

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: P331772-935

Luminaire Tested: **S122RDIW-S290D710U935-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331772-935
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-8,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S122RDIW-S290D710U935-4F0-1E-UDD-F1
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 290 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 710 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3008.9 lumens
Efficiency: N/A
Efficacy: 99.0 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

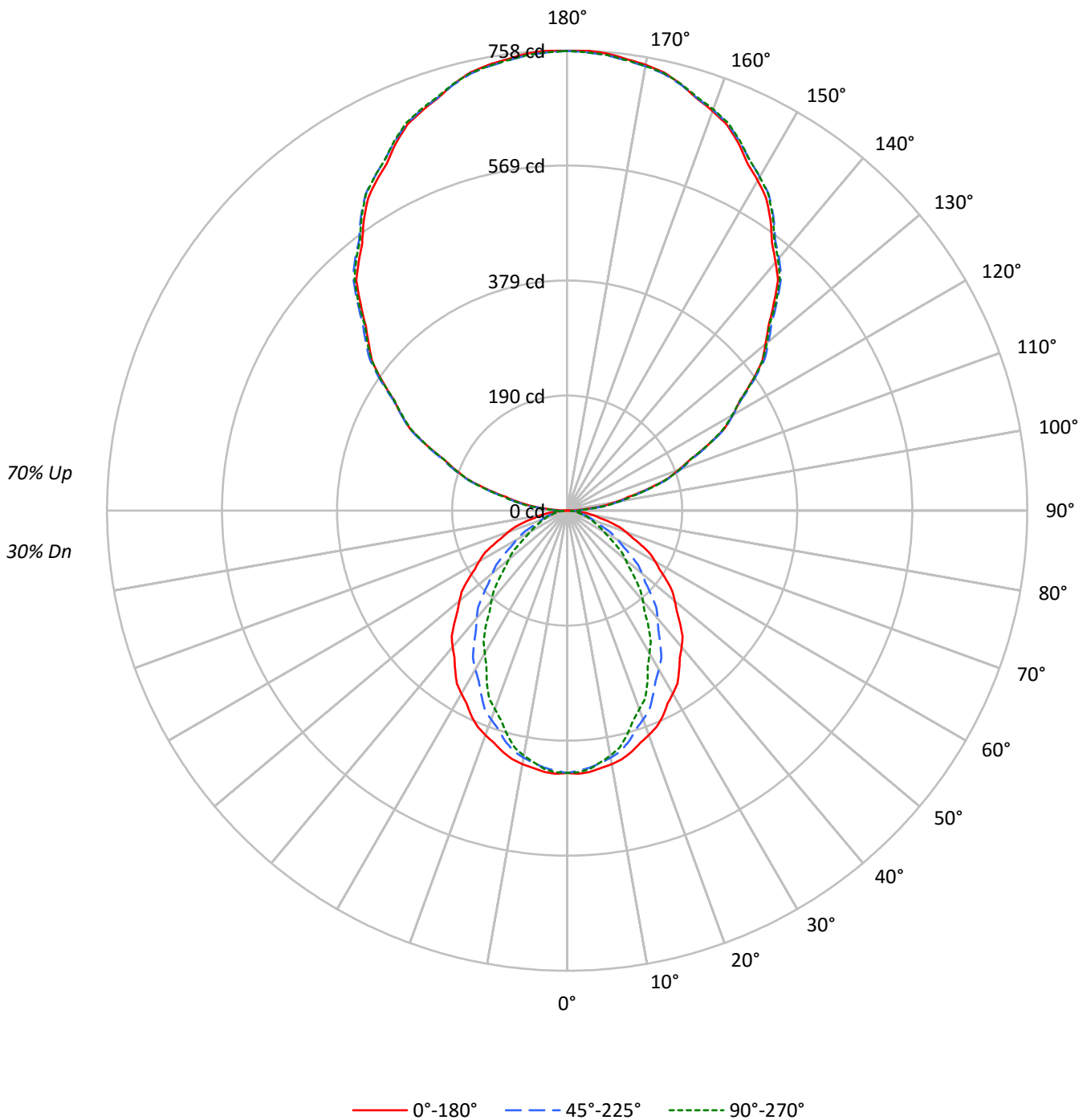
Input Watts (W): 30.4
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20			20			20			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	92	92	92	92	72	72	72	54	54	54	37	37	37	30
1	93	89	86	82	84	80	77	75	63	61	59	48	47	45	33	33	32	25
2	85	78	73	68	76	71	66	62	56	52	50	42	40	38	30	29	27	22
3	78	69	62	57	70	62	56	52	49	45	42	38	35	33	27	25	24	19
4	71	61	54	48	64	55	49	44	44	40	36	34	31	28	24	22	21	16
5	66	55	47	41	59	49	43	38	39	35	31	30	27	24	22	20	18	14
6	60	49	41	36	54	44	38	33	36	31	27	27	24	22	20	18	16	13
7	56	44	37	31	50	40	33	29	32	27	24	25	22	19	18	16	14	11
8	52	40	33	28	46	36	30	25	29	25	21	23	19	17	17	14	13	10
9	48	36	29	24	43	33	27	23	27	22	19	21	18	15	15	13	12	9
10	45	33	26	22	40	30	24	20	25	20	17	19	16	14	14	12	11	9

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	1.3
10°-20°	111.1	3.7
20°-30°	156.0	5.2
30°-40°	170.1	5.7
40°-50°	156.4	5.2
50°-60°	122.8	4.1
60°-70°	80.1	2.7
70°-80°	41.3	1.4
80°-90°	13.7	0.5
90°-100°	48.0	1.6
100°-110°	149.0	5.0
110°-120°	254.7	8.5
120°-130°	334.9	11.1
130°-140°	375.9	12.5
140°-150°	368.6	12.2
150°-160°	309.2	10.3
160°-170°	205.1	6.8
170°-180°	71.7	2.4
0°-30°	307.5	10.2
0°-40°	477.6	15.9
0°-60°	756.8	25.2
0°-90°	891.9	29.6
90°-120°	451.7	15.0
90°-150°	1531.1	50.9
90°-180°	2117.0	70.4
0°-180°	3008.9	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	9	22	21	22	2
95°	33	39	41	41	40	38
105°	137	139	141	142	142	145
115°	256	259	258	257	256	253
125°	372	377	376	374	373	332
135°	481	488	489	489	487	372
145°	584	588	592	593	590	365
155°	668	670	672	674	673	307
165°	726	726	726	730	727	205
175°	756	754	753	757	753	72
180°	757	757	757	757	757	



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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	4.7	4.5	4.3	4.5	5.1	5.8	6.4	7.0	6.9
90°	0.6	2.3	4.0	5.8	7.5	9.9	13.0	16.1	19.2	22.4	22.0
92.5°	11.4	12.7	13.9	15.2	16.4	17.4	18.1	18.9	19.5	20.3	20.4
95°	33.2	34.6	36.1	37.5	38.9	39.8	40.0	40.3	40.6	40.9	40.9
97.5°	60.7	61.9	63.2	64.4	65.7	66.6	67.2	67.7	68.2	68.7	68.7
100°	81.1	82.3	83.4	84.6	85.7	86.4	86.9	87.3	87.7	88.2	88.2
102.5°	102.6	103.5	104.4	105.3	106.2	106.9	107.5	108.1	108.6	109.1	109.3
105°	137.3	137.8	138.2	138.6	139.1	139.4	139.7	140.0	140.3	140.6	140.9
107.5°	172.4	173.0	173.7	174.3	174.9	175.2	175.2	175.2	175.2	175.2	175.3
110°	194.8	195.7	196.6	197.4	198.3	198.7	198.7	198.7	198.7	198.7	198.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	219.4	220.2	221.1	222.0	222.8	223.2	223.1	222.9	222.8	222.7	222.4
115°	255.5	256.4	257.3	258.1	259.0	259.2	259.0	258.6	258.4	258.1	258.0
117.5°	291.6	292.7	293.9	295.0	296.1	296.3	295.5	294.7	293.9	293.2	292.8
120°	315.6	316.8	317.9	319.0	320.1	320.1	319.0	317.9	316.8	315.6	315.6
122.5°	337.6	339.0	340.4	341.6	343.0	343.4	342.5	341.7	341.0	340.2	339.8
125°	371.9	373.2	374.4	375.7	376.9	377.4	376.9	376.5	376.1	375.7	375.2
127.5°	405.2	406.8	408.5	410.0	411.6	412.2	411.7	411.2	410.7	410.2	409.7
130°	426.1	428.0	429.8	431.7	433.5	434.3	434.0	433.8	433.4	433.2	432.9
132.5°	449.7	451.2	452.7	454.2	455.6	456.5	456.5	456.6	456.7	456.7	456.1
135°	481.1	482.7	484.2	485.8	487.3	488.3	488.5	488.9	489.1	489.4	489.2
137.5°	514.2	515.5	516.8	518.1	519.3	520.1	520.5	520.9	521.2	521.6	521.5
140°	534.2	535.4	536.7	538.0	539.2	540.2	541.0	541.7	542.3	543.0	543.0
142.5°	554.6	555.9	557.2	558.4	559.6	560.6	561.0	561.5	562.0	562.5	562.6
145°	583.9	585.0	585.9	586.9	588.0	588.8	589.7	590.6	591.4	592.3	592.4
147.5°	610.2	611.3	612.5	613.7	614.9	615.8	616.4	616.9	617.5	618.1	618.4
150°	628.0	628.9	629.7	630.6	631.5	632.1	632.7	633.3	633.9	634.5	634.9
152.5°	643.9	644.7	645.6	646.4	647.3	648.1	648.8	649.5	650.1	650.8	651.3
155°	667.6	668.0	668.5	668.9	669.3	669.8	670.2	670.6	671.1	671.5	672.2
157.5°	687.9	688.3	688.5	688.8	689.1	689.4	689.7	689.9	690.2	690.4	691.4
160°	700.3	700.5	700.8	701.1	701.4	701.6	701.7	701.9	702.0	702.1	703.0
162.5°	711.4	711.5	711.6	711.6	711.7	711.8	712.0	712.1	712.2	712.4	713.3
165°	726.4	726.3	726.2	726.0	725.9	725.8	725.8	725.8	725.8	725.8	726.8
167.5°	739.0	738.6	738.1	737.7	737.3	737.0	737.0	736.9	736.9	736.9	737.9
170°	745.6	745.2	744.8	744.3	743.9	743.6	743.5	743.3	743.2	743.0	744.1
172.5°	750.2	749.8	749.3	748.9	748.5	748.2	748.0	748.0	747.8	747.6	748.6
175°	755.8	755.4	755.0	754.6	754.1	753.8	753.5	753.2	752.9	752.6	753.6
177.5°	758.1	757.8	757.4	757.1	756.7	756.5	756.2	756.0	755.8	755.5	756.2
180°	757.1	757.1	757.1	757.1	757.1	757.1	757.1	757.1	757.1	757.1	757.1



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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°	6.7	6.6	6.5	6.5	6.5	6.5	6.5	6.5
90°	21.8	21.5	21.3	21.2	21.3	21.4	21.6	21.7
92.5°	20.4	20.5	20.6	20.6	20.6	20.7	20.7	20.7
95°	40.9	40.9	40.9	40.7	40.5	40.2	39.9	39.6
97.5°	68.7	68.7	68.7	68.7	68.7	68.7	68.6	68.6
100°	88.2	88.2	88.2	88.1	88.0	87.8	87.6	87.6
102.5°	109.3	109.4	109.6	109.6	109.4	109.3	109.2	109.0
105°	141.1	141.4	141.7	141.8	141.8	141.8	141.8	141.8
107.5°	175.4	175.6	175.6	175.4	174.7	174.1	173.4	172.8
110°	198.7	198.7	198.7	198.5	198.0	197.6	197.2	196.8



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	222.1	221.7	221.4	221.0	220.8	220.4	220.1	219.8
115°	257.9	257.7	257.5	257.3	256.8	256.4	256.0	255.5
117.5°	292.5	292.1	291.8	291.4	290.9	290.5	290.1	289.6
120°	315.6	315.6	315.6	315.4	315.0	314.5	314.1	313.7
122.5°	339.5	339.1	338.8	338.5	338.1	337.9	337.5	337.3
125°	374.8	374.4	373.9	373.7	373.6	373.4	373.2	373.2
127.5°	409.1	408.6	408.1	407.7	407.2	406.7	406.3	405.9
130°	432.7	432.3	432.0	431.6	431.0	430.5	429.9	429.4
132.5°	455.5	454.8	454.2	453.7	453.2	452.7	452.3	451.9
135°	489.1	489.0	488.9	488.5	488.1	487.7	487.2	486.8
137.5°	521.3	521.2	521.2	520.8	520.2	519.7	519.1	518.5
140°	543.0	543.0	543.0	542.8	542.3	541.7	541.1	540.5
142.5°	562.7	562.8	562.9	562.7	562.1	561.5	561.0	560.4
145°	592.5	592.7	592.8	592.6	592.0	591.5	590.9	590.4
147.5°	618.7	619.0	619.3	619.2	618.7	618.1	617.6	617.1
150°	635.2	635.7	636.1	636.1	635.7	635.2	634.9	634.5
152.5°	651.9	652.4	653.0	653.0	652.4	651.9	651.3	650.8
155°	672.9	673.6	674.3	674.5	674.1	673.6	673.2	672.8
157.5°	692.3	693.3	694.2	694.4	693.7	693.0	692.3	691.6
160°	703.9	704.7	705.6	705.7	705.2	704.6	704.0	703.4
162.5°	714.3	715.3	716.3	716.4	715.7	715.1	714.4	713.7
165°	727.8	728.8	729.8	730.0	729.2	728.5	727.8	727.1
167.5°	738.9	739.9	740.9	741.0	740.3	739.5	738.8	738.0
170°	745.0	746.1	747.0	747.1	746.2	745.4	744.5	743.6
172.5°	749.7	750.6	751.7	751.7	750.9	750.0	749.2	748.3
175°	754.6	755.6	756.6	756.6	755.8	755.0	754.1	753.3
177.5°	756.9	757.6	758.3	758.3	757.6	756.9	756.2	755.5
180°	757.1	757.1	757.1	757.1	757.1	757.1	757.1	757.1

(END OF REPORT)