

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: P332880-935

Luminaire Tested: **SA4XXRDIP-C350D810U935-4F0-1E-UDD-F**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P332880-935
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-6,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA4XXRDIP-C350D810U935-4F0-1E-UDD-F
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 350 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 810 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4016.5 lumens
Efficiency: N/A
Efficacy: 128.7 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.09 / 1.24
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')
CIE Type: Semi-Indirect

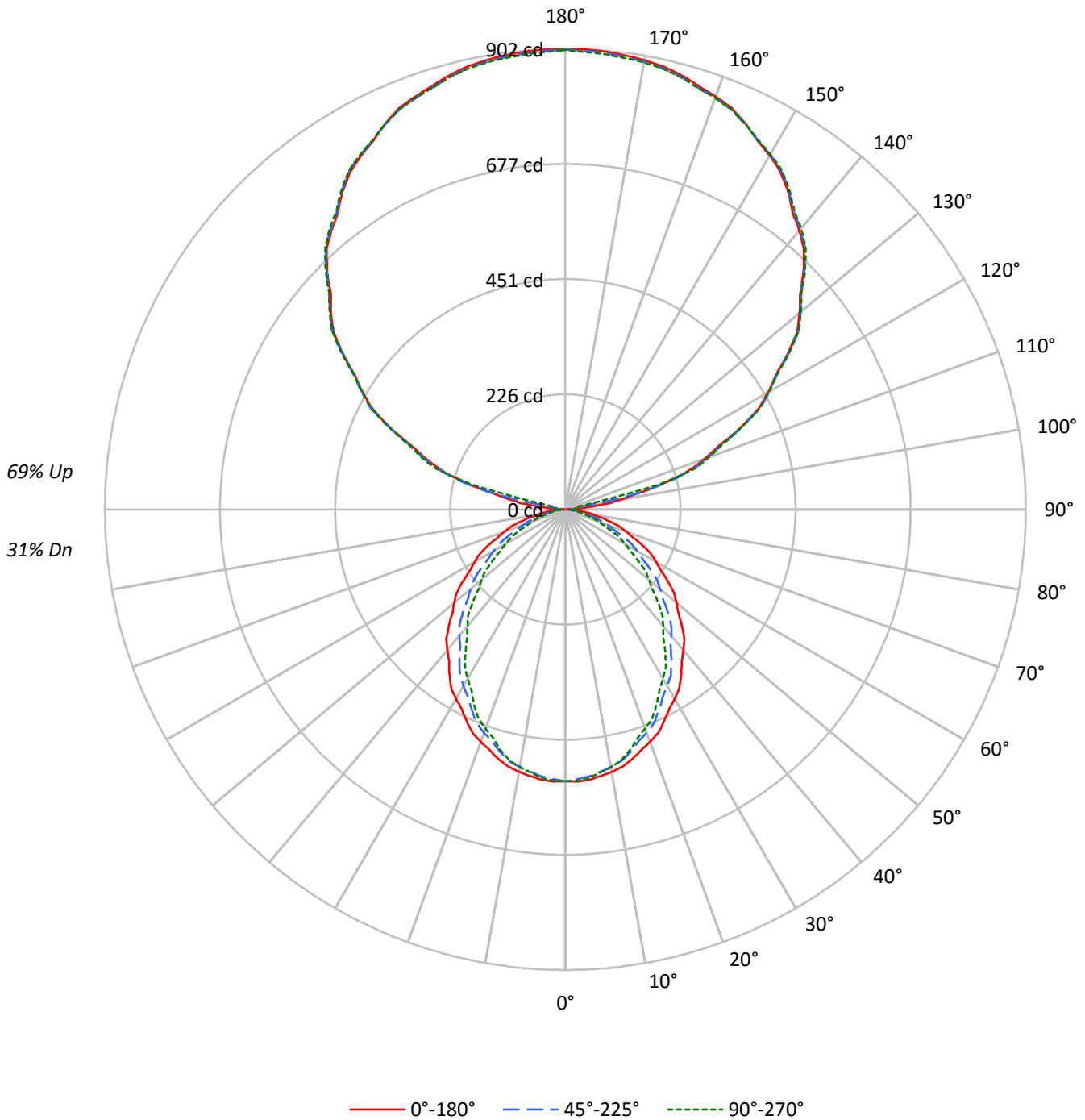
Input Watts (W): 31.2
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	103	103	103	103	92	92	92	92	73	73	73	55	55	55	38	38	38	31
1	94	89	86	82	84	81	77	75	64	62	60	48	47	46	34	33	33	26
2	85	78	72	68	76	71	66	61	56	53	50	43	40	38	30	29	28	22
3	78	69	62	56	70	62	56	51	49	45	42	38	35	33	27	25	24	19
4	71	61	53	48	64	55	49	44	44	39	36	34	31	28	24	22	21	16
5	65	54	46	41	58	49	42	37	39	34	31	30	27	24	22	20	18	14
6	60	49	41	35	54	44	37	32	35	30	27	27	24	21	20	18	16	13
7	56	44	36	31	50	40	33	28	32	27	24	25	21	19	18	16	14	11
8	51	40	32	27	46	36	30	25	29	24	21	23	19	17	17	14	13	10
9	48	36	29	24	43	33	27	22	27	22	19	21	17	15	15	13	11	9
10	45	33	26	21	40	30	24	20	24	20	17	19	16	13	14	12	10	8

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4297	4297	4297
5°	4306	4254	4280
10°	4279	4203	4203
15°	4231	4115	4084
20°	4163	3998	3924
25°	4077	3862	3764
30°	3993	3719	3564
35°	3900	3571	3362
40°	3789	3402	3144
45°	3685	3234	2923
50°	3567	3041	2688
55°	3441	2839	2432
60°	3303	2619	2172
65°	3177	2344	1914
70°	2991	2039	1626
75°	2757	1691	1323
80°	2404	1288	1213
85°	2038	1176	1093



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	50.0	1.2
10°-20°	139.4	3.5
20°-30°	201.3	5.0
30°-40°	228.2	5.7
40°-50°	220.4	5.5
50°-60°	183.2	4.6
60°-70°	126.5	3.2
70°-80°	64.1	1.6
80°-90°	19.0	0.5
90°-100°	30.8	0.8
100°-110°	196.3	4.9
110°-120°	375.5	9.3
120°-130°	476.7	11.9
130°-140°	510.0	12.7
140°-150°	476.9	11.9
150°-160°	384.6	9.6
160°-170°	248.0	6.2
170°-180°	85.5	2.1
0°-30°	390.7	9.7
0°-40°	619.0	15.4
0°-60°	1022.6	25.5
0°-90°	1232.3	30.7
90°-120°	602.6	15.0
90°-150°	2066.1	51.4
90°-180°	2784.0	69.3
0°-180°	4016.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	532	532	532	532	532	
5°	531	530	525	529	528	50
15°	506	502	492	491	489	143
25°	458	450	434	427	423	211
35°	396	382	362	349	341	247
45°	323	307	283	264	256	249
55°	244	228	202	181	173	219
65°	166	148	123	106	100	164
75°	88	73	54	45	42	93
85°	22	14	13	12	12	25
90°	2	9	15	19	20	3
95°	37	15	15	19	20	48
105°	203	207	210	214	192	212
115°	378	380	380	381	381	372
125°	532	534	533	535	536	475
135°	660	659	662	663	664	508
145°	761	763	763	763	765	475
155°	834	835	833	835	833	384
165°	880	877	876	881	876	249
175°	900	896	897	902	895	86
180°	900	900	900	900	900	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	532.3	532.3	532.3	532.3	532.3	532.3	532.3	532.3	532.3	532.3	532.3
2.5°	533.6	533.2	533.0	532.7	532.4	531.8	531.1	530.3	529.4	528.7	529.4
5°	531.4	531.1	530.7	530.4	529.9	529.3	528.1	527.1	526.0	525.0	525.8
7.5°	526.6	526.2	525.9	525.5	525.1	524.2	522.8	521.3	520.0	518.6	519.1
10°	522.0	521.6	521.2	520.7	520.2	519.2	517.5	515.9	514.3	512.7	513.1
12.5°	516.2	515.7	515.1	514.6	514.1	512.9	510.9	509.0	507.1	505.1	505.4
15°	506.2	505.3	504.5	503.7	502.9	501.4	499.1	496.8	494.6	492.3	492.1
17.5°	494.0	492.8	491.6	490.5	489.3	487.3	484.7	481.9	479.2	476.5	476.0
20°	484.6	483.4	482.2	481.0	479.8	477.8	474.7	471.6	468.5	465.4	464.7
22.5°	474.2	472.8	471.5	470.2	468.8	466.5	463.2	459.9	456.7	453.3	452.3
25°	457.7	456.1	454.4	452.8	451.2	448.5	444.8	441.1	437.3	433.6	432.0
27.5°	440.4	438.3	436.3	434.3	432.2	429.2	425.2	421.3	417.3	413.4	411.4
30°	428.3	426.0	423.8	421.5	419.3	416.0	411.7	407.5	403.2	399.0	396.7
32.5°	415.6	413.0	410.5	407.9	405.4	401.9	397.5	393.1	388.7	384.4	381.7
35°	395.7	392.8	389.9	387.0	384.1	380.4	375.9	371.3	366.9	362.3	359.2
37.5°	374.4	371.4	368.5	365.5	362.5	358.5	353.4	348.4	343.5	338.5	335.0
40°	359.5	356.5	353.4	350.5	347.5	343.5	338.3	333.1	328.0	322.8	319.0
42.5°	345.1	342.0	338.8	335.7	332.6	328.3	323.0	317.5	312.2	306.8	302.9
45°	322.8	319.4	316.1	312.7	309.4	305.0	299.5	294.1	288.7	283.3	278.8
47.5°	299.7	296.3	292.8	289.3	285.9	281.3	275.7	270.0	264.3	258.7	254.1
50°	284.0	280.5	277.0	273.5	269.9	265.3	259.5	253.7	247.9	242.1	237.5
52.5°	268.1	264.6	261.1	257.7	254.3	249.5	243.6	237.6	231.7	225.8	221.2
55°	244.5	240.9	237.3	233.7	230.1	225.2	219.4	213.5	207.6	201.7	197.0
57.5°	221.2	217.4	213.7	209.9	206.1	201.4	195.5	189.8	184.0	178.1	173.4
60°	204.6	201.0	197.3	193.7	190.1	185.4	179.6	173.7	168.0	162.2	157.5
62.5°	189.6	185.8	182.0	178.3	174.5	169.7	163.8	157.8	151.9	145.9	141.5
65°	166.3	162.4	158.5	154.6	150.7	145.9	140.1	134.2	128.5	122.7	118.8
67.5°	142.1	138.4	134.6	130.9	127.2	122.6	117.2	111.8	106.4	101.1	97.7
70°	126.7	123.0	119.2	115.4	111.5	107.0	101.9	96.7	91.5	86.4	83.4
72.5°	110.5	107.0	103.6	100.1	96.7	92.6	87.6	82.7	77.9	73.0	70.5
75°	88.4	85.1	81.7	78.4	75.0	71.2	67.0	62.7	58.5	54.2	52.1
77.5°	66.1	63.3	60.4	57.6	54.8	51.6	48.1	44.7	41.2	37.8	36.6
80°	51.7	49.2	46.5	43.9	41.2	38.6	35.9	33.1	30.4	27.7	27.5
82.5°	39.3	36.9	34.5	32.1	29.7	27.7	26.2	24.6	23.1	21.5	21.4
85°	22.0	20.2	18.4	16.5	14.7	13.7	13.4	13.2	12.9	12.7	12.5
87.5°	7.9	7.7	7.4	7.1	6.9	6.9	7.1	7.2	7.3	7.5	7.7
90°	2.0	3.7	5.3	7.0	8.6	10.0	11.2	12.4	13.6	14.8	15.7
92.5°	8.5	8.6	8.7	8.8	8.9	9.5	10.7	11.9	13.1	14.3	15.2
95°	37.0	31.9	26.9	21.8	16.7	14.2	14.4	14.6	14.6	14.8	15.7
97.5°	78.6	81.8	85.0	88.2	91.4	84.6	67.8	51.1	34.4	17.7	17.8
100°	110.4	113.1	115.8	118.5	121.1	112.2	91.5	70.9	50.3	29.6	27.0
102.5°	145.9	147.9	149.9	151.9	153.9	153.5	150.8	148.1	145.4	142.8	115.3
105°	202.6	203.5	204.4	205.3	206.2	207.1	207.8	208.5	209.3	210.0	211.4
107.5°	255.3	255.7	256.1	256.7	257.1	257.8	258.8	259.8	260.9	261.9	262.5
110°	290.8	291.3	291.7	292.1	292.7	293.3	294.2	295.1	296.0	296.9	297.2



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	325.3	326.1	326.9	327.7	328.6	329.2	329.6	329.9	330.4	330.8	330.8
115°	378.3	378.8	379.3	379.7	380.1	380.3	380.1	380.0	379.9	379.7	380.0
117.5°	426.1	426.7	427.3	427.9	428.5	429.0	429.3	429.6	430.0	430.3	430.2
120°	458.5	459.1	459.7	460.3	460.8	461.1	460.9	460.8	460.6	460.5	460.8
122.5°	488.6	489.0	489.3	489.7	490.1	490.3	490.5	490.8	490.9	491.2	491.4
125°	531.8	532.4	533.0	533.6	534.3	534.3	534.1	533.8	533.5	533.2	533.6
127.5°	572.7	572.9	573.1	573.3	573.3	573.8	574.5	575.1	575.8	576.5	576.4
130°	599.2	599.3	599.4	599.6	599.8	600.0	600.5	601.0	601.4	601.8	602.0
132.5°	623.4	623.6	624.0	624.2	624.5	624.9	625.4	626.0	626.5	627.2	627.3
135°	659.8	659.6	659.4	659.3	659.2	659.4	660.0	660.6	661.2	661.8	662.0
137.5°	691.9	692.0	692.1	692.1	692.2	692.5	693.2	693.9	694.5	695.2	695.5
140°	712.9	713.3	713.5	713.9	714.1	714.5	714.7	715.1	715.3	715.6	716.1
142.5°	731.8	732.3	732.9	733.4	733.9	734.3	734.4	734.7	734.9	735.0	735.4
145°	760.7	761.2	761.6	762.1	762.5	762.8	762.8	762.8	762.8	762.8	762.9
147.5°	783.8	784.6	785.4	786.3	787.1	787.5	787.3	787.1	787.0	786.9	787.0
150°	800.5	801.1	801.7	802.3	802.8	803.1	802.9	802.8	802.6	802.5	802.5
152.5°	814.4	814.9	815.4	815.9	816.4	816.5	816.2	816.0	815.6	815.4	815.6
155°	834.1	834.2	834.4	834.6	834.7	834.6	834.1	833.6	833.2	832.8	833.4
157.5°	850.7	850.6	850.5	850.4	850.3	850.0	849.5	849.0	848.5	848.0	848.8
160°	860.4	859.9	859.5	859.0	858.6	858.2	858.2	858.0	857.8	857.6	858.6
162.5°	869.0	868.4	867.8	867.3	866.7	866.3	866.2	866.1	865.9	865.7	866.7
165°	879.9	879.2	878.4	877.6	876.9	876.5	876.5	876.5	876.5	876.5	877.7
167.5°	888.5	887.7	886.9	886.1	885.4	884.9	884.8	884.8	884.7	884.6	885.9
170°	893.4	892.4	891.6	890.6	889.8	889.4	889.5	889.7	889.8	890.0	891.1
172.5°	896.6	895.7	894.8	893.9	893.0	892.6	892.8	892.9	893.0	893.2	894.4
175°	900.1	899.1	898.3	897.4	896.5	896.1	896.3	896.4	896.6	896.7	898.0
177.5°	901.7	900.9	900.0	899.1	898.4	898.0	898.3	898.5	898.8	899.0	899.9
180°	900.1	900.1	900.1	900.1	900.1	900.1	900.1	900.1	900.1	900.1	900.1



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	532.3	532.3	532.3	532.3	532.3	532.3	532.3	532.3
2.5°	530.3	531.1	531.8	532.2	532.1	532.1	532.0	531.9
5°	526.8	527.6	528.6	528.9	528.7	528.6	528.3	528.1
7.5°	519.7	520.3	520.9	521.0	520.7	520.5	520.1	519.9
10°	513.4	513.8	514.1	514.1	513.8	513.4	513.1	512.7
12.5°	505.6	505.8	506.1	505.9	505.4	504.9	504.4	503.9
15°	492.0	491.8	491.5	491.2	490.5	489.9	489.3	488.6
17.5°	475.4	475.0	474.5	473.7	472.8	471.8	470.9	469.9
20°	464.0	463.2	462.5	461.6	460.4	459.2	458.1	456.8
22.5°	451.2	450.0	449.0	448.0	447.0	446.1	445.1	444.1
25°	430.5	429.0	427.5	426.3	425.3	424.4	423.5	422.6
27.5°	409.5	407.6	405.7	404.2	402.8	401.5	400.2	398.9
30°	394.4	392.2	389.9	388.1	386.6	385.2	383.7	382.3
32.5°	379.1	376.4	373.8	371.8	370.4	369.0	367.6	366.3
35°	356.1	353.1	350.0	347.7	346.0	344.4	342.8	341.1
37.5°	331.6	328.1	324.7	322.1	320.5	318.8	317.2	315.6
40°	315.1	311.3	307.5	304.9	303.2	301.6	300.0	298.3
42.5°	299.0	295.2	291.3	288.5	286.8	285.1	283.4	281.7
45°	274.4	269.9	265.4	262.4	260.8	259.2	257.5	256.0
47.5°	249.5	244.9	240.3	237.1	235.3	233.5	231.7	230.0
50°	233.0	228.5	223.9	220.8	219.1	217.4	215.7	214.0
52.5°	216.5	212.0	207.4	204.1	202.4	200.6	198.8	197.0
55°	192.3	187.6	182.9	179.7	178.0	176.2	174.5	172.8
57.5°	168.6	163.8	159.0	156.0	154.7	153.4	152.1	150.8
60°	152.7	148.1	143.4	140.3	138.8	137.4	136.0	134.5
62.5°	137.2	132.9	128.5	125.8	124.6	123.5	122.3	121.1
65°	114.9	111.0	107.1	104.6	103.5	102.5	101.3	100.2
67.5°	94.4	91.0	87.6	85.4	84.2	83.0	81.8	80.6
70°	80.4	77.4	74.5	72.5	71.5	70.7	69.7	68.9
72.5°	67.9	65.3	62.9	61.1	60.3	59.5	58.6	57.8
75°	50.0	48.0	45.9	44.6	44.0	43.5	43.0	42.4
77.5°	35.4	34.2	33.0	32.3	32.1	31.9	31.8	31.6
80°	27.2	26.9	26.6	26.4	26.3	26.3	26.2	26.1
82.5°	21.1	20.9	20.8	20.6	20.5	20.4	20.3	20.2
85°	12.3	12.1	11.9	11.8	11.8	11.8	11.8	11.8
87.5°	7.7	7.8	7.9	8.1	8.2	8.4	8.4	8.6
90°	16.6	17.5	18.4	19.0	19.3	19.6	19.9	20.2
92.5°	16.1	17.0	17.8	18.3	18.4	18.4	18.5	18.6
95°	16.6	17.5	18.4	18.9	19.1	19.2	19.4	19.5
97.5°	18.0	18.1	18.2	18.3	18.4	18.5	18.7	18.9
100°	24.5	22.0	19.5	18.3	18.4	18.5	18.7	18.9
102.5°	87.8	60.4	33.0	19.3	19.3	19.3	19.4	19.4
105°	212.8	214.0	215.4	213.4	208.0	202.6	197.3	191.8
107.5°	263.2	263.8	264.5	265.1	265.7	266.2	266.8	267.4
110°	297.5	297.8	298.1	298.4	298.9	299.4	299.8	300.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	330.7	330.6	330.5	330.8	331.4	332.0	332.5	333.1
115°	380.3	380.6	380.9	381.1	381.1	381.1	381.1	381.1
117.5°	430.2	430.2	430.1	430.0	430.0	429.9	429.8	429.8
120°	461.1	461.4	461.7	461.7	461.4	461.1	460.8	460.5
122.5°	491.5	491.7	491.9	491.8	491.5	491.2	490.9	490.6
125°	534.1	534.5	534.9	535.3	535.5	535.5	535.7	535.9
127.5°	576.4	576.3	576.2	576.1	575.9	575.8	575.8	575.6
130°	602.2	602.3	602.4	602.5	602.5	602.5	602.5	602.5
132.5°	627.5	627.6	627.8	627.8	627.7	627.5	627.4	627.3
135°	662.4	662.6	663.0	663.2	663.6	663.8	664.2	664.4
137.5°	695.8	696.1	696.5	696.5	696.5	696.4	696.3	696.2
140°	716.5	717.0	717.4	717.7	717.9	718.0	718.2	718.3
142.5°	735.6	736.0	736.3	736.5	736.5	736.6	736.6	736.6
145°	763.0	763.2	763.4	763.5	763.9	764.1	764.5	764.7
147.5°	787.1	787.2	787.3	787.5	787.6	787.7	787.9	788.1
150°	802.5	802.5	802.5	802.5	802.7	802.8	803.0	803.1
152.5°	815.9	816.1	816.3	816.4	816.3	816.2	816.1	816.1
155°	834.0	834.6	835.2	835.3	834.7	834.3	833.9	833.4
157.5°	849.5	850.3	851.1	851.1	850.3	849.5	848.8	848.0
160°	859.5	860.4	861.3	861.3	860.4	859.5	858.6	857.6
162.5°	867.5	868.4	869.4	869.3	868.2	867.2	866.3	865.2
165°	878.9	880.1	881.3	881.2	879.9	878.6	877.2	875.8
167.5°	887.3	888.6	889.8	889.8	888.3	886.7	885.3	883.8
170°	892.3	893.5	894.8	894.6	893.1	891.7	890.1	888.6
172.5°	895.6	896.8	898.0	897.8	896.2	894.6	892.9	891.3
175°	899.4	900.8	902.1	901.9	900.1	898.3	896.5	894.7
177.5°	901.0	901.9	902.8	902.6	901.1	899.7	898.3	896.8
180°	900.1	900.1	900.1	900.1	900.1	900.1	900.1	900.1

(END OF REPORT)