

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: P332726-830

Luminaire Tested: **S124DIW-S350D770U830-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332726-830
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-S350D770U830-4F0-1E-UDD-F1
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 350 LUMENS PER FOOT, FLUSH 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: 3941.0 lumens
Efficiency: N/A
Efficacy: 129.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.17 / 1.3
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')
CIE Type: Semi-Indirect

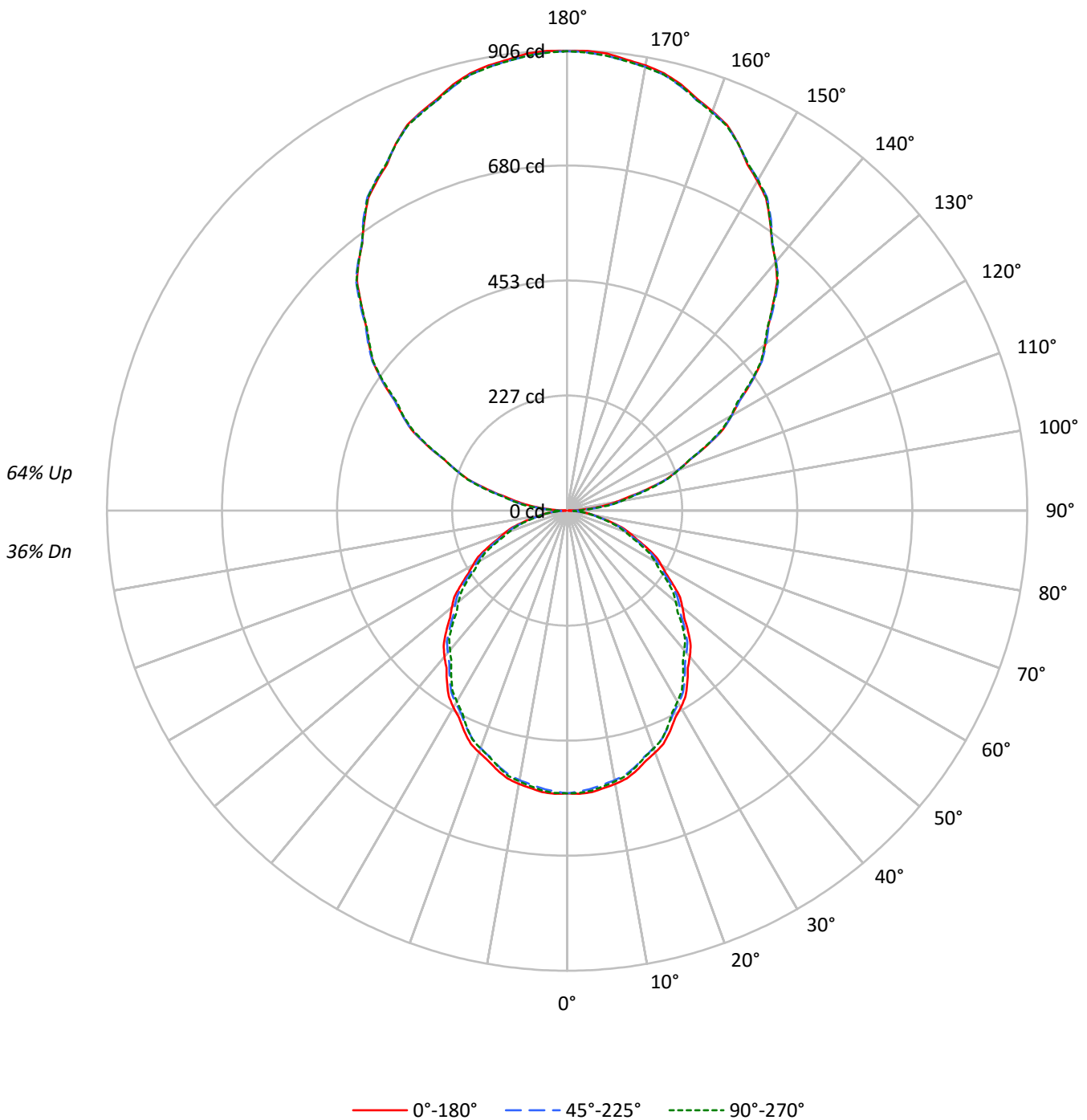
Input Watts (W): 30.4
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	37	37	30
2	86	79	73	68	78	72	67	62	58	54	51		45	43	41		34	32	31	26
3	79	69	62	56	71	63	57	52	51	47	43		40	37	34		30	28	26	22
4	72	61	54	48	65	56	49	44	45	40	37		36	32	29		27	24	23	19
5	66	54	47	41	59	50	43	38	41	35	31		32	28	25		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	28	33	28	24		26	22	20		20	17	15	13
8	52	40	32	27	47	36	30	25	30	25	21		24	20	17		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°	4495	4495	4495
5°	4508	4454	4486
10°	4480	4418	4440
15°	4425	4355	4367
20°	4354	4277	4281
25°	4272	4188	4177
30°	4172	4084	4047
35°	4066	3975	3921
40°	3958	3851	3780
45°	3846	3729	3658
50°	3720	3620	3508
55°	3586	3478	3365
60°	3450	3321	3219
65°	3299	3171	3043
70°	3127	2969	2854
75°	2866	2729	2658
80°	2552	2450	2385
85°	2232	2149	2103



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	52.4	1.3
10°-20°	147.7	3.7
20°-30°	217.4	5.5
30°-40°	252.8	6.4
40°-50°	252.8	6.4
50°-60°	221.1	5.6
60°-70°	164.2	4.2
70°-80°	93.3	2.4
80°-90°	29.6	0.8
90°-100°	59.7	1.5
100°-110°	176.7	4.5
110°-120°	300.0	7.6
120°-130°	395.5	10.0
130°-140°	444.2	11.3
140°-150°	436.5	11.1
150°-160°	367.1	9.3
160°-170°	244.3	6.2
170°-180°	85.5	2.2
0°-30°	417.6	10.6
0°-40°	670.4	17.0
0°-60°	1144.3	29.0
0°-90°	1431.5	36.3
90°-120°	536.4	13.6
90°-150°	1812.6	46.0
90°-180°	2510.0	63.7
0°-180°	3941.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	557	557	557	557	557	
5°	556	554	550	554	554	53
15°	530	528	521	524	522	149
25°	480	476	470	471	469	221
35°	413	409	403	400	398	258
45°	337	333	327	322	320	260
55°	255	253	247	242	239	228
65°	173	170	166	162	159	171
75°	92	90	88	86	85	98
85°	24	24	23	23	23	27
90°	2	10	15	19	21	4
95°	42	48	53	55	55	47
105°	163	164	166	169	171	173
115°	305	305	304	303	302	301
125°	444	444	444	442	441	396
135°	573	577	577	576	574	443
145°	696	699	700	699	697	435
155°	798	797	797	799	797	367
165°	868	866	865	868	866	245
175°	903	900	899	903	899	86
180°	904	904	904	904	904	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	556.8	556.8	556.8	556.8	556.8	556.8	556.8	556.8	556.8	556.8	556.8
2.5°	558.2	558.0	557.7	557.5	557.2	556.7	555.8	555.0	554.1	553.2	554.0
5°	556.3	555.9	555.5	555.2	554.8	554.0	552.9	551.9	550.7	549.6	550.7
7.5°	551.2	550.7	550.4	550.0	549.6	548.7	547.5	546.4	545.2	543.9	544.8
10°	546.5	546.1	545.7	545.4	545.0	544.1	542.8	541.5	540.3	538.9	539.7
12.5°	540.5	540.1	539.7	539.2	538.9	538.0	536.6	535.3	533.9	532.5	533.4
15°	529.5	529.1	528.8	528.4	528.0	527.1	525.6	524.1	522.5	521.1	521.7
17.5°	516.4	515.9	515.5	515.0	514.4	513.5	512.1	510.7	509.3	507.8	508.2
20°	506.8	506.3	505.9	505.3	504.8	503.9	502.4	500.9	499.4	497.9	498.2
22.5°	496.4	495.8	495.1	494.5	493.8	492.8	491.3	489.8	488.3	486.8	487.4
25°	479.6	478.9	478.2	477.5	476.8	475.8	474.4	473.0	471.6	470.2	470.3
27.5°	460.3	459.6	458.9	458.2	457.5	456.5	455.2	453.9	452.6	451.3	451.1
30°	447.5	446.7	445.9	445.1	444.3	443.3	442.0	440.6	439.4	438.1	437.7
32.5°	433.9	433.2	432.4	431.8	431.0	430.0	428.7	427.3	425.9	424.5	424.0
35°	412.6	412.0	411.3	410.6	409.9	408.9	407.5	406.0	404.7	403.3	402.7
37.5°	390.3	389.6	389.0	388.4	387.8	386.7	385.2	383.7	382.2	380.7	379.9
40°	375.6	374.8	374.1	373.2	372.5	371.4	369.9	368.3	366.8	365.4	364.4
42.5°	360.0	359.5	359.0	358.5	358.1	356.9	355.3	353.6	352.0	350.4	349.2
45°	336.9	336.1	335.5	334.8	334.0	332.9	331.3	329.7	328.2	326.6	325.5
47.5°	312.6	312.2	311.7	311.2	310.8	309.8	308.3	306.8	305.4	303.9	302.7
50°	296.2	295.9	295.5	295.0	294.6	293.8	292.4	291.0	289.5	288.2	286.8
52.5°	280.2	279.7	279.2	278.7	278.2	277.3	275.8	274.4	272.9	271.5	270.2
55°	254.8	254.5	254.1	253.8	253.5	252.7	251.3	250.0	248.5	247.1	246.0
57.5°	230.5	230.2	229.8	229.5	229.1	228.3	226.9	225.6	224.1	222.8	221.7
60°	213.7	213.2	212.7	212.2	211.7	210.8	209.5	208.2	207.0	205.7	204.8
62.5°	197.3	196.9	196.4	196.0	195.6	194.7	193.3	192.0	190.6	189.3	188.4
65°	172.7	172.2	171.6	171.2	170.7	169.9	168.9	168.0	166.9	166.0	164.9
67.5°	147.9	147.4	146.9	146.5	146.0	145.3	144.4	143.5	142.5	141.5	140.5
70°	132.5	131.8	131.1	130.4	129.7	128.9	128.2	127.4	126.6	125.8	125.0
72.5°	116.1	115.4	114.7	114.0	113.3	112.6	112.0	111.4	110.7	110.1	109.4
75°	91.9	91.4	91.0	90.4	89.9	89.4	89.0	88.4	87.9	87.5	87.1
77.5°	68.8	68.6	68.3	68.1	68.0	67.6	67.2	66.7	66.3	65.9	65.7
80°	54.9	54.6	54.3	54.0	53.7	53.4	53.3	53.1	52.9	52.7	52.4
82.5°	41.3	41.2	41.0	40.9	40.7	40.6	40.6	40.6	40.5	40.5	40.4
85°	24.1	24.1	24.1	24.1	24.1	24.0	23.8	23.6	23.4	23.2	23.2
87.5°	9.7	10.0	10.2	10.5	10.7	10.9	11.1	11.3	11.5	11.7	11.9
90°	2.1	3.8	5.6	7.3	9.0	10.5	11.7	12.9	14.1	15.4	16.3
92.5°	15.0	17.0	18.9	20.8	22.8	24.2	25.1	25.9	26.9	27.7	28.3
95°	41.9	43.4	44.8	46.2	47.6	48.8	49.9	51.0	52.1	53.2	53.6
97.5°	73.3	74.5	75.6	76.6	77.8	79.0	80.3	81.5	82.8	84.1	84.6
100°	97.9	98.6	99.2	99.8	100.4	101.4	102.8	104.2	105.7	107.1	107.4
102.5°	123.7	123.9	124.1	124.4	124.7	125.5	126.7	128.0	129.2	130.5	131.0
105°	163.0	163.2	163.3	163.4	163.6	164.0	164.7	165.2	165.9	166.5	166.9
107.5°	204.2	204.4	204.6	204.8	205.0	205.2	205.3	205.4	205.5	205.6	205.9
110°	232.2	232.5	232.9	233.2	233.5	233.6	233.4	233.3	233.1	232.9	232.6



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	261.4	261.4	261.5	261.6	261.6	261.5	261.2	260.9	260.6	260.3	260.3
115°	305.0	305.0	305.0	305.0	305.0	304.8	304.5	304.3	303.9	303.6	303.4
117.5°	346.1	346.3	346.4	346.5	346.7	346.6	346.4	346.2	345.9	345.7	345.2
120°	373.5	374.2	374.8	375.4	376.1	376.1	375.7	375.2	374.8	374.3	373.4
122.5°	402.1	402.4	402.6	402.8	403.1	403.1	402.9	402.7	402.5	402.3	401.7
125°	444.2	444.2	444.2	444.2	444.2	444.1	443.9	443.8	443.7	443.5	443.2
127.5°	482.4	482.9	483.3	483.8	484.3	484.4	484.1	483.9	483.6	483.4	483.1
130°	509.3	509.7	510.2	510.7	511.1	511.3	511.3	511.3	511.3	511.3	511.0
132.5°	536.7	537.1	537.3	537.7	538.1	538.2	538.0	537.9	537.8	537.6	537.3
135°	573.0	573.8	574.8	575.7	576.6	577.1	577.1	577.1	577.1	577.1	576.8
137.5°	612.4	612.8	613.2	613.7	614.2	614.4	614.7	614.9	615.2	615.5	615.0
140°	638.7	638.9	639.3	639.6	639.9	640.1	640.1	640.1	640.1	640.1	639.9
142.5°	662.7	663.1	663.4	663.6	664.0	664.1	663.9	663.8	663.7	663.5	663.5
145°	696.1	696.6	697.3	698.0	698.5	698.9	699.1	699.3	699.4	699.6	699.4
147.5°	729.1	729.8	730.6	731.3	732.1	732.4	732.3	732.1	732.0	731.9	731.7
150°	749.2	749.8	750.5	751.1	751.7	752.1	752.1	752.1	752.1	752.1	752.1
152.5°	768.3	768.6	769.0	769.4	769.8	770.0	770.1	770.2	770.3	770.4	770.8
155°	797.5	797.5	797.5	797.5	797.5	797.4	797.2	797.1	796.9	796.8	797.4
157.5°	822.1	821.8	821.5	821.2	821.0	820.9	820.8	820.8	820.8	820.7	821.1
160°	836.7	836.5	836.3	836.2	836.0	835.8	835.8	835.6	835.4	835.3	835.8
162.5°	850.1	849.7	849.2	848.9	848.5	848.2	848.0	847.9	847.7	847.5	848.4
165°	868.2	867.7	867.2	866.8	866.3	865.9	865.5	865.3	865.0	864.6	865.5
167.5°	881.9	881.4	880.7	880.1	879.4	879.0	879.1	879.1	879.1	879.2	880.1
170°	889.9	889.0	888.3	887.5	886.7	886.4	886.6	886.7	886.8	887.0	888.0
172.5°	895.4	894.8	894.1	893.4	892.8	892.5	892.5	892.6	892.6	892.6	893.7
175°	903.1	902.3	901.5	900.8	900.0	899.6	899.4	899.2	899.1	898.9	900.0
177.5°	905.6	905.0	904.4	903.8	903.1	902.9	902.9	902.9	902.9	902.9	903.7
180°	904.5	904.5	904.5	904.5	904.5	904.5	904.5	904.5	904.5	904.5	904.5



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	556.8	556.8	556.8	556.8	556.8	556.8	556.8	556.8
2.5°	554.8	555.6	556.4	556.8	556.7	556.6	556.5	556.4
5°	551.9	552.9	554.0	554.4	554.2	554.0	553.8	553.6
7.5°	545.6	546.6	547.4	547.8	547.7	547.5	547.4	547.3
10°	540.5	541.3	542.2	542.4	542.2	542.0	541.8	541.6
12.5°	534.2	535.1	536.0	536.3	536.0	535.7	535.5	535.2
15°	522.3	522.8	523.5	523.6	523.3	523.0	522.7	522.5
17.5°	508.6	509.0	509.3	509.4	509.3	509.1	508.9	508.7
20°	498.5	498.8	499.1	499.2	498.9	498.7	498.5	498.3
22.5°	487.9	488.4	489.0	489.1	488.7	488.3	488.0	487.7
25°	470.4	470.5	470.6	470.5	470.0	469.7	469.3	468.9
27.5°	450.8	450.6	450.3	450.0	449.5	449.0	448.5	448.0
30°	437.3	437.0	436.5	436.1	435.5	435.1	434.6	434.1
32.5°	423.6	423.1	422.6	422.2	421.7	421.1	420.7	420.2
35°	401.9	401.2	400.5	399.9	399.4	399.0	398.4	397.9
37.5°	379.2	378.4	377.7	377.0	376.4	375.7	375.0	374.4
40°	363.4	362.4	361.5	360.7	360.1	359.7	359.2	358.7
42.5°	348.1	346.9	345.8	345.1	344.7	344.4	344.0	343.7
45°	324.4	323.3	322.3	321.5	321.2	320.9	320.7	320.4
47.5°	301.4	300.2	299.0	298.0	297.3	296.5	295.8	295.0
50°	285.4	284.1	282.7	281.6	281.1	280.5	279.8	279.3
52.5°	269.0	267.8	266.6	265.5	264.8	264.0	263.3	262.5
55°	244.8	243.6	242.4	241.5	240.9	240.3	239.7	239.1
57.5°	220.6	219.4	218.3	217.4	216.9	216.3	215.7	215.1
60°	203.9	203.0	202.1	201.4	201.0	200.4	199.9	199.4
62.5°	187.7	186.8	186.0	185.3	184.8	184.4	183.9	183.3
65°	164.0	163.0	162.0	161.3	160.8	160.2	159.8	159.3
67.5°	139.6	138.6	137.7	137.1	137.0	136.9	136.8	136.6
70°	124.2	123.5	122.6	122.1	121.8	121.5	121.2	120.9
72.5°	108.9	108.2	107.5	107.1	106.8	106.5	106.2	105.9
75°	86.6	86.2	85.9	85.6	85.5	85.4	85.3	85.2
77.5°	65.6	65.5	65.4	65.2	64.9	64.7	64.4	64.2
80°	52.2	52.0	51.8	51.7	51.6	51.5	51.4	51.3
82.5°	40.2	40.2	40.1	40.0	39.9	39.7	39.6	39.5
85°	23.2	23.2	23.2	23.2	23.1	23.0	22.8	22.7
87.5°	12.0	12.2	12.3	12.5	12.5	12.6	12.7	12.7
90°	17.2	18.2	19.1	19.7	20.1	20.4	20.6	21.0
92.5°	28.8	29.4	30.0	30.3	30.5	30.7	30.9	31.1
95°	54.1	54.6	55.0	55.2	55.2	55.2	55.2	55.2
97.5°	85.2	85.8	86.3	86.6	86.6	86.6	86.6	86.6
100°	107.6	107.9	108.3	108.4	108.4	108.4	108.4	108.4
102.5°	131.4	131.9	132.2	132.5	132.7	132.8	132.9	133.1
105°	167.4	167.9	168.3	168.8	169.3	169.8	170.2	170.7
107.5°	206.4	206.8	207.3	207.5	207.5	207.5	207.4	207.4
110°	232.3	232.1	231.7	231.8	232.2	232.7	233.2	233.7



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	260.2	260.1	260.1	260.1	260.2	260.3	260.4	260.5
115°	303.3	303.1	302.9	302.8	302.7	302.6	302.4	302.2
117.5°	344.7	344.1	343.6	343.2	342.9	342.5	342.2	342.0
120°	372.7	371.9	371.2	370.9	371.3	371.6	371.8	372.1
122.5°	401.1	400.7	400.1	399.5	399.0	398.4	397.9	397.4
125°	442.9	442.6	442.2	442.0	441.7	441.3	441.0	440.7
127.5°	482.8	482.5	482.1	481.8	481.6	481.4	481.1	480.9
130°	510.8	510.4	510.1	509.6	509.1	508.4	507.7	507.2
132.5°	537.1	536.8	536.4	536.1	535.9	535.6	535.4	535.2
135°	576.5	576.2	575.9	575.5	575.0	574.6	574.1	573.6
137.5°	614.6	614.3	613.9	613.7	613.8	613.9	614.0	614.1
140°	639.8	639.6	639.4	639.3	639.1	638.9	638.9	638.7
142.5°	663.5	663.5	663.5	663.5	663.4	663.4	663.4	663.3
145°	699.3	699.1	698.9	698.6	698.1	697.7	697.2	696.7
147.5°	731.6	731.5	731.3	731.2	731.0	730.9	730.8	730.6
150°	752.1	752.1	752.1	752.0	751.8	751.6	751.5	751.3
152.5°	771.2	771.6	771.9	771.9	771.6	771.2	770.7	770.3
155°	798.1	798.6	799.3	799.3	798.6	798.1	797.4	796.8
157.5°	821.6	822.1	822.6	822.6	822.0	821.5	821.0	820.4
160°	836.2	836.7	837.2	837.0	836.2	835.4	834.6	833.9
162.5°	849.2	850.1	850.9	850.9	850.2	849.4	848.7	847.8
165°	866.5	867.4	868.4	868.6	867.9	867.2	866.7	866.0
167.5°	881.1	881.9	882.9	882.9	881.9	881.0	880.1	879.0
170°	888.9	889.9	890.8	890.7	889.6	888.5	887.4	886.4
172.5°	894.8	895.8	896.8	896.8	895.7	894.7	893.5	892.5
175°	901.1	902.2	903.2	903.2	902.2	901.1	900.0	898.9
177.5°	904.6	905.4	906.3	906.3	905.2	904.3	903.2	902.3
180°	904.5	904.5	904.5	904.5	904.5	904.5	904.5	904.5

(END OF REPORT)