

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: P331624-935

Luminaire Tested: **SA2XXRDIP-C290D530U935-4F0-1E-UDD-F**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P331624-935  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-2,  
Test Lab: INNOVATION CENTER  
Issue Date: 10/7/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: SA2XXRDIP-C290D530U935-4F0-1E-UDD-F  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 290 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 530 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2710.2 lumens  
Efficiency: N/A  
Efficacy: 105.9 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16  
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')  
CIE Type: Semi-Indirect

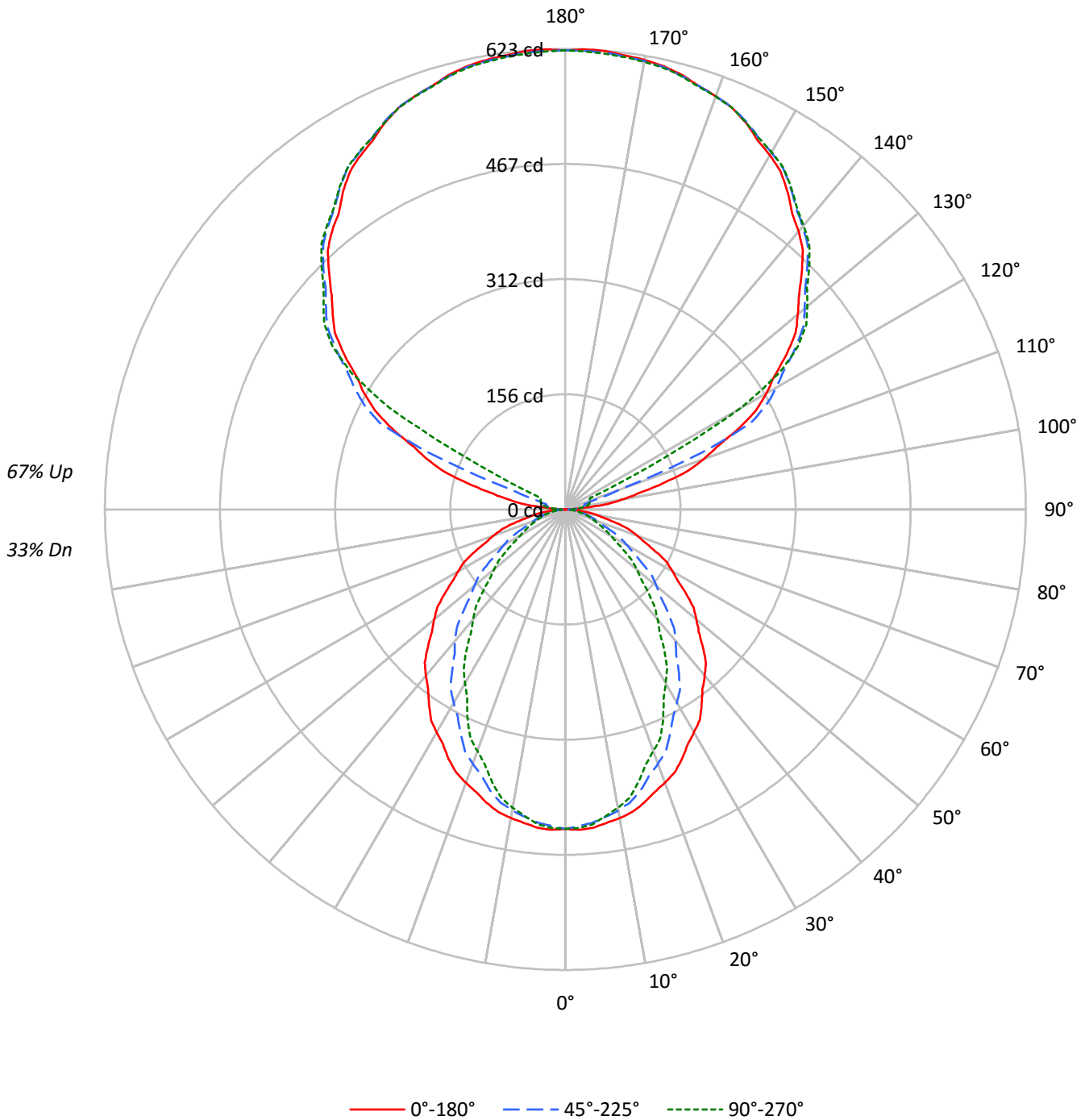
Input Watts (W): 25.6  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	93	93	93	93	74	74	74	56	56	56	40	40	40	33				
1	94	90	86	83	85	81	78	76	65	63	61	50	49	47	36	35	35	28				
2	86	79	73	68	77	71	67	62	57	54	51	44	42	40	32	31	30	24				
3	79	70	63	57	71	63	57	52	51	47	43	39	37	34	29	27	26	21				
4	72	62	54	49	65	56	50	45	45	41	37	35	32	30	26	24	22	18				
5	66	55	47	42	59	50	43	38	41	36	32	32	28	26	23	21	20	16				
6	61	49	42	36	55	45	38	33	37	32	28	29	25	23	21	19	17	14				
7	56	45	37	32	51	41	34	29	33	28	25	26	23	20	20	17	16	13				
8	52	40	33	28	47	37	30	26	30	25	22	24	20	18	18	16	14	11				
9	49	37	30	25	44	34	27	23	28	23	20	22	19	16	17	14	13	10				
10	45	34	27	22	41	31	25	21	26	21	18	20	17	15	16	13	12	10				

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

	0°	45°	90°
0°	6978	6978	6978
5°	7005	6891	6929
10°	6951	6779	6720
15°	6870	6578	6387
20°	6761	6290	5976
25°	6649	5964	5574
30°	6490	5630	5062
35°	6337	5267	4610
40°	6182	4890	4089
45°	6003	4464	3617
50°	5815	4037	3152
55°	5624	3578	2711
60°	5406	3094	2251
65°	5154	2598	2048
70°	4858	2143	1884
75°	4492	1953	1759
80°	3961	1748	1599
85°	3112	1371	1371



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	40.5	1.5
10°-20°	111.1	4.1
20°-30°	156.0	5.8
30°-40°	170.1	6.3
40°-50°	156.4	5.8
50°-60°	122.8	4.5
60°-70°	80.1	3.0
70°-80°	41.3	1.5
80°-90°	12.2	0.5
90°-100°	20.7	0.8
100°-110°	76.0	2.8
110°-120°	203.0	7.5
120°-130°	335.2	12.4
130°-140°	356.5	13.2
140°-150°	331.3	12.2
150°-160°	266.4	9.8
160°-170°	171.7	6.3
170°-180°	59.1	2.2
0°-30°	307.5	11.3
0°-40°	477.6	17.6
0°-60°	756.8	27.9
0°-90°	890.4	32.9
90°-120°	299.7	11.1
90°-150°	1322.7	48.8
90°-180°	1820.0	67.2
0°-180°	2710.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	432	432	432	432	432	
5°	432	430	425	428	428	41
15°	411	406	394	386	382	116
25°	373	360	335	319	313	172
35°	322	301	267	243	234	201
45°	263	236	196	169	158	203
55°	200	169	127	104	96	179
65°	135	103	68	55	54	134
75°	72	45	31	29	28	76
85°	17	9	7	7	7	20
90°	0	5	9	11	12	2
95°	29	15	18	20	19	36
105°	137	143	27	32	34	146
115°	258	266	277	79	37	254
125°	365	371	380	383	384	326
135°	452	459	463	468	467	349
145°	524	524	532	534	532	328
155°	577	574	579	581	578	266
165°	608	606	607	610	607	172
175°	622	619	620	623	619	59
180°	621	621	621	621	621	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	432.2	432.2	432.2	432.2	432.2	432.2	432.2	432.2	432.2	432.2	432.2
2.5°	433.8	433.4	433.1	432.7	432.4	431.8	431.0	430.3	429.6	428.8	429.5
5°	432.2	431.8	431.4	430.9	430.5	429.6	428.5	427.4	426.3	425.2	425.9
7.5°	427.7	427.2	426.6	426.1	425.6	424.6	423.4	422.0	420.7	419.4	419.6
10°	424.0	423.4	422.8	422.1	421.5	420.3	418.6	416.9	415.2	413.5	413.2
12.5°	419.3	418.5	417.8	417.1	416.3	414.8	412.6	410.4	408.1	405.9	405.4
15°	411.0	410.1	409.1	408.2	407.3	405.3	402.3	399.4	396.4	393.5	391.8
17.5°	401.0	399.5	398.0	396.6	395.1	392.5	388.7	385.0	381.2	377.4	375.4
20°	393.5	391.8	390.0	388.2	386.5	383.5	379.1	374.8	370.5	366.1	363.9
22.5°	385.4	383.4	381.4	379.5	377.5	374.1	369.2	364.3	359.5	354.6	351.7
25°	373.2	370.3	367.6	364.8	362.1	357.7	352.0	346.3	340.5	334.8	331.2
27.5°	358.4	355.4	352.4	349.4	346.3	341.6	335.1	328.6	322.2	315.7	311.6
30°	348.1	344.8	341.5	338.2	334.9	329.8	322.8	315.9	308.9	302.0	297.6
32.5°	338.1	334.2	330.4	326.5	322.6	317.2	310.1	303.0	295.9	288.8	283.8
35°	321.5	317.1	312.6	308.2	303.8	297.7	290.1	282.4	274.8	267.2	261.7
37.5°	305.0	300.1	295.2	290.3	285.4	279.0	270.8	262.6	254.5	246.3	240.3
40°	293.3	288.2	282.9	277.7	272.5	265.7	257.3	248.8	240.4	232.0	225.8
42.5°	281.5	276.0	270.4	265.0	259.5	252.4	243.7	235.0	226.3	217.6	211.2
45°	262.9	257.0	251.2	245.4	239.5	232.0	222.9	213.8	204.7	195.5	189.4
47.5°	244.7	238.5	232.4	226.2	220.0	212.2	202.8	193.4	183.9	174.5	168.4
50°	231.5	225.4	219.2	213.0	206.9	199.0	189.4	179.9	170.3	160.7	154.7
52.5°	218.7	212.2	205.9	199.4	193.0	185.0	175.6	166.3	157.0	147.6	141.8
55°	199.8	193.1	186.3	179.5	172.7	164.7	155.2	145.9	136.5	127.1	121.9
57.5°	180.6	173.6	166.6	159.7	152.7	144.7	135.7	126.7	117.7	108.7	103.8
60°	167.4	160.5	153.5	146.5	139.6	131.6	122.7	113.7	104.8	95.8	91.4
62.5°	154.5	147.7	140.7	133.7	126.7	119.0	110.5	101.9	93.4	84.9	80.7
65°	134.9	127.9	120.9	113.8	106.8	99.4	91.5	83.7	75.9	68.0	65.1
67.5°	116.0	109.0	102.0	95.1	88.1	81.0	74.0	67.0	59.9	52.9	51.5
70°	102.9	96.1	89.3	82.6	75.8	69.4	63.4	57.3	51.4	45.4	44.5
72.5°	90.3	83.9	77.3	70.9	64.3	58.7	53.9	49.1	44.3	39.4	38.7
75°	72.0	65.9	59.8	53.7	47.6	43.1	40.1	37.2	34.3	31.3	30.7
77.5°	53.9	48.6	43.2	37.9	32.5	29.2	27.7	26.3	24.9	23.5	23.2
80°	42.6	38.2	33.8	29.4	24.9	22.2	21.4	20.5	19.6	18.8	18.4
82.5°	32.3	28.8	25.4	22.0	18.5	16.4	15.8	15.2	14.6	14.1	13.9
85°	16.8	15.0	13.2	11.4	9.6	8.4	8.2	7.9	7.7	7.4	7.4
87.5°	5.1	4.7	4.4	4.0	3.8	3.7	3.8	4.0	4.1	4.3	4.3
90°	0.4	1.5	2.7	3.7	4.8	5.8	6.6	7.4	8.2	9.0	9.5
92.5°	9.0	9.0	8.9	8.8	8.7	8.9	9.2	9.6	10.0	10.4	10.7
95°	29.2	25.9	22.6	19.3	16.0	14.7	15.4	16.1	16.8	17.6	18.0
97.5°	57.9	48.6	39.4	30.1	20.8	17.0	18.6	20.2	21.9	23.4	23.8
100°	79.6	65.9	52.2	38.5	24.8	18.9	20.5	22.2	23.9	25.6	26.4
102.5°	103.2	100.4	97.5	94.5	91.7	83.1	69.0	54.8	40.6	26.3	27.4
105°	136.6	139.6	142.6	145.6	148.6	136.5	109.2	82.0	54.7	27.4	28.5
107.5°	174.6	177.0	179.4	181.8	184.3	169.1	136.5	103.8	71.0	38.4	37.3
110°	199.1	201.1	203.3	205.3	207.4	194.1	165.2	136.4	107.5	78.6	68.6



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	222.1	223.9	225.8	227.6	229.5	226.9	219.7	212.6	205.4	198.4	161.9
115°	258.4	260.0	261.7	263.5	265.2	267.3	269.8	272.2	274.7	277.2	231.0
117.5°	290.8	292.7	294.6	296.5	298.4	300.2	302.0	303.7	305.4	307.0	295.9
120°	314.5	316.0	317.5	319.0	320.6	322.2	324.0	325.8	327.5	329.3	330.5
122.5°	334.7	336.2	337.9	339.4	341.0	342.8	344.7	346.6	348.6	350.6	351.3
125°	365.3	366.6	367.9	369.2	370.5	372.1	374.0	375.9	377.8	379.7	380.4
127.5°	393.0	394.5	396.0	397.4	398.8	400.3	401.7	403.1	404.5	406.0	406.9
130°	410.7	412.2	413.9	415.5	417.1	418.4	419.6	420.6	421.7	422.8	424.0
132.5°	428.7	430.0	431.4	432.7	434.1	435.3	436.4	437.6	438.6	439.7	440.7
135°	452.0	453.7	455.2	456.8	458.4	459.7	460.5	461.5	462.4	463.2	464.3
137.5°	475.7	476.7	477.9	479.0	480.1	481.2	482.2	483.3	484.2	485.3	486.3
140°	491.1	491.9	492.8	493.5	494.3	495.2	496.4	497.5	498.5	499.6	500.6
142.5°	504.0	504.8	505.5	506.2	507.0	507.9	509.2	510.4	511.7	513.0	513.8
145°	524.3	524.3	524.2	524.1	524.0	524.8	526.5	528.1	529.9	531.6	532.3
147.5°	542.1	541.7	541.3	541.0	540.5	541.2	542.9	544.6	546.2	547.9	548.5
150°	553.5	552.8	552.2	551.5	550.8	551.2	552.8	554.4	556.0	557.6	558.2
152.5°	563.3	562.5	561.7	560.9	560.2	560.5	562.1	563.6	565.1	566.6	567.2
155°	577.4	576.5	575.6	574.7	573.8	573.9	575.1	576.4	577.6	578.8	579.4
157.5°	588.4	587.7	586.9	586.2	585.4	585.5	586.3	587.1	588.0	588.8	589.4
160°	595.0	594.3	593.7	593.1	592.5	592.5	593.1	593.7	594.3	595.0	595.6
162.5°	600.6	600.0	599.4	598.8	598.3	598.2	598.7	599.3	599.8	600.3	601.0
165°	608.4	607.8	607.2	606.6	606.0	605.9	606.1	606.4	606.7	607.0	607.8
167.5°	614.2	613.5	612.9	612.3	611.7	611.6	611.8	612.2	612.4	612.7	613.4
170°	617.3	616.8	616.2	615.6	615.0	614.8	615.0	615.2	615.4	615.6	616.3
172.5°	619.6	619.0	618.4	617.8	617.2	616.9	617.2	617.3	617.5	617.8	618.5
175°	622.3	621.6	621.0	620.3	619.5	619.3	619.5	619.7	619.8	620.1	620.8
177.5°	622.8	622.2	621.6	621.1	620.5	620.3	620.4	620.4	620.5	620.6	621.2
180°	621.0	621.0	621.0	621.0	621.0	621.0	621.0	621.0	621.0	621.0	621.0



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	432.2	432.2	432.2	432.2	432.2	432.2	432.2	432.2
2.5°	430.2	430.8	431.5	431.8	431.7	431.5	431.4	431.3
5°	426.7	427.5	428.3	428.5	428.3	428.0	427.7	427.5
7.5°	419.8	420.1	420.3	420.2	419.7	419.2	418.8	418.4
10°	412.9	412.7	412.4	412.0	411.5	411.0	410.4	409.9
12.5°	405.0	404.5	404.1	403.4	402.5	401.7	400.8	399.9
15°	390.2	388.5	386.8	385.6	384.8	383.8	383.0	382.1
17.5°	373.4	371.4	369.5	367.8	366.3	364.8	363.3	361.8
20°	361.8	359.6	357.4	355.3	353.4	351.5	349.7	347.8
22.5°	349.0	346.1	343.4	341.2	339.8	338.4	336.9	335.5
25°	327.7	324.1	320.6	318.1	316.8	315.5	314.2	312.9
27.5°	307.4	303.2	299.1	296.0	293.9	291.9	289.8	287.7
30°	293.1	288.7	284.2	280.9	278.4	276.1	273.8	271.5
32.5°	278.7	273.6	268.5	264.9	262.8	260.5	258.3	256.1
35°	256.2	250.7	245.2	241.5	239.6	237.7	235.8	233.9
37.5°	234.3	228.3	222.2	218.1	215.9	213.7	211.5	209.3
40°	219.6	213.4	207.2	203.0	200.8	198.5	196.2	194.0
42.5°	204.7	198.4	192.0	187.8	185.5	183.4	181.2	179.0
45°	183.2	177.0	170.9	166.8	164.7	162.6	160.5	158.4
47.5°	162.2	156.1	150.0	145.9	144.0	142.2	140.3	138.4
50°	148.8	142.8	136.7	132.9	131.0	129.2	127.3	125.5
52.5°	136.0	130.3	124.5	120.7	119.1	117.4	115.6	114.0
55°	116.7	111.5	106.2	102.8	101.2	99.5	97.9	96.3
57.5°	99.1	94.3	89.5	86.4	85.1	83.7	82.3	80.8
60°	87.0	82.6	78.1	75.2	73.8	72.4	71.0	69.7
62.5°	76.5	72.2	68.0	65.4	64.6	63.8	62.9	62.1
65°	62.2	59.2	56.2	54.6	54.3	54.1	53.8	53.6
67.5°	50.2	48.8	47.4	46.7	46.3	46.1	45.8	45.5
70°	43.7	42.8	41.9	41.3	40.9	40.6	40.2	39.9
72.5°	38.0	37.2	36.5	36.1	35.8	35.6	35.4	35.2
75°	30.0	29.4	28.8	28.5	28.4	28.3	28.2	28.2
77.5°	22.7	22.4	22.0	21.9	21.7	21.5	21.4	21.3
80°	18.1	17.7	17.4	17.2	17.2	17.2	17.2	17.2
82.5°	13.7	13.4	13.3	13.2	13.2	13.2	13.2	13.2
85°	7.4	7.4	7.4	7.4	7.4	7.4	7.4	7.4
87.5°	4.4	4.4	4.4	4.5	4.5	4.6	4.6	4.6
90°	10.0	10.5	11.0	11.4	11.5	11.7	12.0	12.1
92.5°	10.9	11.2	11.5	11.6	11.8	11.9	12.1	12.1
95°	18.5	19.0	19.5	19.7	19.6	19.5	19.5	19.3
97.5°	24.3	24.6	25.1	25.3	25.4	25.6	25.7	25.8
100°	27.2	28.0	28.8	29.3	29.5	29.7	29.9	30.1
102.5°	28.4	29.4	30.5	31.2	31.4	31.7	31.9	32.3
105°	29.6	30.7	31.8	32.5	33.0	33.3	33.8	34.2
107.5°	36.2	35.0	33.9	33.6	33.9	34.4	34.7	35.1
110°	58.6	48.6	38.7	33.9	34.3	34.7	35.1	35.5





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	125.4	89.0	52.6	34.6	34.9	35.2	35.6	35.8
115°	184.8	138.5	92.3	65.6	58.4	51.2	44.0	36.9
117.5°	284.7	273.5	262.3	245.0	221.3	197.7	174.1	150.4
120°	331.7	332.9	334.2	328.0	314.5	301.1	287.6	274.1
122.5°	352.0	352.8	353.4	352.5	349.9	347.2	344.7	342.0
125°	381.1	381.8	382.5	383.0	383.3	383.6	383.9	384.2
127.5°	407.9	409.0	410.0	410.5	410.6	410.7	410.7	410.8
130°	425.0	426.1	427.2	427.7	427.6	427.5	427.4	427.3
132.5°	441.6	442.6	443.5	443.8	443.8	443.7	443.6	443.5
135°	465.3	466.2	467.3	467.7	467.4	467.3	467.1	466.8
137.5°	487.2	488.2	489.2	489.5	489.1	488.8	488.5	488.2
140°	501.4	502.3	503.3	503.4	502.9	502.5	502.0	501.4
142.5°	514.6	515.4	516.3	516.4	515.9	515.4	514.9	514.4
145°	533.0	533.6	534.3	534.4	534.0	533.5	533.0	532.4
147.5°	549.0	549.5	550.0	550.0	549.7	549.2	548.8	548.4
150°	558.8	559.4	560.0	560.1	559.6	559.0	558.5	558.1
152.5°	567.8	568.4	569.0	568.9	568.3	567.7	567.0	566.4
155°	580.0	580.6	581.2	581.0	580.2	579.5	578.7	577.8
157.5°	590.1	590.8	591.5	591.5	590.6	589.9	589.1	588.3
160°	596.1	596.7	597.3	597.3	596.6	595.9	595.1	594.4
162.5°	601.7	602.4	603.0	603.0	602.1	601.2	600.4	599.5
165°	608.5	609.2	609.8	609.8	609.2	608.5	607.8	607.0
167.5°	614.1	614.8	615.5	615.4	614.5	613.6	612.7	611.8
170°	617.0	617.7	618.4	618.3	617.3	616.5	615.6	614.7
172.5°	619.1	619.8	620.5	620.4	619.6	618.6	617.8	616.8
175°	621.5	622.2	622.8	622.8	621.7	620.7	619.7	618.7
177.5°	621.7	622.3	622.8	622.8	622.1	621.3	620.6	619.9
180°	621.0	621.0	621.0	621.0	621.0	621.0	621.0	621.0

(END OF REPORT)