 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.31 / 1.42  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')  
CIE Type: Semi-Indirect

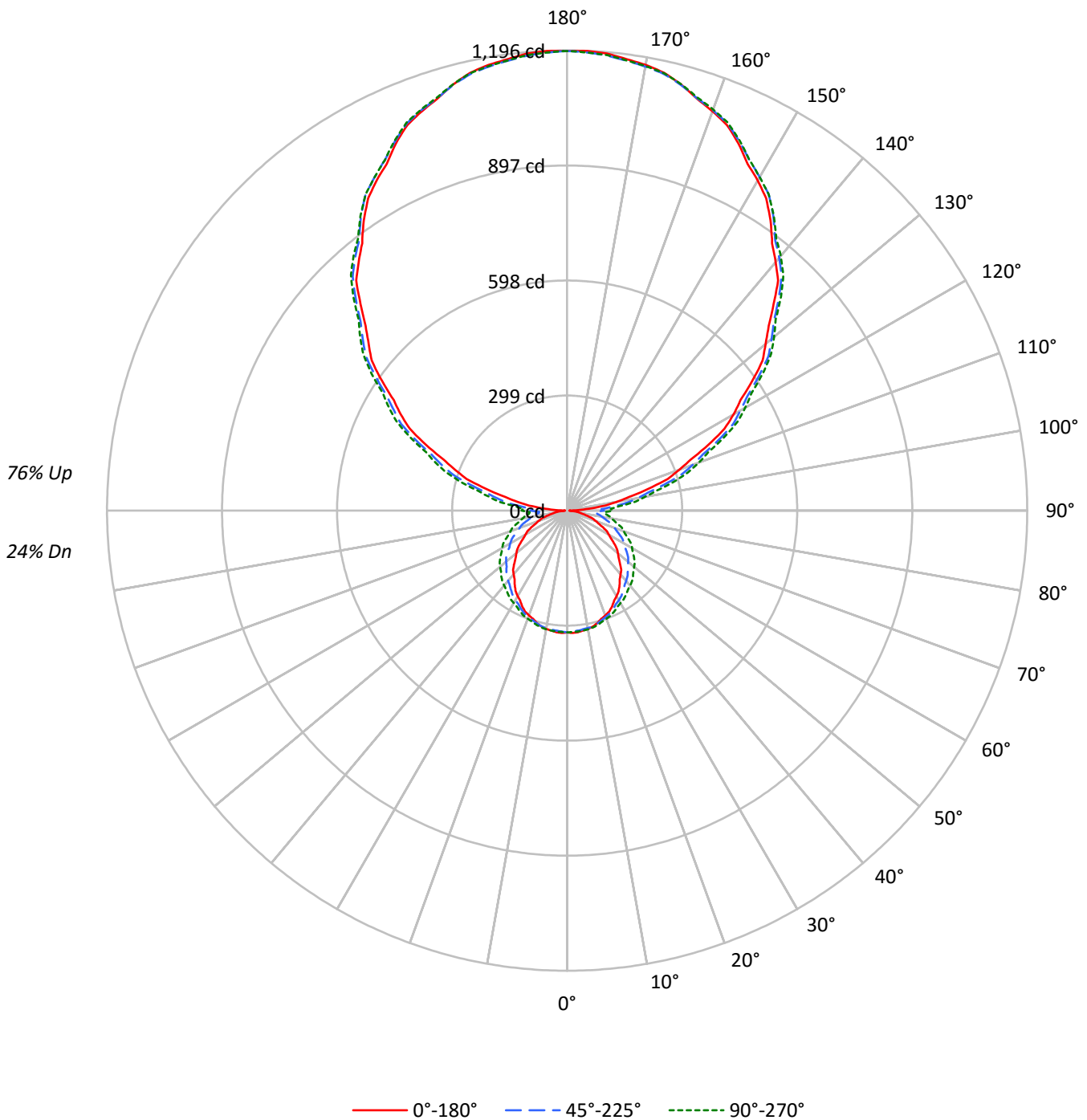
Input Watts (W): 37.3  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	101	101	101	101	90	90	90	90	69	69	69	50	50	50	32	32	32	24
1	91	87	83	79	81	77	74	71	59	57	55	42	41	40	27	26	25	18
2	83	75	69	64	73	67	62	57	51	48	45	37	34	32	23	22	21	15
3	75	66	59	53	66	59	52	47	45	41	37	32	29	27	20	19	17	12
4	69	58	50	44	60	52	45	40	40	35	31	28	25	23	18	16	15	10
5	63	51	43	38	55	46	39	34	35	30	27	25	22	20	16	14	13	9
6	58	46	38	32	51	41	34	29	32	27	23	23	19	17	15	13	11	8
7	53	41	33	28	47	37	30	25	28	24	20	21	17	15	13	11	10	7
8	49	37	30	24	43	33	27	22	26	21	18	19	15	13	12	10	9	6
9	46	34	26	22	40	30	24	20	23	19	16	17	14	12	11	9	8	5
10	42	31	24	19	38	28	21	17	21	17	14	16	13	10	10	8	7	5

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

	0°	45°	90°
0°	5112	5112	5112
5°	5137	4921	4901
10°	5105	4774	4722
15°	5033	4621	4531
20°	4944	4456	4348
25°	4857	4297	4181
30°	4733	4133	4015
35°	4608	3975	3898
40°	4476	3840	3780
45°	4351	3721	3681
50°	4218	3612	3581
55°	4076	3496	3482
60°	3902	3373	3374
65°	3723	3232	3247
70°	3523	3079	3110
75°	3270	2929	2984
80°	2861	2776	2858
85°	2484	2642	2759



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	30.0	0.7
10°-20°	86.0	1.9
20°-30°	130.3	2.9
30°-40°	158.8	3.5
40°-50°	170.8	3.8
50°-60°	165.9	3.6
60°-70°	144.8	3.2
70°-80°	111.5	2.4
80°-90°	79.6	1.7
90°-100°	127.2	2.8
100°-110°	272.7	6.0
110°-120°	426.6	9.4
120°-130°	542.2	11.9
130°-140°	598.8	13.2
140°-150°	582.4	12.8
150°-160°	487.7	10.7
160°-170°	323.5	7.1
170°-180°	113.0	2.5
0°-30°	246.3	5.4
0°-40°	405.1	8.9
0°-60°	741.7	16.3
0°-90°	1077.6	23.7
90°-120°	826.5	18.2
90°-150°	2549.9	56.0
90°-180°	3474.0	76.3
0°-180°	4551.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	317	317	317	317	317	
5°	318	316	313	316	316	30
15°	303	304	304	308	307	85
25°	275	278	283	288	289	127
35°	237	245	254	263	267	148
45°	194	207	223	237	242	150
55°	149	166	190	205	212	133
65°	102	125	151	170	176	101
75°	56	82	112	130	137	60
85°	17	45	74	93	100	18
90°	6	45	96	112	119	6
95°	56	88	117	134	138	63
105°	219	236	261	278	284	231
115°	405	416	435	447	450	400
125°	587	597	608	617	621	525
135°	759	770	777	785	786	586
145°	921	928	934	938	936	575
155°	1053	1056	1059	1064	1061	485
165°	1146	1145	1145	1151	1147	323
175°	1192	1189	1187	1194	1188	113
180°	1194	1194	1194	1194	1194	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	316.6	316.6	316.6	316.6	316.6	316.6	316.6	316.6	316.6	316.6	316.6
2.5°	318.4	318.1	317.9	317.6	317.4	317.0	316.4	315.9	315.3	314.7	315.1
5°	317.5	317.2	316.9	316.6	316.2	315.8	315.2	314.6	314.0	313.4	314.0
7.5°	314.6	314.4	314.2	314.0	313.8	313.5	313.0	312.6	312.0	311.5	312.4
10°	312.5	312.3	312.0	311.8	311.6	311.3	311.0	310.7	310.4	310.1	310.9
12.5°	308.7	308.8	308.8	308.9	308.9	308.8	308.6	308.4	308.1	307.9	308.7
15°	302.8	303.0	303.2	303.4	303.6	303.7	303.7	303.7	303.7	303.7	304.6
17.5°	295.1	295.5	295.9	296.4	296.8	297.2	297.5	297.8	298.1	298.5	299.4
20°	289.9	290.4	290.9	291.4	292.0	292.5	292.9	293.3	293.7	294.1	295.2
22.5°	284.5	285.0	285.6	286.2	286.8	287.4	287.9	288.5	289.1	289.6	290.7
25°	275.3	276.0	276.7	277.4	278.1	278.9	279.8	280.7	281.7	282.6	283.8
27.5°	264.3	265.4	266.6	267.7	268.9	270.0	271.0	272.2	273.3	274.4	275.9
30°	256.9	258.2	259.5	260.8	262.2	263.6	264.9	266.2	267.5	268.8	270.4
32.5°	248.8	250.3	251.8	253.3	254.8	256.3	257.9	259.4	261.1	262.6	264.5
35°	237.2	238.9	240.7	242.4	244.1	245.9	247.9	249.8	251.8	253.7	255.9
37.5°	224.5	226.5	228.5	230.6	232.5	234.8	237.3	239.7	242.3	244.8	247.3
40°	216.1	218.3	220.6	222.8	225.0	227.5	230.2	233.1	235.8	238.5	241.2
42.5°	208.0	210.3	212.5	214.7	217.0	219.6	222.9	226.0	229.1	232.3	235.2
45°	194.5	197.2	200.1	202.8	205.5	208.6	212.3	215.8	219.3	223.0	226.1
47.5°	181.2	184.2	187.2	190.2	193.2	196.8	201.0	205.1	209.3	213.5	216.8
50°	172.1	175.2	178.3	181.5	184.7	188.5	193.2	197.7	202.3	206.9	210.4
52.5°	163.2	166.5	169.9	173.2	176.5	180.6	185.4	190.3	195.1	200.0	203.5
55°	149.1	152.8	156.4	160.1	163.8	168.2	173.6	178.8	184.2	189.5	193.2
57.5°	135.1	139.3	143.4	147.5	151.7	156.4	161.9	167.2	172.7	178.1	182.1
60°	125.2	129.7	134.0	138.4	142.8	147.8	153.7	159.5	165.3	171.1	175.0
62.5°	116.4	121.0	125.5	130.1	134.6	139.8	145.6	151.4	157.2	163.1	167.1
65°	101.8	106.8	111.8	116.8	121.8	127.3	133.3	139.4	145.4	151.4	155.6
67.5°	88.5	93.7	98.9	104.1	109.4	115.0	121.2	127.3	133.5	139.7	143.9
70°	78.9	84.2	89.5	94.8	100.1	105.9	112.2	118.6	124.9	131.2	135.6
72.5°	70.1	75.5	81.0	86.4	92.0	97.9	104.3	110.7	117.1	123.5	127.8
75°	56.5	62.1	67.9	73.5	79.3	85.3	91.9	98.5	104.9	111.5	115.8
77.5°	43.2	49.2	55.1	61.1	67.2	73.4	80.1	86.6	93.3	99.9	104.3
80°	34.4	40.6	46.9	53.0	59.3	65.7	72.3	79.0	85.5	92.2	96.4
82.5°	27.1	33.2	39.4	45.4	51.6	58.1	64.7	71.5	78.2	84.8	89.2
85°	16.6	22.8	29.2	35.4	41.8	48.2	54.7	61.3	67.8	74.3	78.6
87.5°	9.2	15.9	22.4	29.1	35.6	42.7	50.2	57.8	65.2	72.7	76.9
90°	5.6	14.2	22.8	31.4	40.0	50.0	61.5	72.9	84.4	95.8	99.5
92.5°	22.1	29.6	37.1	44.6	52.1	59.5	67.0	74.4	81.9	89.3	93.4
95°	56.0	63.1	70.2	77.2	84.2	91.0	97.6	104.1	110.7	117.2	121.1
97.5°	99.0	105.2	111.4	117.6	123.9	130.4	137.0	143.8	150.6	157.2	161.1
100°	131.2	136.7	142.3	147.8	153.5	159.5	165.8	172.2	178.5	184.9	188.7
102.5°	164.7	169.6	174.5	179.4	184.2	189.9	196.2	202.7	209.0	215.4	219.3
105°	218.9	222.6	226.2	229.8	233.5	238.1	243.9	249.6	255.4	261.2	265.2
107.5°	274.1	277.4	280.8	284.2	287.5	291.8	296.8	301.8	307.0	312.0	315.7
110°	309.2	312.6	316.0	319.3	322.8	326.9	331.9	336.9	341.9	346.9	350.2



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	347.9	350.9	354.1	357.1	360.1	364.0	368.5	373.1	377.7	382.2	385.0
115°	405.0	407.4	409.9	412.3	414.9	418.1	422.2	426.4	430.5	434.6	437.5
117.5°	461.3	463.8	466.4	468.9	471.4	474.2	477.2	480.2	483.1	486.1	488.6
120°	499.3	501.4	503.6	505.8	508.1	510.3	512.5	514.8	517.2	519.4	522.3
122.5°	533.9	536.2	538.6	540.9	543.1	545.6	548.2	550.8	553.3	555.9	558.2
125°	587.4	589.5	591.5	593.5	595.5	597.8	600.4	603.0	605.6	608.1	610.3
127.5°	640.1	642.5	645.0	647.4	649.8	652.0	653.8	655.6	657.5	659.3	661.1
130°	673.1	675.9	678.7	681.6	684.4	686.6	688.3	690.0	691.7	693.4	695.4
132.5°	710.2	712.5	714.8	717.0	719.3	721.3	723.1	724.8	726.5	728.2	729.6
135°	759.3	761.8	764.3	766.7	769.2	771.1	772.6	774.1	775.6	777.0	778.9
137.5°	811.5	813.5	815.6	817.5	819.5	821.0	822.0	823.0	824.2	825.2	826.9
140°	842.9	844.9	846.8	848.7	850.6	852.2	853.5	854.9	856.3	857.6	859.2
142.5°	875.3	877.2	879.1	881.0	882.9	884.2	885.0	885.9	886.7	887.5	888.9
145°	921.1	922.7	924.2	925.8	927.4	928.9	930.2	931.5	932.9	934.2	935.0
147.5°	962.4	964.3	966.2	968.1	970.0	971.4	972.3	973.1	974.0	974.9	975.5
150°	990.7	992.0	993.3	994.7	996.0	997.1	998.0	999.0	999.9	1000.8	1001.4
152.5°	1015.6	1017.0	1018.3	1019.7	1021.1	1022.3	1023.3	1024.4	1025.4	1026.5	1027.4
155°	1053.2	1053.8	1054.5	1055.2	1055.8	1056.5	1057.2	1057.8	1058.5	1059.1	1060.4
157.5°	1085.2	1085.6	1086.1	1086.5	1087.0	1087.4	1087.8	1088.2	1088.6	1089.0	1090.6
160°	1104.6	1105.0	1105.4	1105.9	1106.3	1106.7	1106.9	1107.1	1107.3	1107.5	1108.9
162.5°	1122.3	1122.4	1122.5	1122.6	1122.7	1122.8	1123.1	1123.3	1123.5	1123.7	1125.2
165°	1145.9	1145.7	1145.4	1145.2	1145.0	1144.9	1144.9	1144.9	1144.9	1144.9	1146.4
167.5°	1165.6	1165.0	1164.3	1163.6	1163.0	1162.6	1162.6	1162.5	1162.5	1162.4	1164.0
170°	1176.1	1175.4	1174.8	1174.1	1173.4	1173.0	1172.8	1172.6	1172.3	1172.0	1173.7
172.5°	1183.4	1182.7	1182.0	1181.3	1180.6	1180.2	1180.0	1179.7	1179.5	1179.3	1180.9
175°	1192.2	1191.5	1190.8	1190.2	1189.5	1189.0	1188.5	1188.1	1187.6	1187.2	1188.7
177.5°	1195.9	1195.3	1194.8	1194.3	1193.7	1193.3	1192.9	1192.5	1192.1	1191.8	1192.9
180°	1194.3	1194.3	1194.3	1194.3	1194.3	1194.3	1194.3	1194.3	1194.3	1194.3	1194.3



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	316.6	316.6	316.6	316.6	316.6	316.6	316.6	316.6
2.5°	315.5	315.9	316.3	316.5	316.3	316.1	316.0	315.8
5°	314.6	315.2	315.8	316.0	315.9	315.8	315.7	315.6
7.5°	313.1	313.8	314.6	314.9	314.8	314.7	314.6	314.5
10°	311.7	312.6	313.4	313.8	313.7	313.6	313.5	313.4
12.5°	309.5	310.3	311.1	311.5	311.4	311.3	311.2	311.1
15°	305.5	306.5	307.4	307.8	307.7	307.6	307.5	307.4
17.5°	300.4	301.3	302.3	302.8	302.8	302.8	302.8	302.8
20°	296.3	297.4	298.5	299.1	299.1	299.1	299.1	299.1
22.5°	292.0	293.1	294.2	294.8	295.0	295.1	295.3	295.5
25°	285.1	286.3	287.5	288.2	288.5	288.8	289.1	289.4
27.5°	277.4	279.0	280.5	281.4	281.7	281.9	282.1	282.4
30°	272.1	273.8	275.4	276.3	276.6	276.9	277.2	277.5
32.5°	266.3	268.2	270.1	271.4	271.9	272.5	273.0	273.5
35°	258.2	260.4	262.7	264.2	264.9	265.6	266.3	267.0
37.5°	249.7	252.3	254.8	256.4	257.1	257.9	258.6	259.3
40°	243.9	246.5	249.1	251.0	251.9	252.8	253.7	254.6
42.5°	238.1	241.0	243.9	245.8	246.7	247.6	248.5	249.4
45°	229.2	232.5	235.6	237.7	238.7	239.7	240.8	241.8
47.5°	220.2	223.4	226.7	228.9	230.0	231.2	232.3	233.4
50°	213.8	217.3	220.8	223.1	224.2	225.3	226.4	227.5
52.5°	207.0	210.6	214.1	216.5	217.7	218.9	220.2	221.3
55°	196.8	200.5	204.2	206.6	207.9	209.3	210.7	212.0
57.5°	186.0	190.0	193.9	196.5	197.9	199.2	200.6	202.0
60°	178.8	182.8	186.6	189.2	190.7	192.1	193.6	195.0
62.5°	171.3	175.4	179.6	182.3	183.6	184.9	186.3	187.6
65°	159.8	163.9	168.1	170.9	172.2	173.5	174.8	176.1
67.5°	148.0	152.3	156.5	159.4	160.7	162.1	163.5	164.9
70°	140.0	144.3	148.8	151.6	152.8	154.0	155.2	156.4
72.5°	132.1	136.4	140.7	143.6	145.0	146.5	148.0	149.5
75°	120.3	124.6	129.1	131.9	133.2	134.5	135.8	137.1
77.5°	108.7	113.0	117.3	120.3	121.7	123.1	124.5	125.9
80°	100.8	105.0	109.4	112.2	113.6	115.0	116.4	117.9
82.5°	93.4	97.8	102.0	104.8	106.1	107.6	108.9	110.2
85°	82.9	87.2	91.5	94.3	95.7	97.1	98.6	100.0
87.5°	80.9	84.9	89.1	91.7	93.1	94.4	95.8	97.1
90°	103.1	106.7	110.4	112.9	114.3	115.8	117.2	118.7
92.5°	97.5	101.6	105.6	108.4	109.6	110.9	112.1	113.4
95°	125.0	128.9	132.8	135.1	135.8	136.6	137.4	138.1
97.5°	164.8	168.5	172.4	174.8	175.9	177.1	178.2	179.5
100°	192.5	196.3	200.1	202.4	203.3	204.2	205.1	206.0
102.5°	223.2	227.0	231.0	233.3	234.2	235.1	236.0	236.9
105°	269.2	273.2	277.2	279.8	280.9	282.1	283.2	284.3
107.5°	319.2	322.9	326.5	328.3	328.4	328.5	328.6	328.6
110°	353.5	356.7	359.9	361.8	362.2	362.7	363.1	363.7





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	387.7	390.4	393.1	394.9	395.5	396.1	396.7	397.3
115°	440.3	443.1	446.1	447.7	448.1	448.6	449.0	449.5
117.5°	491.1	493.6	496.0	497.5	497.9	498.3	498.6	499.0
120°	525.1	528.0	530.8	532.5	532.9	533.4	533.8	534.3
122.5°	560.4	562.6	564.8	566.2	566.6	567.1	567.6	568.0
125°	612.4	614.4	616.5	617.9	618.5	619.2	620.0	620.7
127.5°	662.8	664.5	666.2	667.1	667.3	667.5	667.7	667.8
130°	697.4	699.3	701.4	702.4	702.3	702.2	702.1	702.1
132.5°	731.0	732.4	733.8	734.5	734.6	734.7	734.8	734.9
135°	780.8	782.7	784.7	785.7	785.9	786.0	786.2	786.3
137.5°	828.6	830.2	831.9	832.7	832.5	832.2	832.0	831.8
140°	860.8	862.4	864.0	864.7	864.4	864.1	863.9	863.6
142.5°	890.4	891.9	893.4	893.9	893.5	893.2	892.8	892.5
145°	935.9	936.8	937.6	937.8	937.5	937.1	936.6	936.2
147.5°	976.1	976.6	977.2	977.2	976.6	976.0	975.4	974.8
150°	1002.1	1002.8	1003.4	1003.4	1002.8	1002.1	1001.4	1000.8
152.5°	1028.2	1029.1	1030.0	1030.0	1029.1	1028.2	1027.4	1026.5
155°	1061.5	1062.6	1063.7	1063.9	1063.2	1062.6	1061.9	1061.2
157.5°	1092.1	1093.6	1095.1	1095.3	1094.3	1093.2	1092.1	1091.1
160°	1110.2	1111.6	1113.0	1113.2	1112.3	1111.4	1110.4	1109.5
162.5°	1126.7	1128.2	1129.7	1130.0	1128.9	1127.8	1126.8	1125.7
165°	1148.0	1149.5	1151.1	1151.3	1150.2	1149.1	1148.0	1146.9
167.5°	1165.5	1167.1	1168.6	1168.8	1167.7	1166.5	1165.4	1164.2
170°	1175.2	1176.8	1178.3	1178.4	1177.1	1175.8	1174.4	1173.1
172.5°	1182.5	1184.1	1185.6	1185.7	1184.4	1183.1	1181.6	1180.3
175°	1190.3	1191.8	1193.5	1193.6	1192.2	1190.8	1189.5	1188.2
177.5°	1194.0	1195.1	1196.1	1196.1	1195.1	1194.0	1192.9	1191.8
180°	1194.3	1194.3	1194.3	1194.3	1194.3	1194.3	1194.3	1194.3

(END OF REPORT)