

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: P332724-935

Luminaire Tested: **S124DIW-S350D770U935-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332724-935
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-10,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124DIW-S350D770U935-4F0-1E-UDD-D1
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 350 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 770 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3535.5 lumens
Efficiency: N/A
Efficacy: 116.3 lumens/watt
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.08')
CIE Type: Semi-Indirect

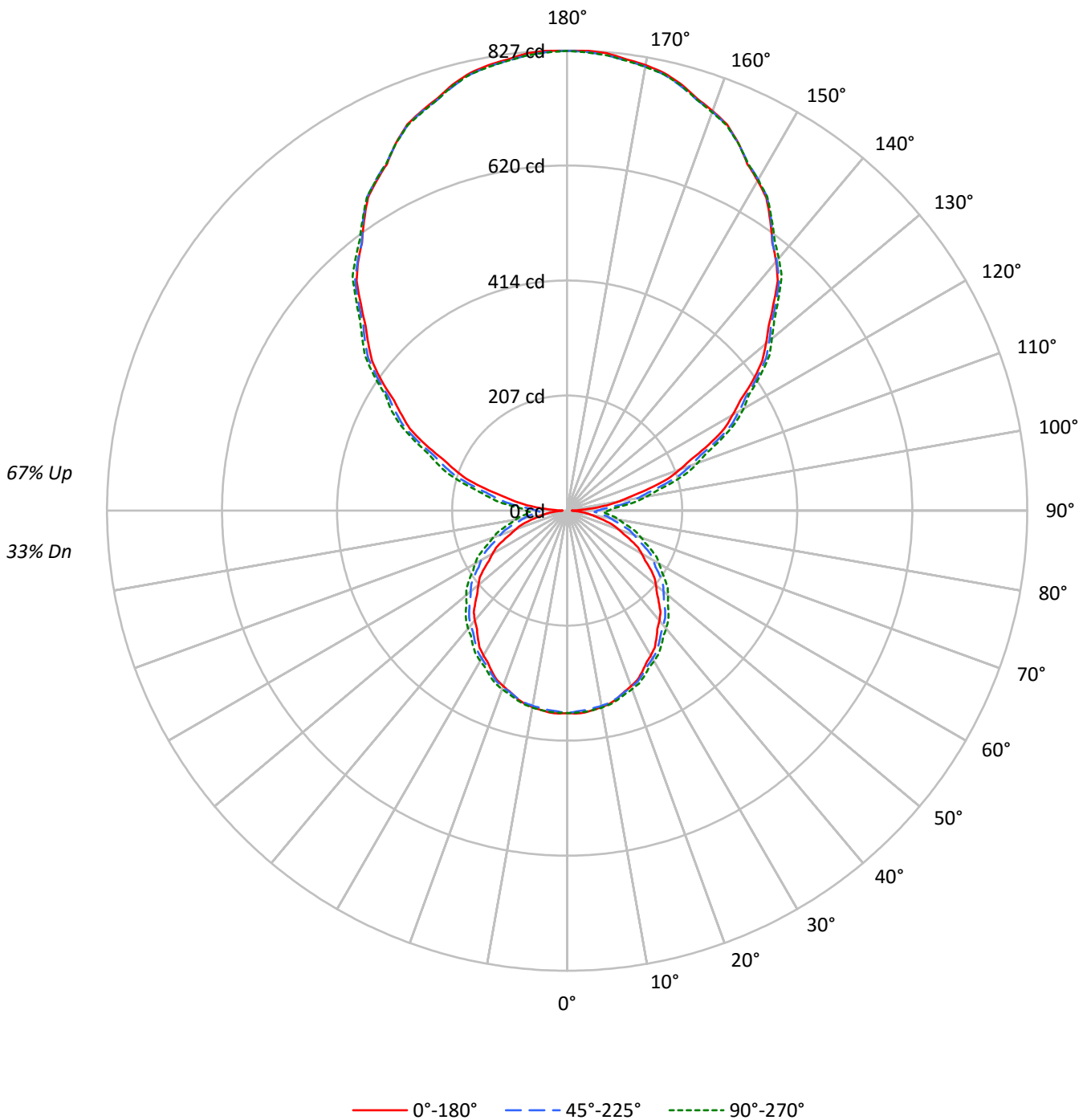
Input Watts (W): 30.4
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20	
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	89	85	81	84	80	76	73	63	61	59	48	47	45	34	33	32	26
2	85	77	71	66	76	69	64	60	55	51	48	42	39	37	30	28	27	21
3	77	67	60	54	69	61	54	49	48	44	40	37	34	31	26	24	22	18
4	70	59	52	45	63	54	47	42	43	38	34	33	29	26	23	21	19	15
5	64	53	45	39	57	48	41	35	38	33	29	29	26	23	21	18	17	13
6	59	47	39	33	53	43	36	31	34	29	25	26	23	20	19	16	14	11
7	54	42	34	29	49	38	31	27	31	26	22	24	20	17	17	15	13	10
8	50	38	31	25	45	35	28	23	28	23	19	22	18	15	16	13	11	9
9	47	35	27	22	42	32	25	21	26	21	17	20	16	14	14	12	10	8
10	44	32	25	20	39	29	23	18	23	19	15	18	15	12	13	11	9	7

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2938	2938	2938
5°	2948	2871	2880
10°	2929	2825	2823
15°	2902	2770	2755
20°	2863	2710	2690
25°	2819	2643	2617
30°	2770	2576	2543
35°	2716	2507	2478
40°	2672	2442	2410
45°	2607	2382	2352
50°	2553	2313	2291
55°	2496	2248	2220
60°	2408	2164	2153
65°	2309	2076	2073
70°	2192	1973	1979
75°	2029	1861	1894
80°	1846	1754	1809
85°	1616	1659	1762



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	34.5	1.0
10°-20°	98.7	2.8
20°-30°	149.3	4.2
30°-40°	180.7	5.1
40°-50°	191.0	5.4
50°-60°	179.7	5.1
60°-70°	149.1	4.2
70°-80°	104.7	3.0
80°-90°	61.7	1.7
90°-100°	89.7	2.5
100°-110°	187.5	5.3
110°-120°	291.5	8.2
120°-130°	371.2	10.5
130°-140°	410.0	11.6
140°-150°	399.6	11.3
150°-160°	335.4	9.5
160°-170°	223.1	6.3
170°-180°	78.1	2.2
0°-30°	282.5	8.0
0°-40°	463.2	13.1
0°-60°	833.9	23.6
0°-90°	1149.4	32.5
90°-120°	568.6	16.1
90°-150°	1749.4	49.5
90°-180°	2386.0	67.5
0°-180°	3535.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	364	364	364	364	364	
5°	364	363	360	363	363	35
15°	349	350	348	352	352	98
25°	320	322	323	327	328	147
35°	280	284	288	294	296	175
45°	233	241	249	255	258	180
55°	183	191	203	211	214	163
65°	126	139	153	163	167	125
75°	70	85	102	113	117	75
85°	22	39	57	69	73	23
90°	8	32	54	69	75	7
95°	44	63	84	96	101	47
105°	153	162	179	191	196	162
115°	281	285	296	304	307	277
125°	407	408	417	423	424	363
135°	524	528	531	536	537	406
145°	636	638	639	641	641	398
155°	728	728	728	730	728	335
165°	793	791	790	793	791	223
175°	825	822	821	825	821	78
180°	826	826	826	826	826	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	363.9	363.9	363.9	363.9	363.9	363.9	363.9	363.9	363.9	363.9	363.9
2.5°	365.2	365.0	364.8	364.5	364.4	363.9	363.4	362.8	362.2	361.6	362.1
5°	364.4	364.0	363.8	363.5	363.3	362.8	362.1	361.5	360.9	360.2	361.0
7.5°	361.3	361.1	360.9	360.8	360.6	360.2	359.7	359.2	358.7	358.2	359.0
10°	358.6	358.5	358.4	358.3	358.3	358.0	357.6	357.1	356.6	356.2	357.0
12.5°	355.1	355.0	355.0	355.0	355.0	354.8	354.5	354.2	353.9	353.6	354.3
15°	349.2	349.4	349.5	349.6	349.7	349.6	349.2	349.0	348.7	348.4	349.2
17.5°	341.4	341.6	341.9	342.2	342.4	342.6	342.5	342.4	342.4	342.3	343.2
20°	335.8	336.0	336.4	336.7	336.9	337.1	337.2	337.3	337.3	337.4	338.4
22.5°	329.6	329.9	330.3	330.6	331.0	331.2	331.4	331.6	331.7	331.9	332.8
25°	319.5	320.0	320.6	321.2	321.7	322.1	322.4	322.6	322.9	323.2	324.2
27.5°	308.2	309.1	309.9	310.6	311.4	312.0	312.5	312.9	313.3	313.7	314.6
30°	300.7	301.5	302.2	302.9	303.7	304.4	305.0	305.6	306.3	306.9	307.9
32.5°	292.7	293.5	294.4	295.2	296.1	296.9	297.6	298.3	299.0	299.7	300.8
35°	279.6	280.7	281.7	282.8	284.0	284.9	285.9	286.7	287.7	288.5	289.8
37.5°	266.5	267.7	269.0	270.2	271.5	272.6	273.8	274.9	276.0	277.2	278.4
40°	258.0	259.2	260.4	261.5	262.7	263.9	265.2	266.5	267.7	269.0	270.4
42.5°	248.2	249.5	250.8	252.2	253.5	254.9	256.4	257.9	259.3	260.8	262.3
45°	233.1	234.8	236.5	238.2	240.0	241.7	243.4	245.1	246.8	248.6	250.1
47.5°	218.7	220.5	222.2	224.0	225.8	227.6	229.6	231.7	233.7	235.7	237.2
50°	208.3	210.3	212.2	214.2	216.2	218.2	220.2	222.2	224.2	226.2	228.0
52.5°	197.9	199.8	201.8	203.8	205.8	207.9	210.2	212.5	214.7	217.1	218.9
55°	182.6	184.5	186.4	188.3	190.2	192.5	195.2	197.9	200.6	203.4	205.2
57.5°	165.6	167.9	170.2	172.6	175.0	177.5	180.2	182.9	185.5	188.3	190.5
60°	154.5	156.8	159.2	161.5	163.8	166.5	169.5	172.5	175.5	178.5	180.6
62.5°	143.7	146.3	148.9	151.4	153.9	156.8	159.7	162.7	165.7	168.8	170.8
65°	126.3	129.2	132.2	135.0	137.9	140.9	144.0	147.1	150.2	153.3	155.5
67.5°	109.6	112.7	115.8	118.9	121.9	125.1	128.5	131.7	135.0	138.3	140.6
70°	98.2	101.3	104.4	107.5	110.6	113.8	117.3	120.7	124.2	127.6	130.0
72.5°	87.1	90.3	93.4	96.6	99.7	103.1	106.8	110.5	114.1	117.8	120.1
75°	70.1	73.4	76.8	80.2	83.5	87.0	90.9	94.7	98.5	102.3	104.9
77.5°	54.2	57.8	61.3	64.8	68.4	72.2	76.1	80.2	84.1	88.1	90.7
80°	44.4	48.0	51.7	55.3	58.9	62.7	66.7	70.7	74.6	78.7	81.4
82.5°	34.6	38.4	42.2	46.0	49.7	53.6	57.6	61.6	65.5	69.6	72.3
85°	21.6	25.4	29.2	33.0	36.9	40.7	44.9	48.9	53.0	57.1	59.8
87.5°	12.5	16.4	20.5	24.5	28.5	32.5	36.8	41.0	45.1	49.3	52.2
90°	8.4	13.6	18.8	24.0	29.2	34.3	39.3	44.3	49.3	54.4	57.9
92.5°	19.9	24.9	30.0	35.0	40.0	44.9	49.6	54.3	59.0	63.7	66.7
95°	43.7	47.9	52.2	56.5	60.7	65.2	69.9	74.6	79.3	84.0	86.9
97.5°	71.8	75.3	79.0	82.6	86.2	90.4	95.2	100.0	104.9	109.8	112.6
100°	93.9	96.9	99.8	102.7	105.6	109.5	114.3	119.2	123.9	128.7	131.5
102.5°	117.4	119.8	122.0	124.3	126.7	130.1	134.7	139.3	144.0	148.6	151.4
105°	152.6	154.5	156.4	158.4	160.4	163.3	167.2	171.2	175.0	179.0	181.7
107.5°	190.2	191.8	193.5	195.2	196.8	199.2	202.5	205.8	209.1	212.2	214.9
110°	215.4	217.0	218.5	220.1	221.6	223.9	227.0	230.0	233.0	236.0	237.8



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	241.7	242.9	244.0	245.2	246.4	248.4	251.2	253.9	256.7	259.4	261.4
115°	281.0	281.9	282.7	283.5	284.3	286.0	288.6	291.3	293.9	296.5	298.3
117.5°	318.6	319.2	319.8	320.4	321.0	322.5	325.0	327.5	330.0	332.5	333.9
120°	343.3	344.1	344.9	345.8	346.6	348.2	350.3	352.6	354.7	357.0	358.1
122.5°	369.4	369.6	369.9	370.2	370.5	371.8	374.0	376.3	378.6	380.9	382.2
125°	407.4	407.3	407.3	407.2	407.1	408.0	410.2	412.3	414.4	416.6	418.0
127.5°	442.2	442.6	442.9	443.2	443.6	444.4	446.0	447.5	449.0	450.6	451.9
130°	466.4	466.7	467.1	467.4	467.8	468.6	470.1	471.6	473.0	474.5	475.8
132.5°	491.5	491.7	491.9	492.1	492.4	493.0	494.0	495.1	496.1	497.2	498.4
135°	524.2	525.0	525.9	526.8	527.6	528.3	529.0	529.6	530.2	530.9	532.0
137.5°	560.3	560.5	560.9	561.1	561.5	561.9	562.4	562.9	563.4	564.0	565.0
140°	584.3	584.4	584.6	584.8	585.0	585.1	585.2	585.3	585.4	585.5	586.6
142.5°	605.9	606.1	606.4	606.7	607.0	607.0	606.8	606.7	606.5	606.3	607.3
145°	636.2	636.7	637.2	637.7	638.2	638.4	638.6	638.8	638.9	639.0	639.5
147.5°	666.4	667.0	667.6	668.1	668.7	669.0	668.9	668.7	668.7	668.6	668.5
150°	684.8	685.3	685.8	686.2	686.7	687.0	687.0	687.0	687.0	687.0	687.0
152.5°	701.9	702.1	702.5	702.8	703.2	703.4	703.4	703.6	703.7	703.8	704.1
155°	728.5	728.5	728.5	728.5	728.5	728.4	728.2	728.1	728.0	727.9	728.4
157.5°	751.0	750.7	750.4	750.2	749.9	749.8	749.8	749.8	749.8	749.7	750.1
160°	764.3	764.1	764.0	763.9	763.7	763.5	763.4	763.3	763.1	763.0	763.4
162.5°	776.5	776.2	775.8	775.4	775.1	774.8	774.6	774.6	774.4	774.2	775.0
165°	793.1	792.6	792.2	791.8	791.3	791.0	790.7	790.4	790.1	789.8	790.7
167.5°	805.6	805.1	804.5	803.9	803.3	803.0	803.1	803.1	803.1	803.1	804.0
170°	812.9	812.1	811.4	810.7	810.0	809.7	809.9	810.0	810.1	810.3	811.1
172.5°	817.9	817.3	816.7	816.1	815.5	815.3	815.3	815.4	815.4	815.4	816.4
175°	825.0	824.2	823.5	822.9	822.2	821.7	821.6	821.4	821.3	821.1	822.2
177.5°	827.2	826.7	826.1	825.6	825.0	824.8	824.8	824.8	824.8	824.8	825.5
180°	826.2	826.2	826.2	826.2	826.2	826.2	826.2	826.2	826.2	826.2	826.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	363.9	363.9	363.9	363.9	363.9	363.9	363.9	363.9
2.5°	362.7	363.2	363.7	363.9	363.9	363.8	363.7	363.6
5°	361.7	362.4	363.2	363.5	363.4	363.3	363.2	363.1
7.5°	359.8	360.6	361.4	361.8	361.7	361.6	361.5	361.4
10°	357.8	358.6	359.5	359.8	359.7	359.6	359.6	359.5
12.5°	355.1	355.9	356.5	356.9	356.9	356.9	356.9	356.8
15°	350.1	350.9	351.7	352.1	352.0	351.9	351.8	351.7
17.5°	344.0	344.8	345.7	346.0	345.9	345.9	345.9	345.8
20°	339.2	340.2	341.0	341.6	341.6	341.6	341.6	341.6
22.5°	333.7	334.6	335.5	336.0	336.2	336.3	336.5	336.7
25°	325.2	326.1	327.2	327.7	327.8	327.9	328.0	328.0
27.5°	315.6	316.5	317.5	318.0	318.1	318.1	318.2	318.4
30°	308.8	309.9	310.8	311.4	311.6	311.9	312.0	312.2
32.5°	302.0	303.2	304.3	305.0	305.1	305.3	305.5	305.7
35°	291.1	292.3	293.6	294.4	294.6	294.9	295.2	295.5
37.5°	279.7	280.9	282.2	283.1	283.4	283.6	284.0	284.2
40°	271.7	273.0	274.4	275.3	275.6	276.0	276.4	276.7
42.5°	263.8	265.4	266.8	267.8	268.0	268.3	268.6	268.9
45°	251.7	253.2	254.8	255.7	256.2	256.7	257.1	257.5
47.5°	238.8	240.4	242.0	243.1	243.7	244.2	244.7	245.3
50°	229.8	231.6	233.4	234.6	235.1	235.7	236.3	236.8
52.5°	220.7	222.5	224.3	225.5	226.0	226.5	227.1	227.6
55°	207.0	208.8	210.6	211.8	212.3	212.8	213.4	214.0
57.5°	192.6	194.8	196.9	198.2	198.7	199.2	199.8	200.3
60°	182.7	184.8	186.8	188.2	189.0	189.7	190.5	191.1
62.5°	172.9	175.0	177.0	178.5	179.2	179.9	180.6	181.3
65°	157.7	160.1	162.3	163.8	164.5	165.2	166.0	166.7
67.5°	142.9	145.3	147.5	149.0	149.7	150.4	151.1	151.9
70°	132.4	134.9	137.3	138.9	139.5	140.2	140.8	141.4
72.5°	122.5	124.9	127.3	128.8	129.5	130.2	131.0	131.6
75°	107.4	109.9	112.4	114.1	114.9	115.7	116.6	117.4
77.5°	93.2	95.8	98.4	100.1	101.0	101.9	102.7	103.6
80°	84.1	86.8	89.5	91.3	92.0	92.7	93.4	94.1
82.5°	75.1	77.9	80.7	82.5	83.3	84.0	84.9	85.7
85°	62.5	65.2	67.9	69.7	70.6	71.5	72.4	73.4
87.5°	54.9	57.8	60.5	62.3	63.2	64.1	64.9	65.8
90°	61.4	64.8	68.3	70.6	71.5	72.6	73.6	74.6
92.5°	69.8	72.9	75.9	77.9	78.9	79.7	80.6	81.5
95°	89.8	92.6	95.5	97.4	98.2	99.0	99.8	100.7
97.5°	115.5	118.4	121.3	123.1	123.9	124.7	125.4	126.2
100°	134.2	136.9	139.7	141.4	142.0	142.6	143.3	143.9
102.5°	154.1	156.9	159.6	161.4	162.3	163.1	163.9	164.7
105°	184.3	187.1	189.8	191.7	192.8	194.0	195.1	196.3
107.5°	217.5	220.2	222.7	224.4	225.1	225.7	226.3	226.9
110°	239.6	241.4	243.2	244.7	245.8	247.0	248.1	249.3



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	263.4	265.3	267.3	268.6	269.5	270.3	271.0	271.9
115°	300.2	302.0	303.9	305.1	305.6	306.1	306.5	307.0
117.5°	335.3	336.7	338.1	339.1	339.5	339.9	340.4	340.8
120°	359.1	360.2	361.4	362.4	363.4	364.5	365.4	366.4
122.5°	383.6	384.9	386.2	386.9	387.1	387.2	387.4	387.5
125°	419.4	420.9	422.3	423.2	423.4	423.7	424.0	424.2
127.5°	453.2	454.6	455.9	456.8	457.2	457.5	458.0	458.3
130°	477.2	478.5	479.8	480.5	480.5	480.4	480.4	480.4
132.5°	499.7	501.0	502.3	503.1	503.4	503.7	504.0	504.4
135°	533.2	534.3	535.5	536.1	536.3	536.4	536.5	536.7
137.5°	565.9	566.9	567.8	568.6	569.1	569.6	570.2	570.8
140°	587.6	588.7	589.7	590.3	590.6	591.0	591.2	591.6
142.5°	608.4	609.3	610.4	611.1	611.4	611.7	612.1	612.4
145°	639.8	640.2	640.7	640.8	640.8	640.7	640.6	640.6
147.5°	668.5	668.4	668.4	668.4	668.6	668.7	668.9	669.0
150°	687.0	687.0	687.0	686.9	686.7	686.6	686.5	686.3
152.5°	704.5	704.8	705.2	705.2	704.8	704.5	704.0	703.7
155°	729.0	729.5	730.1	730.1	729.5	729.0	728.4	727.9
157.5°	750.5	751.0	751.4	751.4	750.9	750.4	749.9	749.4
160°	763.9	764.3	764.7	764.6	763.9	763.1	762.4	761.7
162.5°	775.8	776.5	777.3	777.3	776.6	775.9	775.2	774.5
165°	791.5	792.4	793.2	793.4	792.8	792.2	791.7	791.1
167.5°	804.9	805.6	806.5	806.5	805.6	804.8	803.9	803.0
170°	812.0	812.9	813.7	813.6	812.6	811.7	810.6	809.7
172.5°	817.3	818.3	819.2	819.2	818.2	817.3	816.2	815.3
175°	823.1	824.1	825.1	825.1	824.1	823.1	822.2	821.1
177.5°	826.3	827.1	827.9	827.9	826.9	826.0	825.1	824.2
180°	826.2	826.2	826.2	826.2	826.2	826.2	826.2	826.2

(END OF REPORT)