

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: P331274

Luminaire Tested: **S122DIP-S290D925U835-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331274  
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-S290D925U835-4F0-1E-UDD-F1  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 290 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 925 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

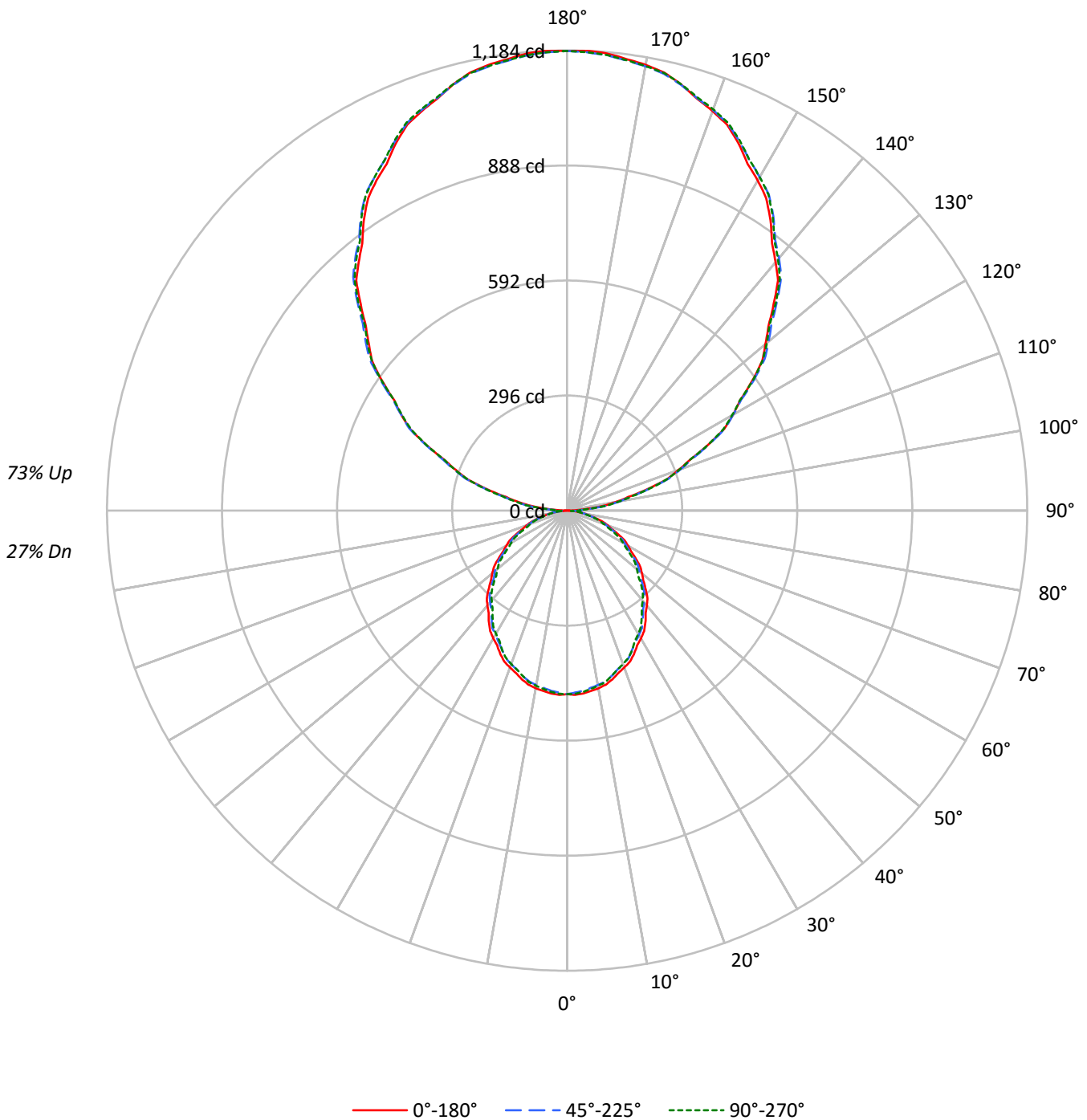
Lumens per Lamp: N/A  
Luminaire Lumens: 4513.4 lumens  
Efficiency: N/A  
Efficacy: 121.0 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.3  
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')  
CIE Type: Semi-Indirect  
  
Input Watts (W): 37.3  
Input Voltage (V): 120  
Input Current (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



73% Up  
27% Dn



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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	102	102	102	102	91	91	91	91	70	70	70	52	52	52	35	35	35	27
1	93	88	85	81	82	79	76	73	62	59	58	45	44	43	31	30	29	22
2	84	77	71	66	75	69	64	60	54	50	48	40	38	36	27	26	25	19
3	77	68	61	55	68	61	55	50	47	43	40	35	33	30	24	22	21	16
4	70	60	52	46	62	54	47	42	42	38	34	31	28	26	21	19	18	14
5	64	53	45	40	57	48	41	36	38	33	29	28	25	22	19	17	16	12
6	59	47	40	34	53	43	36	31	34	29	25	25	22	19	17	15	14	10
7	55	43	35	30	49	38	32	27	30	26	22	23	20	17	16	14	12	9
8	50	39	31	26	45	35	28	24	28	23	19	21	18	15	15	12	11	8
9	47	35	28	23	42	32	25	21	25	21	17	19	16	14	13	11	10	7
10	44	32	25	21	39	29	23	19	23	19	15	18	14	12	12	10	9	7

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

	0°	45°	90°
0°	7627	7627	7627
5°	7656	7546	7592
10°	7612	7470	7507
15°	7517	7373	7366
20°	7383	7228	7220
25°	7251	7049	7049
30°	7081	6885	6825
35°	6922	6688	6589
40°	6721	6492	6367
45°	6524	6295	6140
50°	6310	6094	5878
55°	6086	5858	5638
60°	5838	5574	5370
65°	5570	5295	5051
70°	5231	4952	4716
75°	4760	4560	4448
80°	4221	4100	3887
85°	3446	3279	2946



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	44.4	1.0
10°-20°	125.0	2.8
20°-30°	183.7	4.1
30°-40°	213.4	4.7
40°-50°	213.2	4.7
50°-60°	185.9	4.1
60°-70°	137.5	3.0
70°-80°	77.9	1.7
80°-90°	25.7	0.6
90°-100°	74.9	1.7
100°-110°	232.7	5.2
110°-120°	397.8	8.8
120°-130°	523.2	11.6
130°-140°	587.2	13.0
140°-150°	575.7	12.8
150°-160°	482.9	10.7
160°-170°	320.3	7.1
170°-180°	111.9	2.5
0°-30°	353.2	7.8
0°-40°	566.6	12.6
0°-60°	965.7	21.4
0°-90°	1206.7	26.7
90°-120°	705.5	15.6
90°-150°	2391.6	53.0
90°-180°	3307.0	73.3
0°-180°	4513.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	472	472	472	472	472	
5°	472	470	466	469	468	45
15°	450	447	441	443	441	127
25°	407	403	396	396	396	187
35°	351	346	339	337	334	219
45°	286	282	276	271	269	220
55°	216	213	208	203	200	193
65°	146	143	139	135	132	144
75°	76	75	73	71	71	82
85°	19	18	18	16	16	21
90°	1	14	35	33	34	4
95°	52	61	64	64	62	60
105°	215	218	220	221	222	227
115°	399	405	403	402	399	395
125°	581	589	587	584	583	519
135°	752	762	764	763	760	580
145°	912	919	925	926	922	570
155°	1043	1046	1049	1053	1051	480
165°	1135	1134	1134	1140	1136	320
175°	1181	1178	1176	1182	1177	112
180°	1183	1183	1183	1183	1183	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	472.4	472.4	472.4	472.4	472.4	472.4	472.4	472.4	472.4	472.4	472.4
2.5°	474.6	474.2	473.8	473.4	473.0	472.4	471.5	470.6	469.7	468.8	469.6
5°	472.4	472.0	471.6	471.2	470.8	470.1	469.0	467.9	466.7	465.6	466.4
7.5°	468.3	467.6	467.0	466.4	465.8	464.9	463.8	462.6	461.5	460.4	461.2
10°	464.3	463.6	462.9	462.2	461.4	460.5	459.3	458.1	456.9	455.6	456.4
12.5°	458.8	458.2	457.6	456.9	456.3	455.4	454.2	453.0	451.8	450.6	451.1
15°	449.7	449.1	448.5	447.9	447.3	446.4	445.0	443.7	442.4	441.1	441.5
17.5°	438.1	437.5	436.9	436.3	435.7	434.7	433.4	432.0	430.7	429.4	429.8
20°	429.7	429.1	428.5	427.9	427.3	426.3	424.9	423.5	422.1	420.7	421.0
22.5°	421.4	420.5	419.7	418.8	418.0	416.9	415.6	414.2	412.9	411.6	411.6
25°	407.0	406.2	405.4	404.6	403.8	402.5	400.8	399.1	397.4	395.7	395.9
27.5°	390.7	390.0	389.2	388.5	387.8	386.7	385.4	384.0	382.7	381.3	381.0
30°	379.8	379.0	378.2	377.4	376.5	375.4	373.9	372.4	370.8	369.3	369.0
32.5°	368.1	367.5	366.9	366.2	365.6	364.4	362.8	361.3	359.7	358.1	357.5
35°	351.2	350.1	349.1	348.1	347.1	345.8	344.2	342.6	341.0	339.3	338.7
37.5°	332.0	331.1	330.2	329.3	328.4	327.2	325.6	324.0	322.3	320.7	320.0
40°	318.9	318.1	317.3	316.5	315.7	314.5	312.8	311.2	309.6	308.0	307.1
42.5°	306.2	305.4	304.6	303.8	303.0	301.7	300.1	298.5	296.9	295.3	294.3
45°	285.7	285.0	284.3	283.6	282.9	281.8	280.3	278.8	277.3	275.7	274.6
47.5°	265.4	264.7	264.1	263.4	262.7	261.6	260.0	258.5	256.9	255.3	254.1
50°	251.2	250.7	250.2	249.7	249.2	248.2	246.8	245.4	244.0	242.6	241.2
52.5°	237.4	236.7	236.1	235.4	234.7	233.7	232.4	231.1	229.7	228.4	227.2
55°	216.2	215.6	215.0	214.4	213.8	212.9	211.7	210.5	209.3	208.1	206.8
57.5°	195.0	194.5	194.0	193.5	193.0	192.1	190.8	189.5	188.1	186.8	185.6
60°	180.8	180.4	180.0	179.6	179.2	178.3	176.9	175.5	174.0	172.6	171.5
62.5°	167.0	166.3	165.7	165.1	164.4	163.5	162.4	161.4	160.3	159.2	158.1
65°	145.8	145.2	144.6	144.0	143.4	142.6	141.6	140.6	139.6	138.6	137.6
67.5°	124.3	123.8	123.3	122.8	122.4	121.7	120.7	119.8	118.9	118.0	117.3
70°	110.8	110.4	110.0	109.6	109.2	108.6	107.7	106.8	105.8	104.9	104.2
72.5°	97.0	96.6	96.2	95.8	95.4	94.9	94.3	93.8	93.2	92.6	91.9
75°	76.3	76.1	75.9	75.7	75.5	75.2	74.7	74.1	73.6	73.1	72.5
77.5°	57.8	57.4	57.1	56.8	56.4	56.1	55.9	55.7	55.5	55.3	55.0
80°	45.4	45.3	45.2	45.1	45.0	44.9	44.7	44.5	44.3	44.1	43.8
82.5°	33.8	33.8	33.8	33.7	33.7	33.6	33.5	33.4	33.3	33.2	32.8
85°	18.6	18.5	18.4	18.3	18.2	18.1	18.0	17.9	17.8	17.7	17.4
87.5°	6.7	7.1	7.5	7.9	8.2	8.8	9.6	10.4	11.3	12.1	11.7
90°	1.0	3.7	6.3	9.0	11.6	15.4	20.3	25.2	30.0	34.9	34.5
92.5°	17.8	19.7	21.7	23.6	25.6	27.1	28.3	29.4	30.6	31.7	31.8
95°	51.9	54.1	56.3	58.5	60.8	62.1	62.5	63.0	63.4	63.9	63.9
97.5°	94.8	96.8	98.7	100.7	102.6	104.0	104.9	105.7	106.5	107.4	107.4
100°	126.7	128.5	130.3	132.1	133.8	135.1	135.7	136.4	137.1	137.7	137.7
102.5°	160.3	161.7	163.1	164.5	165.9	167.1	167.9	168.8	169.6	170.5	170.6
105°	214.6	215.2	215.9	216.6	217.2	217.8	218.2	218.7	219.1	219.5	220.0
107.5°	269.2	270.2	271.2	272.2	273.2	273.6	273.6	273.6	273.6	273.6	273.8
110°	304.4	305.7	307.0	308.4	309.7	310.4	310.4	310.4	310.4	310.4	310.4



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	342.7	344.0	345.4	346.7	348.0	348.6	348.4	348.2	348.1	347.9	347.4
115°	399.2	400.5	401.8	403.2	404.5	404.9	404.5	404.1	403.6	403.2	403.0
117.5°	455.5	457.2	459.0	460.8	462.6	462.8	461.6	460.3	459.1	457.9	457.3
120°	493.0	494.8	496.5	498.3	500.1	500.1	498.3	496.5	494.8	493.0	493.0
122.5°	527.3	529.4	531.6	533.7	535.8	536.3	535.0	533.8	532.6	531.3	530.8
125°	580.8	582.8	584.8	586.8	588.8	589.5	588.8	588.1	587.5	586.8	586.1
127.5°	632.9	635.4	638.0	640.5	643.0	643.9	643.1	642.3	641.5	640.7	639.9
130°	665.6	668.5	671.4	674.3	677.2	678.4	677.9	677.5	677.1	676.6	676.2
132.5°	702.4	704.7	707.1	709.4	711.8	713.0	713.1	713.2	713.2	713.3	712.4
135°	751.5	753.9	756.3	758.8	761.2	762.7	763.1	763.5	764.0	764.4	764.2
137.5°	803.2	805.1	807.1	809.1	811.1	812.4	813.0	813.6	814.2	814.7	814.6
140°	834.3	836.3	838.3	840.3	842.3	843.8	844.9	846.0	847.2	848.3	848.3
142.5°	866.2	868.2	870.2	872.2	874.2	875.6	876.3	877.1	877.8	878.6	878.8
145°	912.1	913.7	915.2	916.8	918.3	919.8	921.1	922.4	923.8	925.1	925.3
147.5°	953.0	954.9	956.8	958.6	960.5	961.9	962.8	963.6	964.5	965.4	965.9
150°	981.0	982.3	983.6	985.0	986.3	987.4	988.3	989.2	990.1	991.0	991.6
152.5°	1005.7	1007.1	1008.4	1009.7	1011.1	1012.3	1013.3	1014.4	1015.4	1016.5	1017.4
155°	1042.9	1043.5	1044.2	1044.9	1045.5	1046.2	1046.9	1047.5	1048.2	1048.8	1050.0
157.5°	1074.6	1075.0	1075.5	1075.9	1076.4	1076.8	1077.2	1077.6	1078.0	1078.4	1079.9
160°	1093.8	1094.2	1094.6	1095.1	1095.5	1095.9	1096.1	1096.3	1096.5	1096.7	1098.1
162.5°	1111.3	1111.4	1111.5	1111.6	1111.7	1111.8	1112.1	1112.3	1112.5	1112.7	1114.2
165°	1134.7	1134.5	1134.2	1134.0	1133.8	1133.7	1133.7	1133.7	1133.7	1133.7	1135.2
167.5°	1154.2	1153.6	1152.9	1152.2	1151.6	1151.2	1151.2	1151.1	1151.1	1151.0	1152.6
170°	1164.6	1163.9	1163.3	1162.6	1161.9	1161.5	1161.3	1161.1	1160.8	1160.6	1162.2
172.5°	1171.8	1171.1	1170.5	1169.8	1169.1	1168.7	1168.5	1168.2	1168.0	1167.8	1169.4
175°	1180.6	1179.9	1179.2	1178.6	1177.9	1177.4	1176.9	1176.5	1176.0	1175.6	1177.1
177.5°	1184.2	1183.6	1183.1	1182.6	1182.0	1181.6	1181.2	1180.9	1180.5	1180.2	1181.2
180°	1182.6	1182.6	1182.6	1182.6	1182.6	1182.6	1182.6	1182.6	1182.6	1182.6	1182.6



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	472.4	472.4	472.4	472.4	472.4	472.4	472.4	472.4
2.5°	470.4	471.2	472.0	472.4	472.2	472.0	471.9	471.7
5°	467.3	468.1	468.9	469.2	469.0	468.8	468.6	468.4
7.5°	462.0	462.8	463.6	463.9	463.7	463.4	463.2	463.0
10°	457.3	458.1	458.9	459.1	458.8	458.5	458.2	457.9
12.5°	451.7	452.2	452.8	453.0	452.8	452.5	452.3	452.1
15°	441.9	442.3	442.7	442.7	442.2	441.7	441.2	440.7
17.5°	430.3	430.8	431.2	431.2	430.7	430.3	429.8	429.3
20°	421.3	421.6	421.9	421.8	421.4	421.0	420.6	420.2
22.5°	411.7	411.8	411.8	411.7	411.5	411.2	411.0	410.8
25°	396.1	396.3	396.5	396.5	396.3	396.1	395.9	395.7
27.5°	380.7	380.4	380.1	379.7	379.2	378.7	378.3	377.8
30°	368.7	368.4	368.1	367.8	367.4	367.0	366.6	366.1
32.5°	357.0	356.4	355.9	355.4	355.0	354.6	354.2	353.8
35°	338.1	337.5	336.9	336.4	335.9	335.4	334.9	334.3
37.5°	319.2	318.5	317.7	317.1	316.6	316.1	315.7	315.2
40°	306.2	305.3	304.4	303.7	303.3	302.9	302.5	302.1
42.5°	293.3	292.3	291.3	290.5	290.0	289.4	288.9	288.3
45°	273.5	272.4	271.3	270.5	270.1	269.7	269.3	268.9
47.5°	253.0	251.8	250.6	249.7	249.2	248.6	248.0	247.4
50°	239.8	238.3	236.9	236.0	235.5	235.0	234.5	234.0
52.5°	226.1	224.9	223.7	222.8	222.1	221.5	220.8	220.1
55°	205.6	204.4	203.2	202.4	201.9	201.3	200.8	200.3
57.5°	184.4	183.2	182.0	181.2	180.9	180.5	180.1	179.7
60°	170.4	169.3	168.2	167.5	167.2	166.9	166.6	166.3
62.5°	157.1	156.1	155.1	154.4	154.0	153.6	153.2	152.8
65°	136.7	135.8	134.9	134.2	133.7	133.2	132.7	132.2
67.5°	116.6	115.9	115.2	114.6	114.2	113.8	113.4	113.0
70°	103.5	102.8	102.1	101.6	101.2	100.7	100.3	99.9
72.5°	91.2	90.5	89.8	89.2	88.9	88.6	88.3	87.9
75°	71.9	71.3	70.7	70.5	70.7	70.9	71.1	71.3
77.5°	54.7	54.4	54.1	53.8	53.5	53.3	53.0	52.7
80°	43.5	43.2	42.9	42.6	42.4	42.2	42.0	41.8
82.5°	32.4	32.0	31.6	31.4	31.4	31.3	31.3	31.3
85°	17.1	16.8	16.5	16.3	16.2	16.1	16.0	15.9
87.5°	11.4	11.1	10.7	10.6	10.5	10.5	10.5	10.4
90°	34.0	33.6	33.2	33.0	33.3	33.5	33.7	33.9
92.5°	31.9	32.0	32.1	32.2	32.2	32.2	32.3	32.3
95°	63.9	63.9	63.9	63.6	63.2	62.8	62.3	61.9
97.5°	107.4	107.4	107.4	107.4	107.3	107.3	107.2	107.2
100°	137.7	137.7	137.7	137.6	137.4	137.2	136.9	136.7
102.5°	170.8	171.0	171.2	171.1	170.9	170.7	170.5	170.3
105°	220.4	220.9	221.3	221.5	221.5	221.5	221.5	221.5
107.5°	274.0	274.2	274.3	273.9	272.9	271.9	270.9	269.8
110°	310.4	310.4	310.4	310.0	309.4	308.7	308.0	307.4





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	346.8	346.3	345.8	345.2	344.8	344.3	343.8	343.3
115°	402.7	402.5	402.3	401.8	401.2	400.5	399.8	399.2
117.5°	456.8	456.3	455.7	455.1	454.5	453.8	453.1	452.5
120°	493.0	493.0	493.0	492.7	492.0	491.3	490.7	490.0
122.5°	530.2	529.7	529.2	528.7	528.2	527.7	527.2	526.7
125°	585.5	584.8	584.1	583.7	583.5	583.2	583.0	582.8
127.5°	639.1	638.3	637.5	636.7	636.0	635.3	634.6	633.9
130°	675.7	675.3	674.8	674.2	673.3	672.4	671.5	670.6
132.5°	711.4	710.4	709.4	708.6	707.9	707.2	706.5	705.8
135°	764.0	763.8	763.5	763.1	762.4	761.8	761.1	760.4
137.5°	814.4	814.2	814.0	813.5	812.6	811.7	810.8	809.9
140°	848.3	848.3	848.3	847.8	846.9	846.0	845.2	844.3
142.5°	879.0	879.1	879.3	879.0	878.1	877.2	876.3	875.4
145°	925.5	925.8	926.0	925.7	924.8	923.9	923.0	922.1
147.5°	966.4	966.9	967.4	967.2	966.4	965.5	964.7	963.8
150°	992.3	993.0	993.6	993.6	993.0	992.3	991.6	991.0
152.5°	1018.2	1019.0	1019.9	1019.9	1019.0	1018.2	1017.4	1016.5
155°	1051.1	1052.2	1053.3	1053.5	1052.8	1052.2	1051.5	1050.8
157.5°	1081.4	1082.9	1084.4	1084.6	1083.6	1082.5	1081.4	1080.4
160°	1099.4	1100.7	1102.1	1102.3	1101.4	1100.5	1099.6	1098.7
162.5°	1115.7	1117.2	1118.7	1119.0	1117.9	1116.8	1115.8	1114.7
165°	1136.8	1138.3	1139.9	1140.1	1139.0	1137.9	1136.8	1135.7
167.5°	1154.1	1155.7	1157.2	1157.4	1156.3	1155.1	1154.0	1152.8
170°	1163.7	1165.3	1166.8	1166.9	1165.6	1164.3	1162.9	1161.6
172.5°	1170.9	1172.5	1174.0	1174.1	1172.8	1171.5	1170.1	1168.8
175°	1178.7	1180.2	1181.8	1181.9	1180.6	1179.2	1177.9	1176.6
177.5°	1182.3	1183.4	1184.4	1184.4	1183.4	1182.3	1181.2	1180.2
180°	1182.6	1182.6	1182.6	1182.6	1182.6	1182.6	1182.6	1182.6

(END OF REPORT)