

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: P331255-935

Luminaire Tested: **SA2XXDIP-C290D530U935-4F0-1E-UDD-F**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P331255-935  
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: SA2XXDIP-C290D530U935-4F0-1E-UDD-F  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 290 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 530 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

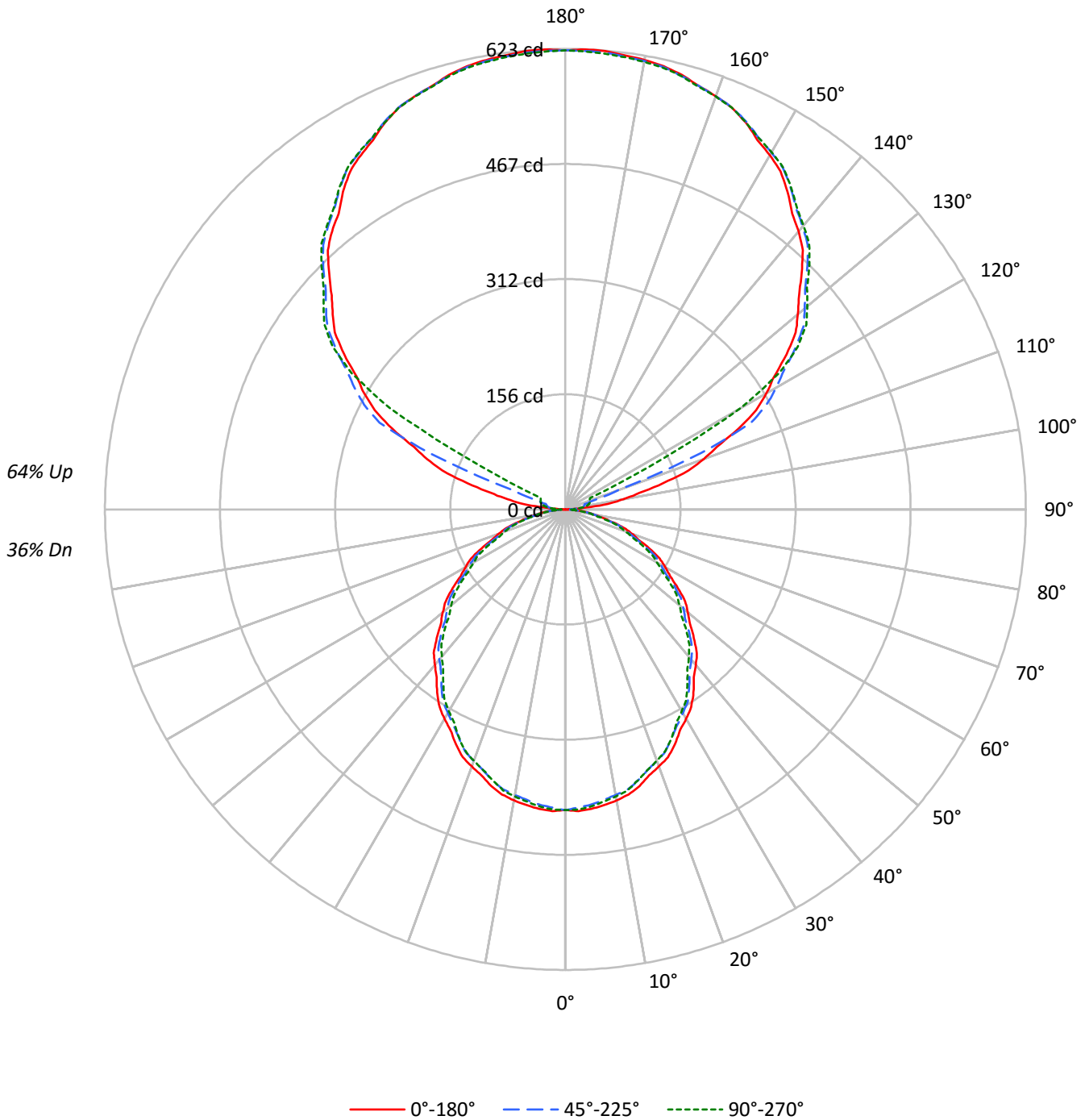
Lumens per Lamp: N/A  
Luminaire Lumens: 2856.2 lumens  
Efficiency: N/A  
Efficacy: 111.6 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.3  
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')  
CIE Type: Semi-Indirect

Input Watts (W): 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	0
RCR																		
0	104	104	104	104	94	94	94	94	76	76	76	59	59	59	44	44	44	36
1	95	90	87	83	86	82	79	76	66	64	62	52	50	49	38	38	37	31
2	86	79	73	68	78	72	67	62	58	54	51	45	43	41	34	32	31	26
3	79	69	62	57	71	63	57	52	51	47	43	40	37	35	30	28	26	22
4	72	61	54	48	65	56	49	44	45	41	37	36	32	30	27	25	23	19
5	66	55	47	41	59	50	43	38	41	35	32	32	28	26	24	22	20	16
6	61	49	41	35	55	45	38	33	36	31	27	29	25	22	22	19	17	14
7	56	44	36	31	51	40	33	29	33	28	24	26	23	20	20	17	15	13
8	52	40	32	27	47	36	30	25	30	25	21	24	20	18	18	16	14	11
9	48	36	29	24	44	33	27	22	27	22	19	22	18	16	17	14	12	10
10	45	33	26	21	41	30	24	20	25	20	17	20	17	14	16	13	11	9

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

	0°	45°	90°
0°	6567	6567	6567
5°	6592	6498	6536
10°	6555	6432	6465
15°	6472	6349	6342
20°	6357	6223	6216
25°	6242	6070	6070
30°	6096	5929	5876
35°	5960	5757	5673
40°	5788	5590	5482
45°	5617	5421	5286
50°	5433	5247	5061
55°	5239	5044	4856
60°	5028	4799	4624
65°	4795	4558	4348
70°	4504	4263	4060
75°	4099	3924	3830
80°	3636	3533	3347
85°	2964	2816	2538



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	38.3	1.3
10°-20°	107.6	3.8
20°-30°	158.2	5.5
30°-40°	183.8	6.4
40°-50°	183.6	6.4
50°-60°	160.1	5.6
60°-70°	118.4	4.1
70°-80°	67.0	2.3
80°-90°	19.6	0.7
90°-100°	20.7	0.7
100°-110°	76.0	2.7
110°-120°	203.0	7.1
120°-130°	335.2	11.7
130°-140°	356.5	12.5
140°-150°	331.3	11.6
150°-160°	266.4	9.3
160°-170°	171.7	6.0
170°-180°	59.1	2.1
0°-30°	304.1	10.6
0°-40°	487.8	17.1
0°-60°	831.5	29.1
0°-90°	1036.4	36.3
90°-120°	299.7	10.5
90°-150°	1322.7	46.3
90°-180°	1820.0	63.7
0°-180°	2856.2	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	407	407	407	407	407	
5°	407	405	401	404	403	39
15°	387	385	380	381	379	109
25°	350	347	341	341	341	161
35°	302	298	292	290	288	189
45°	246	243	237	233	232	190
55°	186	184	179	175	172	166
65°	126	123	119	116	114	124
75°	66	65	63	61	61	70
85°	16	16	15	14	14	18
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°	406.7	406.7	406.7	406.7	406.7	406.7	406.7	406.7	406.7	406.7	406.7
2.5°	408.6	408.3	407.9	407.6	407.3	406.7	406.0	405.2	404.4	403.6	404.3
5°	406.7	406.4	406.0	405.7	405.4	404.8	403.8	402.9	401.8	400.9	401.6
7.5°	403.2	402.6	402.1	401.6	401.1	400.3	399.3	398.3	397.4	396.4	397.1
10°	399.8	399.2	398.6	398.0	397.3	396.5	395.5	394.4	393.4	392.3	393.0
12.5°	395.0	394.5	394.0	393.4	392.9	392.1	391.1	390.0	389.0	388.0	388.4
15°	387.2	386.7	386.2	385.6	385.1	384.4	383.1	382.0	380.9	379.8	380.1
17.5°	377.2	376.7	376.2	375.7	375.1	374.3	373.2	372.0	370.8	369.7	370.1
20°	370.0	369.5	368.9	368.4	367.9	367.0	365.8	364.6	363.4	362.2	362.5
22.5°	362.8	362.1	361.4	360.6	359.9	359.0	357.8	356.6	355.5	354.4	354.4
25°	350.4	349.7	349.0	348.4	347.7	346.6	345.1	343.6	342.2	340.7	340.9
27.5°	336.4	335.8	335.1	334.5	333.9	332.9	331.8	330.6	329.5	328.3	328.0
30°	327.0	326.3	325.6	324.9	324.2	323.2	321.9	320.6	319.3	318.0	317.7
32.5°	316.9	316.4	315.9	315.3	314.8	313.7	312.4	311.1	309.7	308.3	307.8
35°	302.4	301.4	300.6	299.7	298.9	297.7	296.4	295.0	293.6	292.1	291.6
37.5°	285.9	285.1	284.3	283.5	282.8	281.7	280.3	279.0	277.5	276.1	275.5
40°	274.6	273.9	273.2	272.5	271.8	270.8	269.3	267.9	266.6	265.2	264.4
42.5°	263.6	262.9	262.3	261.6	260.9	259.8	258.4	257.0	255.6	254.3	253.4
45°	246.0	245.4	244.8	244.2	243.6	242.6	241.3	240.0	238.8	237.4	236.4
47.5°	228.5	227.9	227.4	226.8	226.2	225.2	223.9	222.6	221.2	219.8	218.8
50°	216.3	215.9	215.4	215.0	214.6	213.7	212.5	211.3	210.1	208.9	207.7
52.5°	204.4	203.8	203.3	202.7	202.1	201.2	200.1	199.0	197.8	196.7	195.6
55°	186.1	185.6	185.1	184.6	184.1	183.3	182.3	181.2	180.2	179.2	178.1
57.5°	167.9	167.5	167.0	166.6	166.2	165.4	164.3	163.2	162.0	160.8	159.8
60°	155.7	155.3	155.0	154.6	154.3	153.5	152.3	151.1	149.8	148.6	147.7
62.5°	143.8	143.2	142.7	142.2	141.5	140.8	139.8	139.0	138.0	137.1	136.1
65°	125.5	125.0	124.5	124.0	123.5	122.8	121.9	121.1	120.2	119.3	118.5
67.5°	107.0	106.6	106.2	105.7	105.4	104.8	103.9	103.1	102.4	101.6	101.0
70°	95.4	95.1	94.7	94.4	94.0	93.5	92.7	92.0	91.1	90.3	89.7
72.5°	83.5	83.2	82.8	82.5	82.1	81.7	81.2	80.8	80.2	79.7	79.1
75°	65.7	65.5	65.3	65.2	65.0	64.7	64.3	63.8	63.4	62.9	62.4
77.5°	49.8	49.4	49.2	48.9	48.6	48.3	48.1	48.0	47.8	47.6	47.4
80°	39.1	39.0	38.9	38.8	38.7	38.7	38.5	38.3	38.1	38.0	37.7
82.5°	29.1	29.1	29.1	29.0	29.0	28.9	28.8	28.8	28.7	28.6	28.2
85°	16.0	15.9	15.8	15.8	15.7	15.6	15.5	15.4	15.3	15.2	15.0
87.5°	5.7	5.8	5.9	5.9	6.0	6.1	6.1	6.1	6.2	6.2	6.0
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°	406.7	406.7	406.7	406.7	406.7	406.7	406.7	406.7
2.5°	405.0	405.7	406.4	406.7	406.6	406.4	406.3	406.1
5°	402.3	403.0	403.7	404.0	403.8	403.6	403.5	403.3
7.5°	397.8	398.5	399.2	399.4	399.2	399.0	398.8	398.6
10°	393.7	394.4	395.1	395.3	395.0	394.8	394.5	394.3
12.5°	388.9	389.3	389.9	390.0	389.9	389.6	389.4	389.3
15°	380.5	380.8	381.2	381.2	380.7	380.3	379.9	379.4
17.5°	370.5	370.9	371.3	371.3	370.8	370.5	370.1	369.6
20°	362.7	363.0	363.3	363.2	362.8	362.5	362.1	361.8
22.5°	354.5	354.6	354.6	354.5	354.3	354.0	353.9	353.7
25°	341.0	341.2	341.4	341.4	341.2	341.0	340.9	340.7
27.5°	327.8	327.5	327.3	326.9	326.5	326.1	325.7	325.3
30°	317.5	317.2	316.9	316.7	316.3	316.0	315.6	315.2
32.5°	307.4	306.9	306.4	306.0	305.7	305.3	305.0	304.6
35°	291.1	290.6	290.1	289.6	289.2	288.8	288.3	287.8
37.5°	274.8	274.2	273.5	273.0	272.6	272.2	271.8	271.4
40°	263.6	262.9	262.1	261.5	261.1	260.8	260.5	260.1
42.5°	252.5	251.7	250.8	250.1	249.7	249.2	248.7	248.2
45°	235.5	234.5	233.6	232.9	232.6	232.2	231.9	231.5
47.5°	217.8	216.8	215.8	215.0	214.6	214.0	213.5	213.0
50°	206.5	205.2	204.0	203.2	202.8	202.3	201.9	201.5
52.5°	194.7	193.6	192.6	191.8	191.2	190.7	190.1	189.5
55°	177.0	176.0	175.0	174.3	173.8	173.3	172.9	172.5
57.5°	158.8	157.7	156.7	156.0	155.8	155.4	155.1	154.7
60°	146.7	145.8	144.8	144.2	144.0	143.7	143.4	143.2
62.5°	135.3	134.4	133.5	132.9	132.6	132.2	131.9	131.6
65°	117.7	116.9	116.1	115.5	115.1	114.7	114.3	113.8
67.5°	100.4	99.8	99.2	98.7	98.3	98.0	97.6	97.3
70°	89.1	88.5	87.9	87.5	87.1	86.7	86.4	86.0
72.5°	78.5	77.9	77.3	76.8	76.5	76.3	76.0	75.7
75°	61.9	61.4	60.9	60.7	60.9	61.0	61.2	61.4
77.5°	47.1	46.8	46.6	46.3	46.1	45.9	45.6	45.4
80°	37.5	37.2	36.9	36.7	36.5	36.3	36.2	36.0
82.5°	27.9	27.6	27.2	27.0	27.0	26.9	26.9	26.9
85°	14.7	14.5	14.2	14.0	13.9	13.9	13.8	13.7
87.5°	5.9	5.9	5.8	5.7	5.7	5.6	5.6	5.6
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)