

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: P331630-935

Luminaire Tested: **SA2XXRDIP-C290D725U935-4F0-1E-UDD-F**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331630-935
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-C290D725U935-4F0-1E-UDD-F
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 290 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 725 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

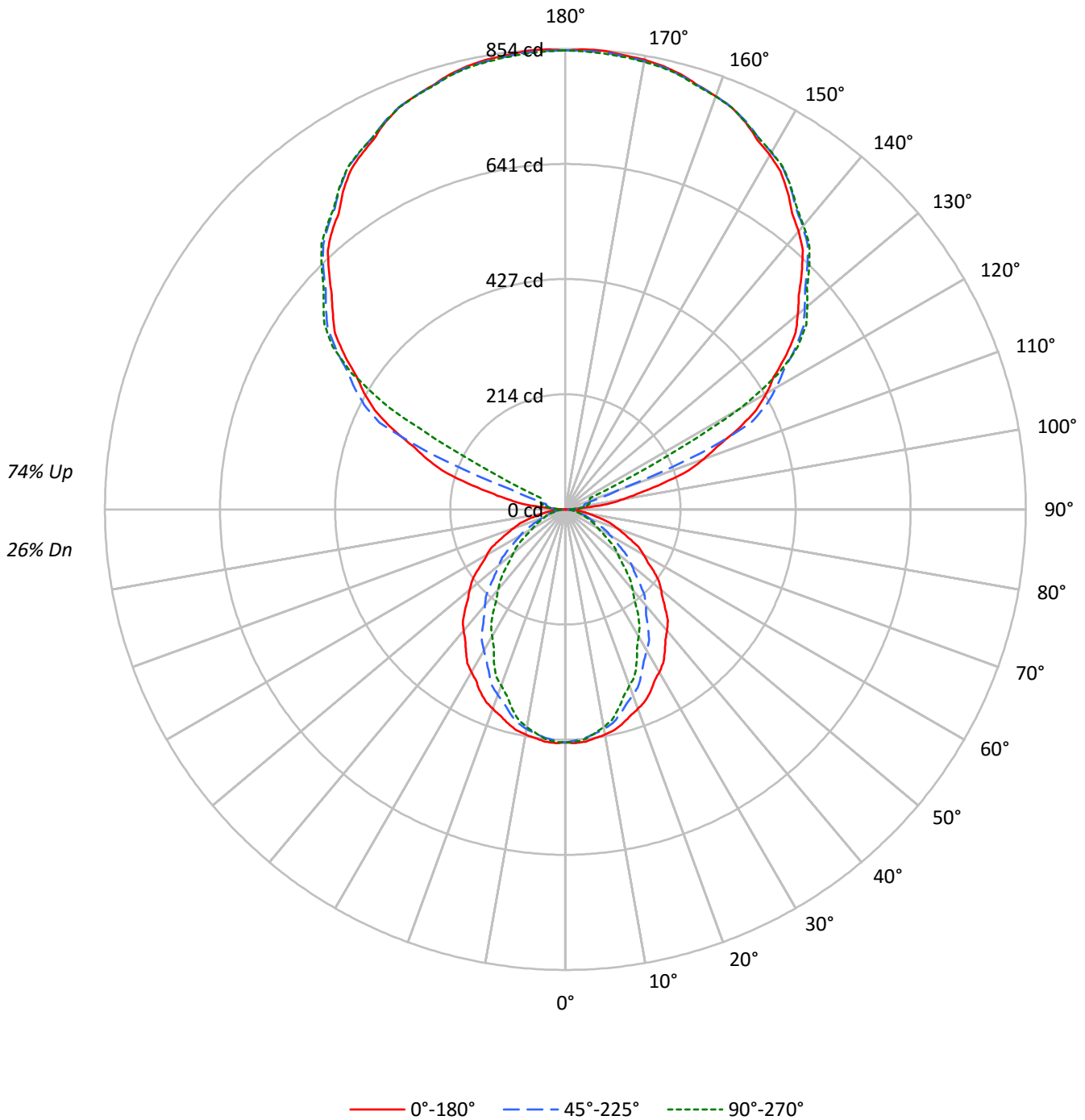
Lumens per Lamp: N/A
Luminaire Lumens: 3385.4 lumens
Efficiency: N/A
Efficacy: 108.5 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: Semi-Indirect

Input Watts (W): 31.2
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	102	102	102	102	91	91	91	91	70	70	70	52	52	52	34	34	34	26
1	93	89	85	82	83	79	76	73	62	60	58	46	44	43	31	30	29	23
2	85	78	72	67	75	70	65	61	54	51	48	40	38	36	27	26	25	19
3	77	68	62	56	69	61	56	51	48	44	41	36	33	31	24	23	22	17
4	71	61	53	47	63	54	48	43	43	38	35	32	29	27	22	20	19	15
5	65	54	46	41	58	49	42	37	38	34	30	29	26	23	20	18	17	13
6	60	48	41	35	53	44	37	32	34	30	26	26	23	20	18	16	15	11
7	55	44	36	31	49	39	33	28	31	26	23	24	20	18	17	15	13	10
8	51	39	32	27	46	36	29	25	28	24	20	22	18	16	15	13	12	9
9	48	36	29	24	42	33	26	22	26	21	18	20	17	14	14	12	11	8
10	44	33	26	21	40	30	24	20	24	19	16	18	15	13	13	11	10	8

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	1.2
10°-20°	111.1	3.3
20°-30°	156.0	4.6
30°-40°	170.1	5.0
40°-50°	156.4	4.6
50°-60°	122.8	3.6
60°-70°	80.1	2.4
70°-80°	41.3	1.2
80°-90°	12.8	0.4
90°-100°	28.4	0.8
100°-110°	104.1	3.1
110°-120°	278.3	8.2
120°-130°	459.4	13.6
130°-140°	488.6	14.4
140°-150°	454.1	13.4
150°-160°	365.1	10.8
160°-170°	235.3	6.9
170°-180°	81.0	2.4
0°-30°	307.5	9.1
0°-40°	477.6	14.1
0°-60°	756.8	22.4
0°-90°	891.0	26.3
90°-120°	410.8	12.1
90°-150°	1813.0	53.6
90°-180°	2494.0	73.7
0°-180°	3385.4	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°	1	7	12	15	17	3
95°	40	21	24	27	26	49
105°	187	195	38	44	47	200
115°	354	365	380	108	50	349
125°	501	509	520	525	527	446
135°	620	629	635	641	640	478
145°	719	719	729	732	730	449
155°	791	787	793	796	792	365
165°	834	830	832	836	832	236
175°	853	849	850	854	848	81
180°	851	851	851	851	851	



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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°	5.2	4.9	4.6	4.4	4.1	4.1	4.3	4.6	4.7	5.0	5.0
90°	0.6	2.2	3.6	5.2	6.6	7.9	9.0	10.2	11.2	12.3	13.0
92.5°	12.4	12.3	12.1	12.1	11.9	12.1	12.7	13.2	13.8	14.3	14.6
95°	40.0	35.6	31.0	26.5	22.0	20.1	21.2	22.1	23.1	24.0	24.7
97.5°	79.5	66.7	54.0	41.2	28.5	23.2	25.5	27.7	30.0	32.1	32.7
100°	109.0	90.2	71.5	52.8	34.0	25.8	28.2	30.5	32.8	35.1	36.2
102.5°	141.5	137.6	133.6	129.7	125.6	113.9	94.5	75.0	55.5	36.1	37.5
105°	187.3	191.3	195.4	199.6	203.6	187.0	149.6	112.3	74.9	37.5	39.1
107.5°	239.4	242.6	246.0	249.3	252.6	231.9	187.0	142.2	97.4	52.6	51.1
110°	272.9	275.7	278.6	281.5	284.3	266.0	226.4	186.9	147.3	107.8	94.1



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	304.4	306.9	309.4	312.0	314.5	310.9	301.2	291.4	281.6	271.8	222.0
115°	354.1	356.5	358.8	361.1	363.4	366.4	369.7	373.2	376.6	380.0	316.7
117.5°	398.6	401.2	403.8	406.4	409.0	411.5	413.9	416.2	418.5	420.9	405.6
120°	431.1	433.2	435.2	437.3	439.4	441.6	444.1	446.5	449.0	451.4	453.1
122.5°	458.7	460.9	463.0	465.2	467.4	469.8	472.5	475.2	477.9	480.5	481.5
125°	500.8	502.5	504.3	506.1	507.8	510.1	512.6	515.2	517.8	520.5	521.4
127.5°	538.8	540.8	542.8	544.7	546.6	548.6	550.6	552.5	554.5	556.4	557.8
130°	562.9	565.2	567.3	569.5	571.7	573.5	575.1	576.5	578.1	579.5	581.1
132.5°	587.5	589.4	591.3	593.1	595.0	596.7	598.2	599.7	601.2	602.7	604.0
135°	619.6	621.8	624.0	626.2	628.4	630.1	631.3	632.5	633.8	635.0	636.4
137.5°	652.0	653.5	655.0	656.6	658.1	659.6	661.0	662.4	663.7	665.2	666.5
140°	673.2	674.2	675.4	676.5	677.5	678.9	680.4	681.9	683.4	684.9	686.1
142.5°	691.0	691.9	692.9	693.9	694.8	696.2	697.9	699.6	701.4	703.1	704.2
145°	718.8	718.6	718.5	718.3	718.2	719.3	721.6	723.9	726.3	728.6	729.6
147.5°	743.0	742.5	742.0	741.5	741.0	741.8	744.2	746.4	748.7	751.1	751.7
150°	758.8	757.9	756.9	756.0	754.9	755.6	757.8	759.9	762.2	764.3	765.2
152.5°	772.1	771.0	770.0	768.9	767.8	768.4	770.4	772.5	774.6	776.6	777.5
155°	791.4	790.2	788.9	787.7	786.5	786.7	788.3	790.0	791.6	793.2	794.1
157.5°	806.6	805.6	804.5	803.5	802.5	802.5	803.7	804.8	805.9	807.1	808.0
160°	815.5	814.6	813.8	813.0	812.2	812.2	813.0	813.8	814.6	815.5	816.3
162.5°	823.4	822.5	821.7	820.9	820.0	820.0	820.7	821.4	822.2	822.9	823.8
165°	834.0	833.1	832.3	831.5	830.6	830.4	830.9	831.3	831.6	832.1	833.0
167.5°	841.8	841.0	840.2	839.4	838.5	838.3	838.7	839.0	839.5	839.8	840.8
170°	846.3	845.4	844.6	843.8	843.0	842.7	843.0	843.3	843.5	843.8	844.7
172.5°	849.2	848.3	847.6	846.7	845.9	845.7	845.9	846.2	846.4	846.7	847.7
175°	853.0	852.0	851.1	850.2	849.2	848.9	849.1	849.4	849.6	850.0	850.9
177.5°	853.7	852.9	852.1	851.4	850.6	850.2	850.3	850.5	850.6	850.7	851.4
180°	851.2	851.2	851.2	851.2	851.2	851.2	851.2	851.2	851.2	851.2	851.2



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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°	5.1	5.2	5.3	5.3	5.3	5.4	5.4	5.5
90°	13.7	14.4	15.1	15.5	15.8	16.1	16.4	16.6
92.5°	15.0	15.3	15.7	16.0	16.1	16.3	16.4	16.6
95°	25.4	26.1	26.8	27.0	26.9	26.8	26.6	26.5
97.5°	33.2	33.8	34.4	34.7	34.9	35.0	35.2	35.4
100°	37.3	38.4	39.5	40.2	40.5	40.7	41.0	41.2
102.5°	38.9	40.4	41.8	42.7	43.0	43.5	43.8	44.3
105°	40.6	42.1	43.6	44.6	45.2	45.7	46.2	46.8
107.5°	49.5	48.0	46.5	46.0	46.5	47.1	47.6	48.1
110°	80.4	66.7	53.0	46.5	47.0	47.5	48.1	48.6



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	172.0	122.1	72.2	47.4	47.9	48.3	48.7	49.2
115°	253.3	189.9	126.6	89.9	80.1	70.2	60.4	50.5
117.5°	390.3	374.9	359.6	335.7	303.3	271.0	238.6	206.2
120°	454.8	456.4	458.1	449.6	431.1	412.7	394.2	375.7
122.5°	482.5	483.5	484.5	483.2	479.6	476.0	472.4	468.8
125°	522.4	523.3	524.3	525.0	525.4	525.8	526.2	526.6
127.5°	559.2	560.6	562.0	562.7	562.8	562.9	563.0	563.1
130°	582.6	584.1	585.6	586.3	586.2	586.0	585.8	585.7
132.5°	605.3	606.6	607.9	608.5	608.3	608.2	608.0	607.9
135°	637.7	639.1	640.5	641.0	640.8	640.5	640.2	639.9
137.5°	667.9	669.2	670.5	671.0	670.5	670.0	669.6	669.1
140°	687.3	688.5	689.8	690.1	689.4	688.7	688.0	687.3
142.5°	705.3	706.5	707.6	707.8	707.1	706.5	705.8	705.1
145°	730.6	731.5	732.5	732.5	731.9	731.2	730.6	729.9
147.5°	752.4	753.2	753.9	754.0	753.4	752.8	752.3	751.7
150°	765.9	766.8	767.6	767.7	767.0	766.3	765.6	764.9
152.5°	778.3	779.1	780.0	779.9	779.0	778.1	777.2	776.3
155°	795.0	795.7	796.6	796.4	795.3	794.3	793.2	792.0
157.5°	808.9	809.9	810.8	810.7	809.7	808.6	807.5	806.5
160°	817.1	817.9	818.7	818.6	817.7	816.7	815.8	814.9
162.5°	824.7	825.6	826.6	826.5	825.3	824.1	822.9	821.7
165°	834.0	835.0	835.9	835.9	835.0	834.0	833.0	832.1
167.5°	841.8	842.7	843.7	843.5	842.3	841.1	839.8	838.6
170°	845.7	846.6	847.7	847.5	846.3	845.0	843.8	842.6
172.5°	848.7	849.6	850.6	850.4	849.2	848.0	846.7	845.5
175°	851.9	852.8	853.8	853.6	852.2	850.8	849.5	848.1
177.5°	852.2	853.0	853.8	853.7	852.6	851.7	850.7	849.7
180°	851.2	851.2	851.2	851.2	851.2	851.2	851.2	851.2

(END OF REPORT)