

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: P331270-935

Luminaire Tested: **S122DIP-S290D925U935-4F0-1E-UDD-D**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331270-935  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-2,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S122DIP-S290D925U935-4F0-1E-UDD-D  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 290 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 925 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4217.0 lumens  
Efficiency: N/A  
Efficacy: 113.1 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

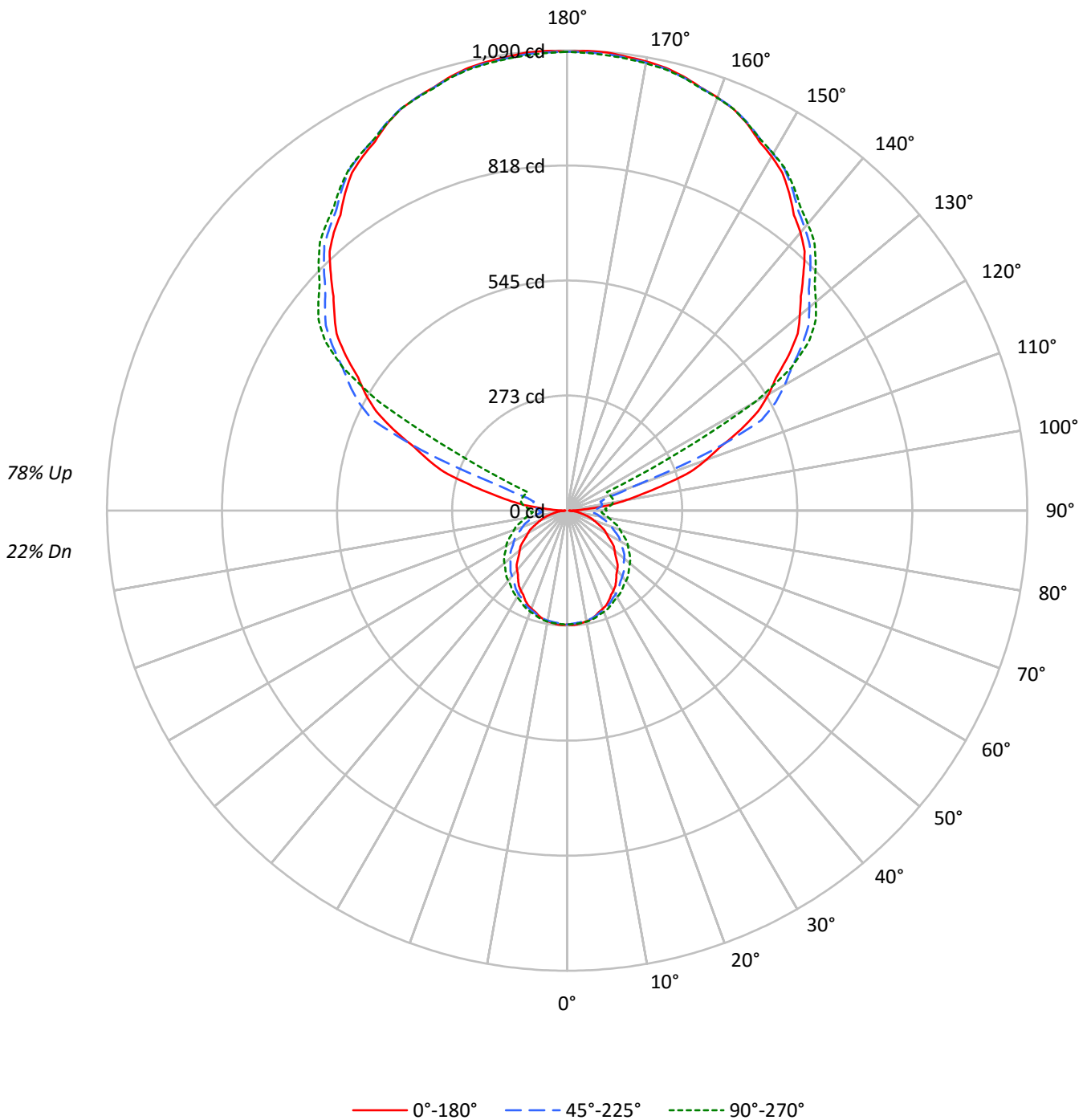
Input Watts (W): 37.3  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	100	100	100	100	89	89	89	89	68	68	68	48	48	48	30	30	30	22
1	91	86	82	79	80	77	73	70	58	56	54	41	40	39	26	25	24	17
2	82	75	69	64	73	66	61	57	50	47	44	36	34	32	22	21	20	14
3	75	66	58	53	66	58	52	47	44	40	37	31	29	26	19	18	17	11
4	68	58	50	44	60	51	45	40	39	34	31	28	25	22	17	15	14	9
5	62	51	43	37	55	45	39	34	35	30	26	25	22	19	15	14	12	8
6	57	46	38	32	50	41	34	29	31	26	23	22	19	17	14	12	10	7
7	53	41	33	28	47	37	30	25	28	23	20	20	17	14	13	11	9	6
8	49	37	29	24	43	33	26	22	25	21	17	18	15	13	11	10	8	6
9	45	34	26	21	40	30	24	19	23	19	15	17	14	11	11	9	7	5
10	42	31	24	19	37	27	21	17	21	17	14	15	12	10	10	8	7	4

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

	0°	45°	90°
0°	4358	4358	4358
5°	4379	4195	4179
10°	4352	4070	4026
15°	4290	3939	3863
20°	4215	3798	3707
25°	4141	3663	3565
30°	4034	3524	3423
35°	3928	3389	3323
40°	3818	3275	3223
45°	3709	3172	3137
50°	3596	3079	3053
55°	3474	2979	2968
60°	3329	2876	2878
65°	3174	2756	2769
70°	3001	2623	2653
75°	2784	2499	2544
80°	2445	2366	2436
85°	2110	2255	2350



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	25.6	0.6
10°-20°	73.3	1.7
20°-30°	111.1	2.6
30°-40°	135.3	3.2
40°-50°	145.6	3.5
50°-60°	141.4	3.4
60°-70°	123.5	2.9
70°-80°	95.1	2.3
80°-90°	66.5	1.6
90°-100°	80.2	1.9
100°-110°	165.0	3.9
110°-120°	376.5	8.9
120°-130°	598.4	14.2
130°-140°	628.8	14.9
140°-150°	580.7	13.8
150°-160°	466.2	11.1
160°-170°	300.4	7.1
170°-180°	103.4	2.5
0°-30°	210.0	5.0
0°-40°	345.4	8.2
0°-60°	632.4	15.0
0°-90°	917.4	21.8
90°-120°	621.8	14.7
90°-150°	2429.6	57.6
90°-180°	3300.0	78.3
0°-180°	4217.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	270	270	270	270	270	
5°	271	269	267	269	269	26
15°	258	259	259	262	262	73
25°	235	237	241	245	247	108
35°	202	209	216	225	228	126
45°	166	177	190	202	206	128
55°	127	142	162	175	181	114
65°	87	106	129	145	150	86
75°	48	70	95	111	117	51
85°	14	38	63	79	85	15
90°	5	36	67	86	93	5
95°	54	49	76	94	98	65
105°	241	263	82	103	111	258
115°	454	472	509	173	104	446
125°	640	651	678	693	700	571
135°	791	804	815	830	833	611
145°	918	918	930	938	936	574
155°	1010	1004	1013	1017	1011	465
165°	1065	1060	1062	1067	1062	301
175°	1089	1084	1085	1090	1083	104
180°	1087	1087	1087	1087	1087	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	269.9	269.9	269.9	269.9	269.9	269.9	269.9	269.9	269.9	269.9	269.9
2.5°	271.5	271.2	271.0	270.8	270.6	270.3	269.8	269.3	268.8	268.3	268.6
5°	270.7	270.4	270.2	269.9	269.6	269.2	268.7	268.2	267.7	267.2	267.7
7.5°	268.2	268.0	267.9	267.7	267.5	267.3	266.8	266.5	266.0	265.6	266.3
10°	266.4	266.2	266.0	265.9	265.7	265.4	265.2	264.9	264.7	264.4	265.1
12.5°	263.2	263.3	263.3	263.4	263.4	263.3	263.1	262.9	262.7	262.5	263.2
15°	258.1	258.3	258.5	258.6	258.8	258.9	258.9	258.9	258.9	258.9	259.7
17.5°	251.6	251.9	252.3	252.7	253.0	253.4	253.7	253.9	254.2	254.5	255.3
20°	247.2	247.6	248.1	248.5	248.9	249.3	249.7	250.0	250.4	250.7	251.7
22.5°	242.5	243.0	243.5	244.0	244.5	245.0	245.5	246.0	246.5	246.9	247.9
25°	234.7	235.3	235.9	236.5	237.1	237.8	238.6	239.4	240.1	240.9	241.9
27.5°	225.3	226.3	227.3	228.3	229.3	230.2	231.1	232.0	233.0	233.9	235.2
30°	219.0	220.2	221.3	222.4	223.5	224.7	225.8	227.0	228.1	229.2	230.6
32.5°	212.2	213.4	214.6	215.9	217.2	218.5	219.9	221.2	222.6	223.9	225.5
35°	202.2	203.7	205.2	206.6	208.1	209.7	211.4	213.0	214.6	216.3	218.2
37.5°	191.4	193.1	194.8	196.6	198.2	200.2	202.3	204.4	206.6	208.7	210.9
40°	184.3	186.1	188.0	189.9	191.8	194.0	196.3	198.7	201.0	203.4	205.6
42.5°	177.4	179.3	181.2	183.0	185.0	187.3	190.0	192.7	195.4	198.0	200.5
45°	165.8	168.2	170.6	172.9	175.2	177.9	181.0	184.0	187.0	190.1	192.8
47.5°	154.5	157.0	159.6	162.1	164.7	167.8	171.3	174.9	178.5	182.0	184.9
50°	146.7	149.4	152.1	154.7	157.5	160.7	164.7	168.6	172.5	176.4	179.3
52.5°	139.1	142.0	144.8	147.7	150.5	153.9	158.1	162.2	166.3	170.5	173.5
55°	127.1	130.3	133.4	136.5	139.7	143.4	148.0	152.5	157.0	161.5	164.7
57.5°	115.2	118.7	122.3	125.8	129.3	133.4	138.0	142.6	147.2	151.9	155.2
60°	106.8	110.6	114.3	118.0	121.7	126.1	131.0	136.0	140.9	145.9	149.2
62.5°	99.3	103.1	107.0	110.9	114.8	119.2	124.2	129.1	134.1	139.1	142.5
65°	86.8	91.1	95.3	99.6	103.8	108.6	113.7	118.8	124.0	129.1	132.7
67.5°	75.4	79.9	84.3	88.8	93.2	98.1	103.3	108.6	113.8	119.1	122.7
70°	67.2	71.8	76.3	80.8	85.3	90.3	95.7	101.1	106.5	111.8	115.6
72.5°	59.8	64.4	69.1	73.7	78.4	83.4	88.9	94.4	99.9	105.3	109.0
75°	48.1	53.0	57.9	62.7	67.6	72.8	78.4	83.9	89.5	95.1	98.8
77.5°	36.9	41.9	47.0	52.1	57.3	62.6	68.3	73.9	79.6	85.2	88.9
80°	29.4	34.6	40.0	45.2	50.5	56.1	61.6	67.3	72.9	78.6	82.2
82.5°	23.1	28.3	33.6	38.7	44.0	49.5	55.2	61.0	66.6	72.3	76.0
85°	14.1	19.5	24.9	30.2	35.6	41.1	46.7	52.3	57.8	63.4	67.0
87.5°	7.8	13.3	18.9	24.5	30.0	35.8	41.6	47.4	53.3	59.2	62.9
90°	4.7	11.6	18.6	25.6	32.5	39.5	46.5	53.5	60.4	67.3	71.7
92.5°	19.5	24.0	28.5	33.1	37.5	42.9	48.9	54.9	61.0	67.1	70.9
95°	54.2	52.5	50.9	49.2	47.5	49.9	56.3	62.8	69.2	75.7	79.8
97.5°	104.2	91.5	79.0	66.3	53.7	51.3	59.2	67.0	74.8	82.7	86.6
100°	141.9	121.2	100.5	79.7	59.1	52.6	60.4	68.3	76.1	83.9	88.5
102.5°	183.1	181.0	178.8	176.8	174.6	163.5	143.4	123.2	103.1	83.0	88.0
105°	241.0	248.7	256.5	264.3	272.1	254.3	211.2	168.0	124.8	81.6	86.5
107.5°	307.5	313.7	319.9	326.1	332.4	309.1	256.2	203.4	150.5	97.6	98.6
110°	349.9	355.3	360.8	366.1	371.5	351.1	304.9	258.6	212.4	166.2	151.4



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	390.2	394.9	399.6	404.3	409.1	407.2	398.7	390.3	381.9	373.4	312.5
115°	453.7	457.6	461.6	465.5	469.4	475.5	483.8	492.1	500.3	508.7	430.3
117.5°	510.1	514.0	518.0	521.9	525.9	531.2	537.8	544.4	551.0	557.7	540.6
120°	551.6	554.6	557.6	560.5	563.5	568.3	574.9	581.5	588.1	594.8	599.3
122.5°	586.9	589.8	592.6	595.6	598.5	603.2	609.9	616.6	623.3	630.0	633.6
125°	640.1	642.4	644.6	646.9	649.2	653.3	659.4	665.6	671.7	677.8	681.3
127.5°	688.7	691.1	693.5	695.9	698.4	702.0	706.7	711.4	716.2	720.8	724.8
130°	719.5	722.2	725.0	727.6	730.3	733.6	737.3	741.1	744.9	748.6	752.6
132.5°	751.0	753.3	755.5	757.9	760.1	762.9	766.3	769.6	772.9	776.3	779.9
135°	791.4	794.3	797.0	799.9	802.6	805.3	807.7	810.1	812.6	815.0	818.6
137.5°	832.8	834.7	836.7	838.6	840.6	842.7	844.8	847.0	849.1	851.3	854.6
140°	859.9	861.2	862.5	863.8	865.1	866.9	868.9	871.0	873.1	875.2	878.1
142.5°	882.5	883.6	884.8	886.1	887.2	888.9	891.1	893.4	895.6	897.9	900.4
145°	917.7	917.5	917.3	917.1	917.0	918.3	921.4	924.3	927.3	930.2	932.0
147.5°	948.6	948.0	947.4	946.7	946.0	947.1	950.0	953.0	956.0	958.9	959.8
150°	968.8	967.6	966.3	965.1	963.9	964.7	967.5	970.3	973.1	975.9	976.9
152.5°	985.8	984.4	983.0	981.7	980.3	980.9	983.6	986.3	988.9	991.6	992.6
155°	1010.5	1008.9	1007.3	1005.7	1004.2	1004.4	1006.5	1008.7	1010.7	1012.8	1013.8
157.5°	1029.8	1028.5	1027.2	1025.8	1024.5	1024.6	1026.1	1027.5	1029.0	1030.4	1031.7
160°	1041.1	1040.1	1039.1	1037.9	1036.9	1036.9	1037.9	1039.1	1040.1	1041.1	1042.2
162.5°	1051.2	1050.2	1049.1	1048.0	1047.0	1046.9	1047.8	1048.7	1049.6	1050.6	1051.7
165°	1064.7	1063.7	1062.6	1061.5	1060.5	1060.2	1060.8	1061.3	1061.9	1062.4	1063.6
167.5°	1074.8	1073.8	1072.7	1071.6	1070.6	1070.3	1070.8	1071.3	1071.8	1072.3	1073.5
170°	1080.5	1079.3	1078.3	1077.3	1076.2	1075.9	1076.2	1076.6	1076.9	1077.3	1078.5
172.5°	1084.2	1083.1	1082.1	1081.1	1080.0	1079.7	1080.0	1080.4	1080.7	1081.1	1082.3
175°	1089.1	1087.9	1086.7	1085.4	1084.2	1083.7	1084.1	1084.4	1084.8	1085.1	1086.4
177.5°	1089.9	1088.9	1088.0	1086.9	1086.0	1085.5	1085.7	1085.8	1086.0	1086.1	1087.1
180°	1086.8	1086.8	1086.8	1086.8	1086.8	1086.8	1086.8	1086.8	1086.8	1086.8	1086.8



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	269.9	269.9	269.9	269.9	269.9	269.9	269.9	269.9
2.5°	269.0	269.3	269.7	269.8	269.7	269.5	269.4	269.2
5°	268.2	268.7	269.2	269.4	269.3	269.2	269.1	269.1
7.5°	266.9	267.5	268.2	268.5	268.4	268.3	268.2	268.1
10°	265.8	266.5	267.2	267.5	267.4	267.3	267.3	267.2
12.5°	263.9	264.6	265.3	265.6	265.5	265.4	265.4	265.3
15°	260.5	261.3	262.1	262.4	262.3	262.3	262.2	262.1
17.5°	256.1	256.9	257.7	258.1	258.1	258.1	258.1	258.1
20°	252.6	253.6	254.5	255.0	255.0	255.0	255.0	255.0
22.5°	248.9	249.9	250.8	251.3	251.5	251.6	251.8	251.9
25°	243.1	244.1	245.1	245.7	246.0	246.2	246.5	246.8
27.5°	236.5	237.9	239.2	240.0	240.1	240.3	240.5	240.7
30°	232.0	233.4	234.8	235.6	235.8	236.1	236.3	236.6
32.5°	227.0	228.7	230.3	231.4	231.8	232.3	232.7	233.2
35°	220.2	222.1	223.9	225.2	225.8	226.4	227.0	227.6
37.5°	212.9	215.1	217.2	218.6	219.2	219.9	220.5	221.1
40°	207.9	210.2	212.4	214.0	214.7	215.5	216.3	217.1
42.5°	203.0	205.4	207.9	209.6	210.3	211.1	211.9	212.7
45°	195.4	198.2	200.9	202.7	203.5	204.4	205.3	206.1
47.5°	187.7	190.5	193.3	195.2	196.1	197.1	198.0	199.0
50°	182.3	185.3	188.2	190.2	191.1	192.1	193.0	194.0
52.5°	176.5	179.5	182.5	184.6	185.6	186.7	187.7	188.6
55°	167.8	170.9	174.1	176.2	177.3	178.5	179.6	180.7
57.5°	158.6	162.0	165.3	167.6	168.8	169.9	171.0	172.2
60°	152.5	155.8	159.1	161.4	162.6	163.8	165.1	166.3
62.5°	146.0	149.6	153.1	155.4	156.5	157.6	158.9	160.0
65°	136.2	139.7	143.4	145.7	146.8	147.9	149.0	150.2
67.5°	126.2	129.8	133.5	135.9	137.0	138.2	139.4	140.6
70°	119.3	123.0	126.8	129.2	130.3	131.3	132.3	133.4
72.5°	112.6	116.3	119.9	122.4	123.6	124.9	126.2	127.4
75°	102.5	106.2	110.0	112.4	113.6	114.7	115.8	116.9
77.5°	92.6	96.3	100.0	102.5	103.8	105.0	106.2	107.4
80°	85.9	89.5	93.2	95.7	96.9	98.1	99.3	100.5
82.5°	79.6	83.3	87.0	89.4	90.5	91.7	92.8	93.9
85°	70.7	74.3	78.0	80.4	81.6	82.8	84.0	85.2
87.5°	66.6	70.3	74.0	76.5	77.7	78.9	80.1	81.2
90°	76.0	80.4	84.7	87.6	89.0	90.4	91.8	93.2
92.5°	74.8	78.6	82.5	85.1	86.3	87.6	88.9	90.1
95°	84.0	88.2	92.4	94.9	95.7	96.6	97.5	98.3
97.5°	90.5	94.5	98.3	100.9	102.1	103.4	104.6	105.8
100°	93.2	97.8	102.4	105.4	106.7	108.0	109.3	110.6
102.5°	92.9	97.9	102.9	106.1	107.5	108.9	110.4	111.8
105°	91.5	96.5	101.4	104.8	106.4	108.1	109.8	111.4
107.5°	99.5	100.5	101.4	102.7	104.4	106.1	107.7	109.3
110°	136.8	122.1	107.4	100.9	102.5	104.2	105.8	107.5





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	251.5	190.5	129.6	99.9	101.4	102.9	104.4	105.9
115°	352.1	273.7	195.4	150.5	138.9	127.3	115.6	104.0
117.5°	523.7	506.6	489.7	460.9	420.5	380.0	339.6	299.1
120°	603.8	608.4	612.9	603.8	581.2	558.6	536.0	513.3
122.5°	637.2	640.8	644.5	644.5	640.7	636.9	633.2	629.4
125°	684.9	688.5	692.1	694.5	695.8	697.1	698.4	699.7
127.5°	728.8	732.7	736.6	739.0	739.9	740.8	741.7	742.5
130°	756.6	760.6	764.6	766.9	767.4	767.9	768.4	769.0
132.5°	783.6	787.2	790.9	793.0	793.5	794.0	794.5	795.0
135°	822.2	825.8	829.3	831.3	831.6	832.0	832.3	832.7
137.5°	857.9	861.3	864.5	866.2	866.2	866.2	866.2	866.2
140°	881.1	884.1	887.1	888.4	888.0	887.7	887.3	886.9
142.5°	902.9	905.5	908.0	909.1	908.7	908.3	907.8	907.4
145°	933.8	935.5	937.2	937.9	937.5	937.0	936.6	936.2
147.5°	960.8	961.8	962.8	963.0	962.5	962.0	961.4	960.9
150°	977.9	979.0	980.1	980.2	979.3	978.4	977.5	976.6
152.5°	993.7	994.7	995.7	995.7	994.5	993.4	992.3	991.1
155°	1014.9	1016.0	1017.0	1016.8	1015.5	1014.0	1012.6	1011.2
157.5°	1032.8	1034.0	1035.2	1035.1	1033.7	1032.3	1031.0	1029.7
160°	1043.2	1044.3	1045.3	1045.3	1044.0	1042.8	1041.6	1040.3
162.5°	1052.9	1054.1	1055.3	1055.2	1053.7	1052.1	1050.7	1049.1
165°	1064.8	1066.0	1067.2	1067.2	1066.0	1064.8	1063.6	1062.4
167.5°	1074.7	1075.9	1077.2	1076.9	1075.4	1073.8	1072.3	1070.7
170°	1079.8	1081.0	1082.2	1082.0	1080.5	1078.8	1077.3	1075.7
172.5°	1083.5	1084.8	1086.0	1085.8	1084.2	1082.6	1081.1	1079.5
175°	1087.6	1088.8	1090.0	1089.8	1088.0	1086.3	1084.5	1082.8
177.5°	1088.0	1089.1	1090.0	1089.9	1088.6	1087.4	1086.1	1084.9
180°	1086.8	1086.8	1086.8	1086.8	1086.8	1086.8	1086.8	1086.8

(END OF REPORT)