

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: P331896-935

Luminaire Tested: **S123DIP-S340D1025U935-4F0-1E-UDD-D1**

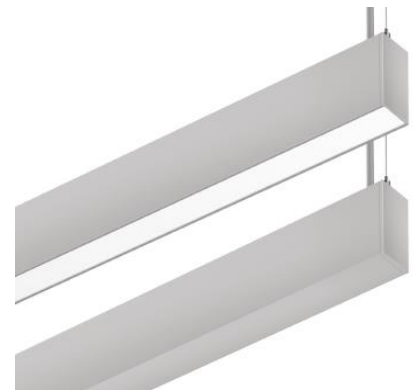
Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331896-935  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-9,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S123DIP-S340D1025U935-4F0-1E-UDD-D1  
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 340 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 1025 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

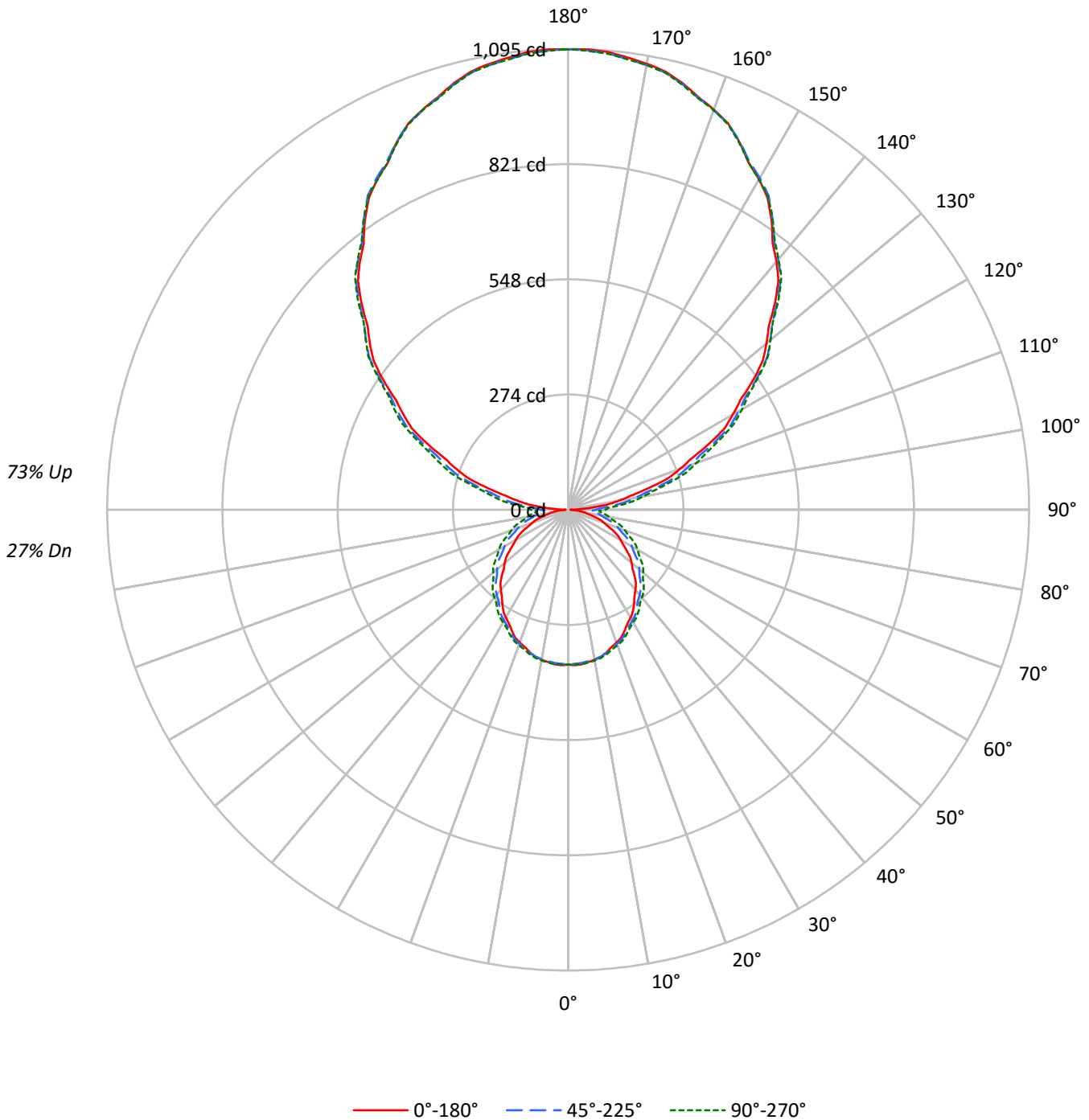
Lumens per Lamp: N/A  
Luminaire Lumens: 4272.2 lumens  
Efficiency: N/A  
Efficacy: 114.5 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.37  
Luminous Opening: Rectangular w/ Sides (W: 0.25' x L: 4' x H: 0.08')  
CIE Type: Semi-Indirect  
  
Input Watts (W): 37.3  
Input Voltage (V): 120  
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



TEST NUMBER: P331896-935

CATALOG NUMBER: S123DIP-S340D1025U935-4F0-1E-UDD-D1

### Luminous Intensity Polar Plot





TEST NUMBER: P331896-935

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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	102	102	102	102	91	91	91	91	70	70	70	52	52	52	35	35	35	27				
1	92	88	84	80	82	78	75	72	61	58	56	45	43	42	30	29	28	21				
2	83	76	70	65	74	68	63	58	53	49	46	39	36	34	26	24	23	17				
3	76	67	59	54	67	60	53	48	46	42	38	34	31	29	23	21	19	14				
4	69	59	51	45	61	53	46	41	41	36	32	30	27	24	20	18	17	12				
5	63	52	44	38	56	47	40	35	36	32	28	27	24	21	18	16	14	11				
6	58	46	39	33	52	42	35	30	33	28	24	24	21	18	16	14	13	9				
7	54	42	34	29	48	38	31	26	29	25	21	22	18	16	15	13	11	8				
8	50	38	30	25	44	34	27	23	27	22	18	20	17	14	14	11	10	7				
9	46	34	27	22	41	31	25	20	24	20	16	18	15	13	12	10	9	6				
10	43	31	24	20	38	28	22	18	22	18	15	17	14	11	12	9	8	6				

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

	0°	45°	90°
0°	3963	3963	3963
5°	3977	3865	3866
10°	3941	3776	3757
15°	3890	3674	3636
20°	3818	3559	3504
25°	3728	3427	3365
30°	3637	3307	3224
35°	3533	3181	3112
40°	3435	3065	2991
45°	3327	2955	2895
50°	3219	2846	2789
55°	3100	2734	2693
60°	2984	2620	2596
65°	2865	2499	2479
70°	2685	2362	2359
75°	2462	2208	2239
80°	2201	2054	2100
85°	1955	1950	2018



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	34.9	0.8
10°-20°	99.5	2.3
20°-30°	148.9	3.5
30°-40°	177.8	4.2
40°-50°	186.0	4.4
50°-60°	174.5	4.1
60°-70°	145.8	3.4
70°-80°	104.3	2.4
80°-90°	65.4	1.5
90°-100°	110.3	2.6
100°-110°	242.0	5.7
110°-120°	382.0	8.9
120°-130°	488.2	11.4
130°-140°	541.3	12.7
140°-150°	528.3	12.4
150°-160°	443.9	10.4
160°-170°	295.5	6.9
170°-180°	103.5	2.4
0°-30°	283.3	6.6
0°-40°	461.0	10.8
0°-60°	821.6	19.2
0°-90°	1137.1	26.6
90°-120°	734.3	17.2
90°-150°	2292.2	53.7
90°-180°	3135.0	73.4
0°-180°	4272.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	368	368	368	368	368	
5°	369	368	366	368	368	35
15°	351	352	352	356	355	99
25°	317	321	322	327	327	146
35°	273	279	284	290	292	171
45°	223	233	243	250	254	172
55°	170	183	198	208	212	152
65°	118	133	151	162	167	116
75°	64	83	103	116	121	68
85°	20	40	61	74	79	21
90°	6	35	66	82	89	7
95°	55	77	103	119	123	60
105°	197	209	233	244	250	210
115°	367	375	387	397	400	363
125°	536	539	548	553	553	478
135°	694	699	703	706	707	535
145°	842	843	846	848	846	526
155°	964	964	964	967	962	443
165°	1049	1047	1047	1051	1046	296
175°	1092	1088	1088	1093	1087	104
180°	1094	1094	1094	1094	1094	



TEST NUMBER: P331896-935

CATALOG NUMBER: S123DIP-S340D1025U935-4F0-1E-UDD-D1

**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	368.2	368.2	368.2	368.2	368.2	368.2	368.2	368.2	368.2	368.2	368.2
2.5°	369.9	369.7	369.5	369.3	369.0	368.7	368.1	367.5	367.0	366.4	367.0
5°	368.7	368.5	368.3	368.2	368.0	367.6	367.0	366.5	366.0	365.5	366.2
7.5°	365.1	365.2	365.2	365.2	365.2	365.0	364.5	363.9	363.4	362.9	363.8
10°	361.9	362.1	362.2	362.4	362.6	362.5	362.0	361.5	361.1	360.7	361.5
12.5°	358.0	358.3	358.5	358.8	359.0	359.0	358.7	358.3	358.1	357.7	358.6
15°	351.0	351.3	351.5	351.8	352.1	352.2	352.1	352.0	351.9	351.8	352.8
17.5°	342.2	342.8	343.3	343.8	344.3	344.6	344.6	344.5	344.5	344.5	345.3
20°	335.8	336.3	336.8	337.4	337.9	338.3	338.5	338.6	338.8	339.0	339.8
22.5°	329.1	329.6	330.1	330.6	331.2	331.6	331.8	332.1	332.3	332.6	333.6
25°	316.9	317.8	318.7	319.6	320.5	321.1	321.3	321.6	321.8	322.2	323.3
27.5°	304.7	305.7	306.8	307.8	308.8	309.6	310.1	310.7	311.3	311.9	312.9
30°	296.1	297.2	298.4	299.5	300.7	301.6	302.4	303.1	303.8	304.5	305.6
32.5°	286.5	287.7	289.0	290.3	291.6	292.7	293.7	294.6	295.6	296.4	297.6
35°	272.8	274.2	275.7	277.1	278.5	279.8	280.9	282.1	283.3	284.5	285.8
37.5°	258.4	259.9	261.6	263.2	264.8	266.3	267.7	269.1	270.6	272.0	273.5
40°	248.7	250.4	251.9	253.6	255.1	256.8	258.6	260.5	262.2	264.0	265.5
42.5°	238.2	240.1	242.0	244.0	246.0	247.9	249.8	251.6	253.5	255.3	257.0
45°	223.1	225.2	227.3	229.5	231.6	233.8	236.0	238.2	240.5	242.7	244.4
47.5°	207.2	209.7	212.1	214.6	217.0	219.5	222.0	224.5	227.0	229.6	231.5
50°	197.0	199.5	202.0	204.5	207.0	209.6	212.3	215.2	217.9	220.7	222.7
52.5°	186.1	188.7	191.3	194.0	196.7	199.5	202.5	205.6	208.6	211.6	213.8
55°	170.1	173.1	176.0	178.9	181.8	184.9	188.1	191.4	194.6	197.8	200.2
57.5°	154.5	157.6	160.7	163.8	166.8	170.1	173.6	177.1	180.6	184.2	186.6
60°	143.6	146.8	150.1	153.3	156.4	159.9	163.6	167.2	170.8	174.5	177.0
62.5°	133.4	136.6	139.9	143.2	146.5	150.1	153.9	157.8	161.7	165.6	168.0
65°	117.5	121.1	124.5	127.9	131.5	135.2	139.1	143.0	146.9	150.8	153.5
67.5°	101.5	105.2	108.9	112.5	116.2	120.1	124.1	128.1	132.1	136.1	139.0
70°	90.2	94.1	97.9	101.8	105.6	109.7	113.9	118.2	122.5	126.7	129.7
72.5°	80.0	83.9	87.6	91.5	95.3	99.4	103.8	108.3	112.7	117.2	120.1
75°	63.8	68.0	72.2	76.4	80.6	84.9	89.4	93.8	98.2	102.7	105.6
77.5°	49.7	53.9	58.1	62.3	66.6	70.9	75.4	79.9	84.4	88.9	92.0
80°	39.7	44.1	48.5	52.9	57.2	61.7	66.3	70.9	75.6	80.2	83.3
82.5°	31.1	35.5	40.0	44.3	48.8	53.4	58.1	62.8	67.5	72.2	75.3
85°	19.6	24.1	28.6	33.1	37.5	42.1	46.8	51.5	56.2	61.0	64.0
87.5°	10.8	15.7	20.5	25.3	30.1	35.0	40.1	45.1	50.2	55.3	58.5
90°	6.1	12.3	18.6	24.9	31.2	37.9	44.9	51.9	58.9	66.0	69.7
92.5°	25.7	30.9	36.2	41.4	46.7	52.2	58.1	64.0	69.9	75.8	79.3
95°	55.1	59.9	64.7	69.6	74.4	79.7	85.7	91.5	97.4	103.3	106.9
97.5°	94.0	98.2	102.3	106.4	110.6	115.2	120.5	125.8	131.0	136.4	139.9
100°	120.5	124.5	128.5	132.5	136.5	141.0	146.1	151.1	156.2	161.3	164.4
102.5°	151.1	154.4	157.6	160.9	164.1	168.4	173.7	179.0	184.3	189.6	192.7
105°	196.6	199.1	201.6	204.1	206.6	210.7	216.3	221.8	227.4	232.9	235.4
107.5°	249.1	251.1	253.1	255.2	257.3	260.5	264.8	269.1	273.4	277.8	280.7
110°	281.7	283.7	285.7	287.7	289.6	292.7	296.6	300.6	304.4	308.4	311.5



TEST NUMBER: P331896-935

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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	316.1	317.6	319.2	320.7	322.3	324.9	328.3	331.8	335.4	338.8	342.0
115°	367.3	368.9	370.6	372.2	373.8	376.1	378.9	381.8	384.5	387.4	389.7
117.5°	419.1	420.2	421.2	422.2	423.3	425.1	427.6	430.1	432.6	435.1	437.2
120°	451.1	452.7	454.3	455.9	457.4	459.3	461.2	463.2	465.2	467.2	469.1
122.5°	484.8	485.9	486.9	488.0	489.0	490.8	493.1	495.3	497.7	500.0	501.4
125°	535.8	536.3	536.9	537.5	538.0	539.5	541.7	543.9	546.0	548.3	549.4
127.5°	583.2	584.4	585.5	586.6	587.7	589.2	590.9	592.6	594.3	596.1	596.8
130°	614.8	616.3	617.8	619.1	620.6	621.9	623.1	624.4	625.6	626.8	627.7
132.5°	646.2	647.6	649.2	650.7	652.2	653.5	654.4	655.5	656.5	657.5	658.2
135°	694.4	695.4	696.5	697.6	698.6	699.6	700.3	701.1	701.9	702.7	703.5
137.5°	739.0	739.9	740.8	741.7	742.5	743.5	744.5	745.6	746.7	747.7	748.3
140°	769.6	770.6	771.5	772.5	773.4	774.1	774.6	775.1	775.5	775.9	777.1
142.5°	797.8	798.7	799.6	800.5	801.3	802.0	802.4	802.8	803.1	803.6	804.6
145°	841.8	842.1	842.4	842.7	843.0	843.4	844.0	844.6	845.2	845.7	846.2
147.5°	879.9	880.6	881.3	882.0	882.7	883.3	883.8	884.3	884.8	885.5	885.6
150°	906.7	907.1	907.5	907.8	908.3	908.6	909.0	909.4	909.8	910.2	910.2
152.5°	928.8	929.3	929.8	930.3	930.8	931.3	931.5	931.7	931.9	932.2	932.5
155°	963.5	963.5	963.5	963.5	963.5	963.5	963.7	963.9	964.1	964.3	965.1
157.5°	993.0	992.8	992.6	992.3	992.1	992.0	992.2	992.4	992.6	992.6	993.5
160°	1011.6	1011.2	1010.8	1010.5	1010.0	1009.9	1009.9	1009.9	1009.9	1009.9	1010.8
162.5°	1028.1	1027.5	1027.0	1026.5	1026.0	1025.8	1025.9	1026.1	1026.2	1026.4	1027.3
165°	1049.4	1048.8	1048.3	1047.7	1047.1	1046.8	1046.8	1046.8	1046.8	1046.8	1047.9
167.5°	1066.4	1065.7	1064.9	1064.1	1063.3	1063.1	1063.2	1063.3	1063.5	1063.7	1064.9
170°	1076.1	1075.3	1074.5	1073.8	1073.0	1072.6	1072.6	1072.6	1072.6	1072.6	1073.9
172.5°	1083.6	1082.9	1082.1	1081.3	1080.6	1080.1	1080.1	1080.1	1080.1	1080.1	1081.3
175°	1091.5	1090.7	1089.9	1089.3	1088.5	1088.0	1088.0	1088.0	1088.0	1088.0	1089.3
177.5°	1094.8	1094.2	1093.6	1093.0	1092.4	1092.0	1092.0	1092.0	1092.0	1092.0	1093.0
180°	1094.1	1094.1	1094.1	1094.1	1094.1	1094.1	1094.1	1094.1	1094.1	1094.1	1094.1



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	368.2	368.2	368.2	368.2	368.2	368.2	368.2	368.2
2.5°	367.5	368.1	368.7	368.9	368.9	368.8	368.7	368.6
5°	366.9	367.6	368.3	368.7	368.6	368.4	368.3	368.2
7.5°	364.7	365.6	366.4	366.9	366.8	366.6	366.5	366.4
10°	362.5	363.3	364.2	364.5	364.4	364.2	364.0	363.9
12.5°	359.4	360.2	361.0	361.4	361.2	361.0	360.8	360.7
15°	353.6	354.5	355.4	355.8	355.7	355.6	355.5	355.4
17.5°	346.0	346.9	347.7	348.0	347.8	347.8	347.7	347.5
20°	340.6	341.4	342.2	342.7	342.8	342.9	342.9	343.0
22.5°	334.6	335.6	336.7	337.2	337.1	337.0	337.0	336.9
25°	324.4	325.6	326.7	327.4	327.4	327.4	327.4	327.4
27.5°	313.8	314.9	315.9	316.4	316.5	316.6	316.6	316.7
30°	306.6	307.7	308.8	309.3	309.3	309.3	309.3	309.3
32.5°	298.8	299.9	301.0	301.7	302.0	302.1	302.4	302.6
35°	287.1	288.4	289.8	290.7	291.0	291.4	291.7	292.1
37.5°	275.0	276.6	278.1	279.0	279.2	279.6	279.8	280.1
40°	267.0	268.5	270.0	271.0	271.3	271.7	272.1	272.4
42.5°	258.6	260.3	261.9	263.0	263.6	264.0	264.5	265.0
45°	246.1	247.8	249.5	250.7	251.4	252.1	252.9	253.6
47.5°	233.4	235.4	237.3	238.5	239.0	239.6	240.1	240.7
50°	224.7	226.8	228.9	230.2	230.8	231.4	232.0	232.7
52.5°	215.9	218.0	220.2	221.6	222.4	223.2	223.9	224.6
55°	202.6	205.0	207.4	209.0	209.7	210.4	211.1	211.8
57.5°	189.0	191.4	193.8	195.4	196.3	197.2	198.0	198.8
60°	179.5	182.0	184.5	186.2	187.2	188.2	189.2	190.2
62.5°	170.5	173.0	175.5	177.2	178.1	179.0	179.9	180.9
65°	156.2	158.9	161.5	163.3	164.2	165.1	166.0	166.9
67.5°	141.9	144.8	147.7	149.6	150.3	151.1	151.9	152.6
70°	132.5	135.3	138.2	140.1	140.9	141.8	142.8	143.6
72.5°	123.0	125.9	128.8	130.8	131.6	132.5	133.5	134.3
75°	108.6	111.5	114.5	116.5	117.5	118.6	119.7	120.8
77.5°	95.1	98.2	101.3	103.2	104.1	105.0	105.7	106.6
80°	86.3	89.4	92.4	94.3	95.2	96.1	97.0	97.9
82.5°	78.3	81.3	84.4	86.3	87.2	88.1	88.9	89.9
85°	67.1	70.1	73.1	75.1	75.9	76.9	77.7	78.6
87.5°	61.6	64.7	67.9	70.1	71.0	72.0	72.9	74.0
90°	73.5	77.3	81.1	83.7	85.0	86.2	87.5	88.8
92.5°	82.9	86.4	90.1	92.1	92.7	93.3	93.9	94.5
95°	110.4	113.9	117.4	119.7	120.5	121.4	122.3	123.2
97.5°	143.4	147.0	150.5	152.7	153.5	154.3	155.2	155.9
100°	167.6	170.7	173.8	176.1	177.4	178.7	179.9	181.2
102.5°	195.7	198.8	201.9	203.9	204.7	205.5	206.3	207.2
105°	237.9	240.4	242.9	244.8	245.9	247.1	248.3	249.5
107.5°	283.7	286.7	289.7	291.5	292.1	292.7	293.2	293.7
110°	314.6	317.7	320.7	322.4	322.8	323.1	323.5	323.8





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	345.2	348.3	351.5	353.4	354.1	354.8	355.5	356.3
115°	392.0	394.4	396.7	398.1	398.6	399.2	399.7	400.2
117.5°	439.3	441.3	443.4	444.5	444.7	444.9	445.1	445.2
120°	471.0	472.8	474.7	475.7	476.0	476.2	476.4	476.6
122.5°	502.9	504.5	505.9	506.7	506.8	506.9	507.0	507.0
125°	550.5	551.6	552.7	553.2	553.0	552.9	552.8	552.7
127.5°	597.4	598.1	598.8	599.1	598.8	598.5	598.2	598.0
130°	628.6	629.6	630.5	630.6	629.7	629.0	628.2	627.3
132.5°	658.9	659.6	660.3	660.5	660.0	659.6	659.2	658.8
135°	704.4	705.2	706.0	706.5	706.5	706.6	706.7	706.8
137.5°	748.9	749.5	750.1	750.3	750.0	749.8	749.4	749.2
140°	778.3	779.4	780.6	780.7	779.8	778.9	778.0	777.1
142.5°	805.6	806.6	807.6	807.8	807.2	806.6	806.1	805.5
145°	846.7	847.3	847.8	847.8	847.5	847.1	846.6	846.2
147.5°	885.9	886.1	886.2	886.0	885.1	884.3	883.5	882.7
150°	910.2	910.2	910.2	909.6	908.7	907.8	906.8	905.8
152.5°	932.8	933.1	933.4	933.1	932.1	931.2	930.2	929.2
155°	965.9	966.6	967.3	967.1	965.8	964.4	963.0	961.7
157.5°	994.3	995.1	995.9	995.7	994.7	993.6	992.6	991.4
160°	1011.8	1012.7	1013.7	1013.7	1013.1	1012.3	1011.5	1010.7
162.5°	1028.3	1029.2	1030.2	1030.0	1028.8	1027.6	1026.4	1025.2
165°	1049.1	1050.2	1051.4	1051.3	1050.0	1048.6	1047.3	1045.9
167.5°	1066.0	1067.2	1068.4	1068.4	1067.2	1066.0	1064.9	1063.7
170°	1075.3	1076.6	1078.0	1078.0	1076.6	1075.3	1073.9	1072.6
172.5°	1082.5	1083.7	1084.9	1084.9	1083.5	1082.2	1080.8	1079.4
175°	1090.4	1091.5	1092.7	1092.5	1091.2	1089.9	1088.6	1087.2
177.5°	1093.9	1094.8	1095.7	1095.6	1094.6	1093.5	1092.4	1091.3
180°	1094.1	1094.1	1094.1	1094.1	1094.1	1094.1	1094.1	1094.1

(END OF REPORT)