

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: P331254-935

Luminaire Tested: **SA2XXDIP-C290D530U935-4F0-1E-UDD-D4**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P331254-935  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-16,  
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-D4  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 290 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 530 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2808.7 lumens  
Efficiency: N/A  
Efficacy: 109.7 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

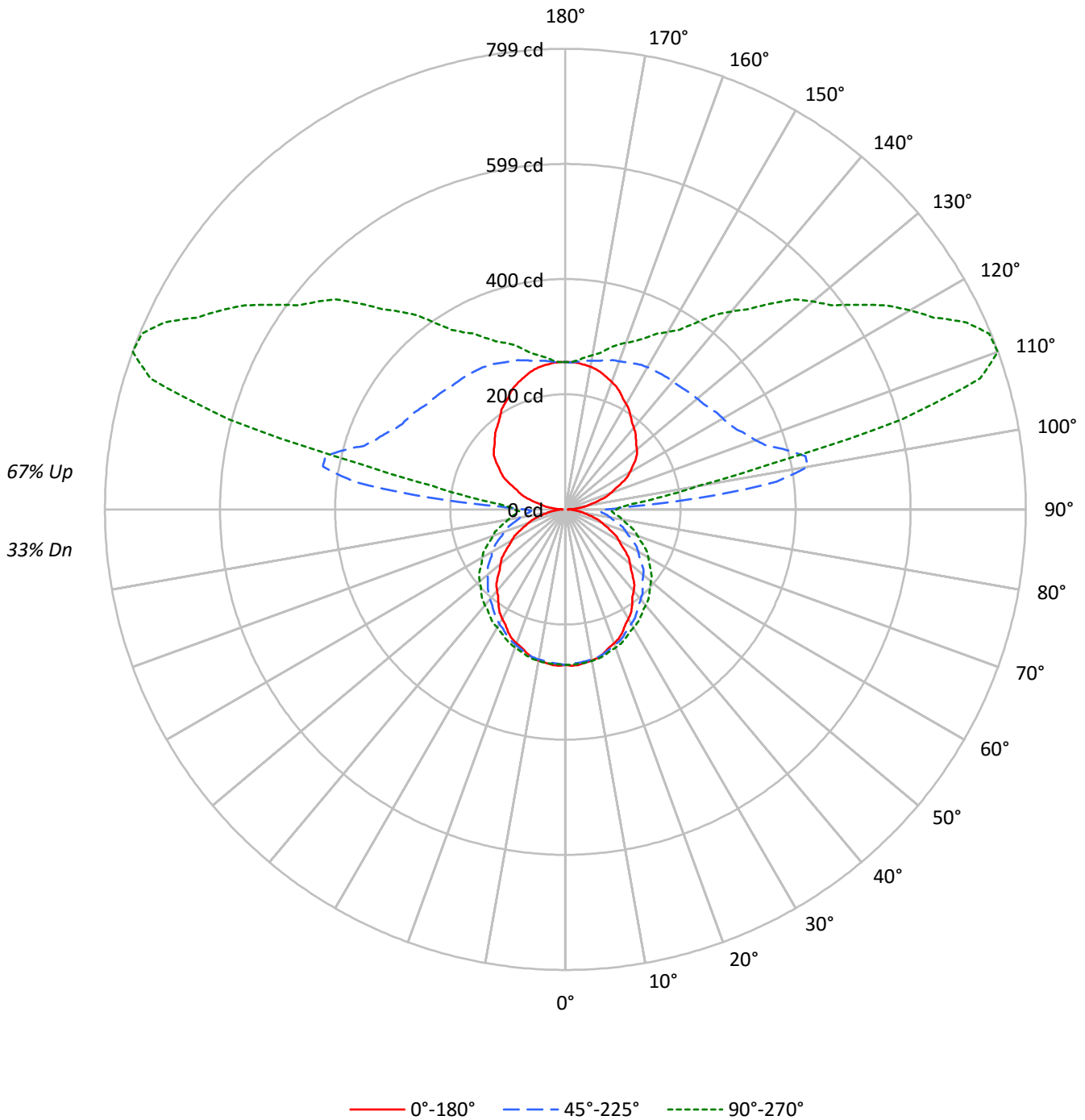
Input Watts (W): 25.6  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	103	103	103	103	93	93	93	93	74	74	74	56	56	56	40	40	40	33
1	93	88	84	80	83	79	76	73	63	61	58	48	46	45	34	33	32	25
2	84	76	70	65	75	69	63	59	55	51	47	41	39	37	29	28	26	21
3	76	67	59	53	68	60	54	49	48	43	39	36	33	30	26	24	22	17
4	70	59	51	45	62	53	46	41	42	37	33	32	29	26	23	20	18	14
5	64	52	44	38	57	47	40	35	38	32	28	29	25	22	20	18	16	12
6	59	47	38	33	52	42	35	30	34	28	24	26	22	19	18	16	14	11
7	54	42	34	28	48	38	31	26	30	25	21	23	20	17	17	14	12	9
8	50	38	30	25	45	34	28	23	28	22	19	21	17	15	15	13	11	8
9	47	34	27	22	42	31	25	20	25	20	17	19	16	13	14	12	10	7
10	43	31	24	20	39	29	22	18	23	18	15	18	14	12	13	11	9	7

**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	0.9
10°-20°	73.3	2.6
20°-30°	111.1	4.0
30°-40°	135.3	4.8
40°-50°	145.6	5.2
50°-60°	141.4	5.0
60°-70°	123.5	4.4
70°-80°	95.1	3.4
80°-90°	66.1	2.4
90°-100°	146.0	5.2
100°-110°	378.5	13.5
110°-120°	389.2	13.9
120°-130°	314.8	11.2
130°-140°	248.3	8.8
140°-150°	184.7	6.6
150°-160°	129.2	4.6
160°-170°	76.1	2.7
170°-180°	24.8	0.9
0°-30°	210.0	7.5
0°-40°	345.4	12.3
0°-60°	632.4	22.5
0°-90°	917.0	32.6
90°-120°	913.8	32.5
90°-150°	1661.6	59.2
90°-180°	1892.0	67.4
0°-180°	2808.7	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°	4	33	68	83	88	4
95°	20	64	238	132	120	21
105°	62	104	398	697	605	66
115°	107	140	328	663	768	106
125°	148	176	306	532	618	132
135°	173	207	294	440	505	134
145°	197	227	288	360	395	124
155°	224	242	279	316	328	103
165°	244	252	268	284	288	69
175°	255	255	257	260	260	24
180°	255	255	255	255	255	



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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°	7.7	13.3	18.8	24.2	29.5	35.2	41.3	47.5	53.7	59.3	62.8
90°	4.4	10.9	17.9	23.9	30.0	36.8	44.8	53.7	62.3	68.4	71.3
92.5°	9.6	17.0	25.1	32.0	40.0	49.7	66.1	87.1	106.4	112.6	106.2
95°	20.3	26.3	35.4	43.8	55.8	72.2	100.0	148.0	210.2	237.5	216.7
97.5°	30.7	37.0	45.9	56.1	68.8	86.5	119.9	184.4	284.0	370.2	389.5
100°	40.6	45.2	52.9	64.0	77.0	94.8	125.6	190.5	301.4	427.1	500.9
102.5°	49.2	53.3	60.6	71.5	84.6	102.2	131.0	188.9	291.9	426.8	541.1
105°	61.8	66.4	72.3	82.2	95.5	112.8	140.3	188.6	274.1	397.5	531.2
107.5°	75.9	79.5	84.9	93.7	106.4	123.4	150.2	192.5	263.8	366.4	484.7
110°	85.1	88.8	93.4	101.5	113.6	130.9	156.7	196.3	260.5	351.1	455.6



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	93.7	97.1	101.9	109.3	120.7	138.1	163.0	200.4	258.9	340.4	434.5
115°	107.1	110.6	114.4	121.3	132.1	147.7	172.8	206.6	258.2	327.9	408.1
117.5°	120.7	123.3	126.8	132.7	142.8	158.6	181.8	213.4	258.8	320.0	390.1
120°	129.3	131.6	134.9	139.7	149.9	165.6	188.1	218.2	259.4	315.5	380.2
122.5°	137.6	139.3	142.4	147.3	157.3	173.1	194.3	222.2	260.5	312.0	371.6
125°	148.1	149.6	152.5	158.4	168.2	183.4	203.8	228.7	261.9	305.9	358.9
127.5°	156.7	158.6	162.6	169.0	178.4	193.6	213.0	235.1	263.9	301.4	347.0
130°	161.9	163.7	168.5	175.3	185.0	199.7	218.7	239.2	265.5	298.8	339.1
132.5°	166.5	168.8	174.0	181.2	191.3	205.8	223.6	243.2	267.3	296.5	332.5
135°	173.2	175.2	181.1	188.5	199.8	214.0	230.5	248.6	269.1	293.5	323.3
137.5°	179.9	182.3	188.1	196.0	207.2	220.1	236.0	252.4	270.6	291.1	316.2
140°	185.0	186.9	192.7	200.4	211.2	224.0	238.9	254.3	271.1	289.5	312.0
142.5°	190.1	191.6	197.0	204.7	215.1	227.0	241.4	256.3	271.8	288.9	308.3
145°	197.4	199.3	204.2	211.6	221.4	232.2	245.5	259.2	273.0	287.7	303.9
147.5°	205.6	207.1	211.8	218.6	226.8	236.3	248.8	261.0	273.4	285.9	299.8
150°	211.1	212.6	216.5	222.9	230.3	239.1	250.4	261.7	273.0	284.8	296.6
152.5°	216.6	217.3	221.3	226.9	233.8	241.9	252.0	262.1	272.2	282.8	293.9
155°	224.4	224.9	227.8	233.2	238.7	246.0	254.3	262.7	271.0	279.4	288.7
157.5°	230.8	231.4	233.8	238.4	242.8	248.9	256.0	262.7	268.8	275.9	283.9
160°	235.2	235.7	237.6	241.6	245.5	250.9	256.8	262.7	267.6	273.5	280.3
162.5°	239.5	239.2	241.2	244.4	247.9	252.1	257.2	262.3	266.4	271.6	277.2
165°	244.5	244.0	245.0	248.0	250.4	253.4	257.8	261.2	264.2	267.6	272.0
167.5°	248.7	248.1	248.9	250.8	252.6	254.4	257.7	260.5	261.9	264.2	266.9
170°	251.4	250.4	250.9	252.4	253.4	254.9	257.3	259.8	260.7	262.2	264.2
172.5°	253.0	252.4	252.1	253.6	254.2	255.2	256.9	258.6	259.2	259.8	261.4
175°	254.9	254.3	253.8	254.9	254.9	255.3	256.3	257.3	256.8	257.3	257.8
177.5°	255.7	254.9	254.5	255.3	255.3	255.3	255.7	256.5	255.7	255.3	255.7
180°	255.3	255.3	255.3	255.3	255.3	255.3	255.3	255.3	255.3	255.3	255.3



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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°	66.2	69.6	73.4	75.8	76.9	78.0	79.1	80.2
90°	74.3	76.8	81.3	84.0	85.1	86.1	87.1	88.2
92.5°	98.4	95.7	95.1	94.2	94.9	94.4	95.7	96.0
95°	180.2	153.6	136.3	127.6	122.3	119.4	119.0	120.5
97.5°	348.3	296.9	246.9	213.6	191.1	180.1	174.0	170.9
100°	493.9	436.2	372.1	314.8	275.0	254.9	241.6	233.7
102.5°	588.6	577.9	531.9	471.0	427.7	392.5	375.7	364.7
105°	636.3	694.8	704.3	690.1	660.6	631.1	611.0	605.0
107.5°	595.9	682.4	736.4	762.2	766.9	766.2	762.9	754.8
110°	562.0	652.6	718.2	760.4	782.5	792.7	798.1	798.6





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	530.7	617.9	687.8	735.8	766.1	782.7	792.0	795.7
115°	491.7	569.9	636.9	689.2	725.0	748.6	762.3	767.7
117.5°	461.5	530.5	591.4	640.6	677.0	701.7	716.1	720.7
120°	446.0	509.4	563.8	610.2	645.5	669.6	684.8	690.6
122.5°	433.4	491.5	543.2	585.1	616.8	640.3	653.8	658.8
125°	414.7	467.7	513.2	551.6	580.8	600.3	613.4	618.1
127.5°	396.3	444.2	487.2	522.5	548.2	566.5	577.8	581.7
130°	384.4	428.8	469.7	503.4	528.2	545.6	556.1	560.8
132.5°	373.1	414.1	451.8	483.6	508.0	525.4	535.1	539.3
135°	357.1	391.3	425.5	454.3	476.1	493.0	502.6	505.1
137.5°	343.8	372.6	399.8	424.9	444.8	459.3	467.6	471.2
140°	335.5	360.4	384.4	407.0	423.2	436.5	444.4	447.9
142.5°	328.8	350.0	370.5	389.3	404.8	416.8	423.8	424.8
145°	319.7	336.5	352.1	366.9	379.1	387.9	393.2	395.1
147.5°	312.8	325.6	337.6	348.2	358.1	365.0	368.5	369.6
150°	308.3	319.2	329.5	338.3	345.7	351.5	354.5	355.0
152.5°	304.0	314.1	322.8	330.5	336.2	341.4	343.5	343.6
155°	298.1	305.9	313.2	318.7	324.1	327.5	329.5	328.5
157.5°	291.1	297.6	303.8	308.1	311.9	314.8	315.6	315.6
160°	286.7	292.1	297.6	301.0	304.4	306.9	307.4	307.4
162.5°	282.4	287.1	291.7	294.3	297.7	299.5	299.9	299.5
165°	276.0	279.4	282.8	284.8	286.7	288.7	288.7	288.3
167.5°	269.8	272.4	274.7	276.6	277.4	278.5	278.4	277.8
170°	266.7	268.1	270.1	271.0	271.6	273.0	272.5	271.6
172.5°	263.1	264.2	265.7	266.3	266.8	267.5	267.0	266.4
175°	259.2	259.8	260.3	260.7	260.7	261.2	260.7	259.8
177.5°	256.5	256.5	256.9	256.9	256.9	256.9	256.5	255.7
180°	255.3	255.3	255.3	255.3	255.3	255.3	255.3	255.3

(END OF REPORT)