

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: P332904-830

Luminaire Tested: **SA4XXRDIP-C575D590U830-4F0-1E-UDD-F**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P332904-830
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-C575D590U830-4F0-1E-UDD-F
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 575 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 590 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

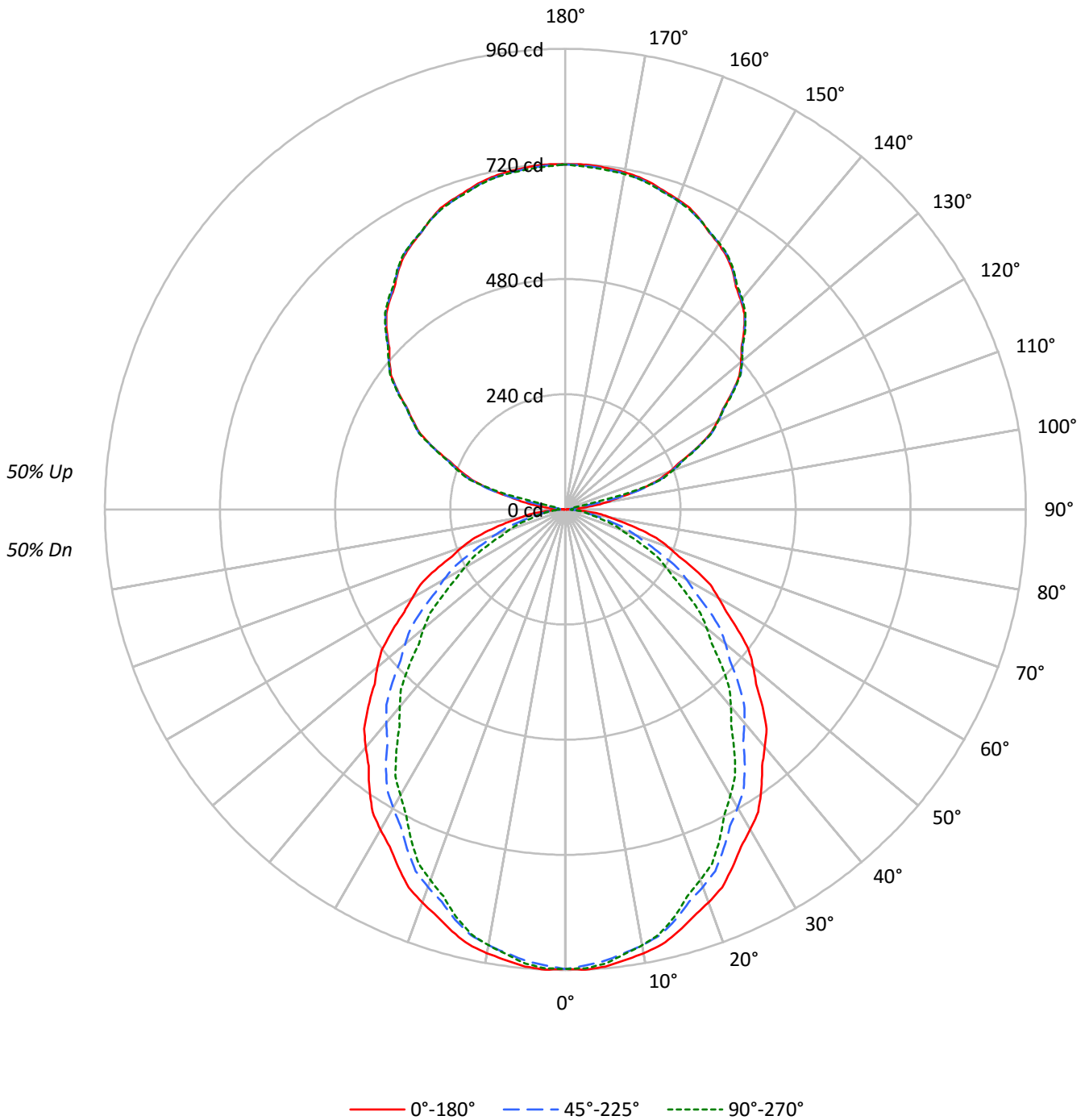
Lumens per Lamp: N/A
Luminaire Lumens: 4438.8 lumens
Efficiency: N/A
Efficacy: 135.3 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.09 / 1.24
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')
CIE Type: General Diffuse

Input Watts (W): 32.8
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	50	30	10	0	
RCR																						
0	107	107	107	107	99	99	99	99	83	83	83	69	69	69	56	56	56	50				
1	98	94	90	87	90	87	83	81	73	71	69	61	60	58	50	49	48	43				
2	89	82	76	71	82	76	71	66	65	61	57	54	51	49	44	42	41	36				
3	82	72	65	60	75	67	61	56	57	52	49	48	45	42	39	37	35	31				
4	75	64	57	51	69	60	53	48	51	46	42	43	39	36	35	33	30	27				
5	69	57	49	43	63	53	46	41	46	40	36	39	34	31	32	29	27	23				
6	63	52	44	38	58	48	41	36	41	36	32	35	31	27	29	26	23	21				
7	59	47	39	33	54	43	36	31	37	32	28	32	28	24	27	23	21	18				
8	55	42	35	29	50	40	33	28	34	29	25	29	25	22	24	21	19	16				
9	51	39	31	26	47	36	30	25	31	26	22	27	23	20	23	19	17	15				
10	47	36	28	24	44	33	27	22	29	24	20	25	21	18	21	18	16	14				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	7733	7733	7733
5°	7750	7656	7703
10°	7702	7564	7564
15°	7614	7405	7350
20°	7491	7196	7064
25°	7337	6951	6774
30°	7185	6693	6413
35°	7019	6427	6050
40°	6817	6122	5658
45°	6632	5819	5259
50°	6420	5471	4835
55°	6194	5111	4376
60°	5945	4713	3907
65°	5717	4216	3446
70°	5384	3670	2924
75°	4966	3044	2380
80°	4328	2320	2180
85°	3668	2103	1973



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	90.0	2.0
10°-20°	250.9	5.7
20°-30°	362.3	8.2
30°-40°	410.7	9.3
40°-50°	396.6	8.9
50°-60°	329.8	7.4
60°-70°	227.7	5.1
70°-80°	115.4	2.6
80°-90°	31.7	0.7
90°-100°	24.6	0.6
100°-110°	156.8	3.5
110°-120°	299.9	6.8
120°-130°	380.7	8.6
130°-140°	407.3	9.2
140°-150°	380.9	8.6
150°-160°	307.1	6.9
160°-170°	198.1	4.5
170°-180°	68.3	1.5
0°-30°	703.2	15.8
0°-40°	1113.9	25.1
0°-60°	1840.3	41.5
0°-90°	2215.2	49.9
90°-120°	481.2	10.8
90°-150°	1650.1	37.2
90°-180°	2224.0	50.1
0°-180°	4438.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	958	958	958	958	958	
5°	956	953	945	952	951	91
15°	911	904	886	884	879	257
25°	824	810	780	768	760	379
35°	712	688	652	628	614	445
45°	581	553	510	475	461	448
55°	440	410	363	326	311	394
65°	299	267	221	190	180	295
75°	159	132	98	81	76	168
85°	40	26	23	21	21	45
90°	2	7	12	15	16	3
95°	30	12	12	15	16	38
105°	162	165	168	171	153	169
115°	302	304	303	304	304	297
125°	425	427	426	427	428	379
135°	527	526	528	530	531	406
145°	608	609	609	610	611	380
155°	666	667	665	667	666	307
165°	703	700	700	704	700	198
175°	719	716	716	720	714	68
180°	719	719	719	719	719	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	957.9	957.9	957.9	957.9	957.9	957.9	957.9	957.9	957.9	957.9	957.9
2.5°	960.3	959.7	959.2	958.7	958.2	957.2	955.7	954.3	952.8	951.4	952.8
5°	956.4	955.7	955.1	954.4	953.9	952.5	950.6	948.6	946.6	944.7	946.3
7.5°	947.7	947.1	946.4	945.7	945.0	943.4	940.8	938.3	935.8	933.2	934.2
10°	939.5	938.8	937.9	937.1	936.3	934.4	931.5	928.5	925.6	922.7	923.3
12.5°	929.0	928.0	927.1	926.1	925.2	923.0	919.5	916.1	912.7	909.2	909.6
15°	911.0	909.5	908.0	906.5	905.0	902.3	898.2	894.2	890.0	886.0	885.7
17.5°	889.1	886.9	884.9	882.7	880.6	877.1	872.2	867.3	862.4	857.5	856.7
20°	872.0	870.0	867.8	865.7	863.6	859.8	854.2	848.7	843.1	837.6	836.3
22.5°	853.3	850.9	848.6	846.1	843.8	839.6	833.7	827.7	821.8	815.9	813.9
25°	823.7	820.8	817.7	814.8	811.9	807.1	800.4	793.7	787.0	780.4	777.6
27.5°	792.6	788.9	785.2	781.6	777.8	772.4	765.3	758.2	751.0	743.9	740.5
30°	770.8	766.8	762.7	758.7	754.6	748.7	741.0	733.4	725.7	718.0	714.0
32.5°	748.0	743.4	738.8	734.1	729.6	723.3	715.4	707.5	699.6	691.6	686.9
35°	712.2	707.0	701.7	696.5	691.4	684.7	676.5	668.4	660.2	652.1	646.5
37.5°	673.9	668.5	663.2	657.8	652.3	645.2	636.1	627.1	618.1	609.1	602.9
40°	646.9	641.5	636.1	630.7	625.4	618.0	608.8	599.5	590.2	580.9	574.0
42.5°	621.0	615.5	609.8	604.2	598.5	590.9	581.2	571.5	561.8	552.1	545.2
45°	580.9	574.9	568.8	562.8	556.8	548.8	539.0	529.3	519.5	509.7	501.7
47.5°	539.4	533.2	526.9	520.7	514.4	506.2	496.1	486.0	475.8	465.6	457.3
50°	511.2	504.8	498.5	492.1	485.8	477.4	466.9	456.6	446.1	435.6	427.5
52.5°	482.5	476.3	470.0	463.8	457.5	449.1	438.4	427.7	417.0	406.3	398.0
55°	440.1	433.6	427.1	420.5	414.0	405.4	394.8	384.3	373.6	363.1	354.6
57.5°	398.1	391.3	384.6	377.8	371.0	362.4	351.9	341.5	331.1	320.7	312.1
60°	368.2	361.7	355.2	348.6	342.1	333.7	323.2	312.7	302.4	291.9	283.4
62.5°	341.2	334.4	327.6	320.8	314.1	305.4	294.6	284.0	273.2	262.6	254.8
65°	299.3	292.3	285.2	278.2	271.2	262.5	252.0	241.7	231.2	220.7	213.8
67.5°	255.7	248.9	242.2	235.5	228.8	220.6	210.9	201.2	191.6	181.9	175.9
70°	228.1	221.2	214.4	207.5	200.8	192.7	183.3	174.1	164.8	155.5	150.1
72.5°	198.8	192.6	186.3	180.2	174.0	166.5	157.8	149.0	140.2	131.4	126.9
75°	159.2	153.2	147.1	141.1	135.1	128.2	120.6	112.8	105.2	97.6	93.8
77.5°	118.9	113.9	108.8	103.6	98.5	92.8	86.6	80.5	74.3	68.1	65.9
80°	93.1	88.4	83.7	79.0	74.3	69.5	64.6	59.7	54.8	49.9	49.4
82.5°	70.9	66.5	62.2	57.9	53.5	50.0	47.1	44.3	41.6	38.7	38.4
85°	39.6	36.4	33.1	29.8	26.6	24.7	24.2	23.8	23.2	22.7	22.4
87.5°	13.9	13.0	12.3	11.5	10.7	10.4	10.4	10.5	10.6	10.6	10.6
90°	1.6	2.9	4.2	5.6	6.9	8.0	9.0	9.9	10.8	11.8	12.5
92.5°	6.8	6.9	6.9	7.0	7.1	7.5	8.6	9.5	10.5	11.4	12.2
95°	29.6	25.5	21.5	17.3	13.3	11.3	11.5	11.6	11.7	11.8	12.5
97.5°	62.8	65.3	67.9	70.4	73.0	67.5	54.2	40.9	27.5	14.2	14.2
100°	88.1	90.3	92.5	94.6	96.8	89.6	73.1	56.6	40.2	23.7	21.6
102.5°	116.6	118.1	119.7	121.3	122.9	122.6	120.5	118.3	116.1	114.0	92.1
105°	161.8	162.6	163.2	164.0	164.7	165.3	166.0	166.5	167.1	167.8	168.8
107.5°	203.9	204.2	204.6	204.9	205.3	205.9	206.7	207.5	208.3	209.2	209.7
110°	232.2	232.6	233.0	233.4	233.7	234.2	235.0	235.6	236.4	237.1	237.3



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	259.8	260.4	261.1	261.7	262.4	262.9	263.2	263.5	263.9	264.2	264.2
115°	302.2	302.6	302.8	303.2	303.6	303.7	303.6	303.5	303.3	303.2	303.5
117.5°	340.4	340.8	341.3	341.8	342.2	342.6	342.9	343.2	343.4	343.7	343.7
120°	366.2	366.6	367.1	367.6	368.1	368.3	368.2	368.0	367.9	367.8	368.0
122.5°	390.2	390.5	390.8	391.1	391.3	391.6	391.8	391.9	392.1	392.3	392.4
125°	424.7	425.2	425.7	426.2	426.7	426.8	426.5	426.3	426.0	425.8	426.2
127.5°	457.4	457.5	457.7	457.8	457.9	458.3	458.8	459.3	459.9	460.4	460.3
130°	478.5	478.6	478.7	478.9	479.0	479.2	479.6	479.9	480.3	480.7	480.8
132.5°	497.9	498.0	498.3	498.5	498.7	499.1	499.5	499.9	500.4	500.9	501.0
135°	526.9	526.8	526.7	526.5	526.4	526.6	527.1	527.5	528.0	528.5	528.8
137.5°	552.6	552.6	552.7	552.7	552.8	553.1	553.6	554.1	554.7	555.2	555.4
140°	569.4	569.6	569.9	570.0	570.3	570.5	570.8	571.1	571.3	571.6	571.8
142.5°	584.5	584.8	585.3	585.7	586.2	586.4	586.5	586.7	586.8	587.0	587.3
145°	607.6	607.9	608.2	608.6	609.0	609.2	609.2	609.2	609.2	609.2	609.3
147.5°	625.9	626.6	627.3	627.9	628.6	628.9	628.8	628.7	628.5	628.4	628.5
150°	639.2	639.7	640.3	640.7	641.2	641.4	641.2	641.1	641.0	640.8	640.8
152.5°	650.4	650.8	651.2	651.6	652.0	652.1	651.9	651.7	651.4	651.2	651.4
155°	666.2	666.3	666.4	666.5	666.7	666.5	666.2	665.8	665.4	665.1	665.5
157.5°	679.4	679.3	679.2	679.2	679.1	678.8	678.4	678.1	677.6	677.2	677.9
160°	687.1	686.7	686.4	686.1	685.7	685.4	685.3	685.2	685.0	684.9	685.7
162.5°	694.0	693.5	693.1	692.7	692.2	691.9	691.7	691.6	691.5	691.4	692.1
165°	702.7	702.1	701.5	700.9	700.3	700.0	700.0	700.0	700.0	700.0	701.0
167.5°	709.5	709.0	708.3	707.8	707.1	706.7	706.7	706.6	706.5	706.4	707.6
170°	713.5	712.8	712.0	711.3	710.6	710.3	710.4	710.5	710.7	710.8	711.7
172.5°	716.0	715.3	714.6	713.9	713.2	712.8	713.0	713.1	713.2	713.3	714.4
175°	718.9	718.1	717.4	716.7	716.0	715.7	715.8	716.0	716.0	716.1	717.2
177.5°	720.1	719.4	718.8	718.1	717.5	717.2	717.4	717.6	717.7	717.9	718.8
180°	718.9	718.9	718.9	718.9	718.9	718.9	718.9	718.9	718.9	718.9	718.9



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	957.9	957.9	957.9	957.9	957.9	957.9	957.9	957.9
2.5°	954.3	955.7	957.2	957.8	957.7	957.5	957.4	957.3
5°	947.9	949.6	951.2	951.9	951.5	951.2	950.8	950.6
7.5°	935.3	936.3	937.5	937.6	937.2	936.6	936.1	935.6
10°	924.0	924.6	925.3	925.3	924.6	924.0	923.3	922.7
12.5°	909.9	910.3	910.8	910.5	909.6	908.7	907.8	906.8
15°	885.3	885.0	884.7	884.0	882.8	881.7	880.5	879.4
17.5°	855.7	854.8	853.8	852.5	850.8	849.1	847.3	845.6
20°	835.0	833.7	832.4	830.7	828.6	826.4	824.3	822.2
22.5°	812.0	810.0	808.0	806.3	804.5	802.8	801.1	799.3
25°	774.9	772.0	769.3	767.1	765.4	763.8	762.2	760.5
27.5°	737.0	733.6	730.2	727.3	724.9	722.6	720.3	717.9
30°	709.9	705.8	701.7	698.4	695.8	693.1	690.6	688.0
32.5°	682.2	677.5	672.7	669.1	666.7	664.2	661.7	659.2
35°	640.9	635.4	629.9	625.7	622.7	619.7	616.8	613.9
37.5°	596.6	590.5	584.3	579.8	576.7	573.8	570.9	568.0
40°	567.2	560.3	553.5	548.7	545.6	542.7	539.8	536.9
42.5°	538.2	531.2	524.2	519.2	516.1	513.1	510.0	507.0
45°	493.8	485.8	477.8	472.3	469.4	466.5	463.5	460.6
47.5°	449.0	440.7	432.4	426.7	423.5	420.3	417.1	413.8
50°	419.3	411.2	403.0	397.5	394.4	391.2	388.1	385.0
52.5°	389.7	381.4	373.2	367.5	364.2	361.0	357.8	354.6
55°	346.1	337.6	329.1	323.4	320.3	317.2	314.1	310.9
57.5°	303.4	294.8	286.3	280.8	278.4	276.1	273.7	271.4
60°	274.9	266.5	258.0	252.5	249.9	247.2	244.7	242.0
62.5°	246.9	239.1	231.3	226.3	224.2	222.2	220.1	218.0
65°	206.8	199.7	192.7	188.2	186.3	184.4	182.4	180.4
67.5°	169.8	163.8	157.8	153.7	151.6	149.4	147.2	145.1
70°	144.8	139.4	133.9	130.4	128.8	127.2	125.5	123.9
72.5°	122.2	117.6	113.0	110.0	108.5	107.0	105.5	104.0
75°	90.0	86.3	82.6	80.2	79.2	78.2	77.3	76.3
77.5°	63.7	61.5	59.3	58.1	57.8	57.5	57.2	56.9
80°	48.9	48.4	47.9	47.6	47.4	47.2	47.1	46.9
82.5°	38.0	37.6	37.3	37.0	36.9	36.7	36.6	36.4
85°	22.1	21.8	21.4	21.3	21.3	21.3	21.3	21.3
87.5°	10.7	10.7	10.7	10.7	10.9	11.1	11.2	11.4
90°	13.3	13.9	14.7	15.2	15.5	15.6	15.9	16.1
92.5°	12.8	13.6	14.2	14.6	14.7	14.7	14.8	14.8
95°	13.3	13.9	14.7	15.1	15.3	15.4	15.5	15.6
97.5°	14.3	14.4	14.5	14.6	14.7	14.8	14.9	15.1
100°	19.6	17.5	15.6	14.6	14.7	14.8	14.9	15.1
102.5°	70.1	48.3	26.3	15.4	15.5	15.5	15.5	15.5
105°	169.9	171.0	172.0	170.4	166.2	161.8	157.5	153.3
107.5°	210.2	210.8	211.2	211.7	212.2	212.6	213.1	213.6
110°	237.6	237.8	238.1	238.4	238.7	239.0	239.4	239.8



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	264.1	264.1	264.0	264.2	264.7	265.1	265.6	266.0
115°	303.7	304.0	304.2	304.3	304.3	304.3	304.3	304.3
117.5°	343.6	343.6	343.5	343.5	343.4	343.4	343.3	343.3
120°	368.3	368.4	368.7	368.7	368.4	368.3	368.0	367.8
122.5°	392.6	392.7	392.9	392.8	392.6	392.3	392.1	391.8
125°	426.5	426.9	427.3	427.5	427.6	427.7	427.8	428.0
127.5°	460.3	460.2	460.1	460.1	460.0	459.9	459.8	459.7
130°	480.9	481.0	481.2	481.2	481.2	481.2	481.2	481.2
132.5°	501.1	501.2	501.3	501.3	501.2	501.1	501.1	501.0
135°	529.0	529.2	529.4	529.7	529.9	530.2	530.5	530.7
137.5°	555.7	556.0	556.2	556.3	556.3	556.2	556.1	556.0
140°	572.2	572.6	573.0	573.2	573.3	573.4	573.5	573.6
142.5°	587.5	587.8	588.1	588.2	588.2	588.2	588.2	588.3
145°	609.4	609.5	609.6	609.8	610.0	610.3	610.6	610.8
147.5°	628.6	628.7	628.8	628.9	629.1	629.1	629.2	629.3
150°	640.8	640.8	640.8	640.9	641.0	641.2	641.3	641.4
152.5°	651.6	651.8	652.0	652.1	652.0	651.9	651.8	651.8
155°	666.0	666.5	666.9	667.0	666.7	666.3	666.0	665.6
157.5°	678.4	679.1	679.7	679.7	679.1	678.4	677.9	677.2
160°	686.4	687.1	687.9	687.9	687.1	686.4	685.7	684.9
162.5°	692.9	693.5	694.3	694.3	693.4	692.6	691.8	691.0
165°	701.9	702.9	703.9	703.8	702.7	701.6	700.6	699.5
167.5°	708.6	709.6	710.7	710.6	709.5	708.2	707.0	705.9
170°	712.7	713.6	714.6	714.4	713.3	712.1	710.9	709.7
172.5°	715.3	716.2	717.2	717.0	715.8	714.4	713.1	711.8
175°	718.3	719.3	720.5	720.3	718.9	717.4	716.0	714.5
177.5°	719.5	720.3	721.0	720.9	719.7	718.6	717.4	716.2
180°	718.9	718.9	718.9	718.9	718.9	718.9	718.9	718.9

(END OF REPORT)