

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: P331655-940

Luminaire Tested: **SA2XXRDIP-C485D530U940-4F0-1E-UDD-F1**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331655-940
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-8,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA2XXRDIP-C485D530U940-4F0-1E-UDD-F1
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 485 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 530 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3200.8 lumens
Efficiency: N/A
Efficacy: 97.6 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: General Diffuse

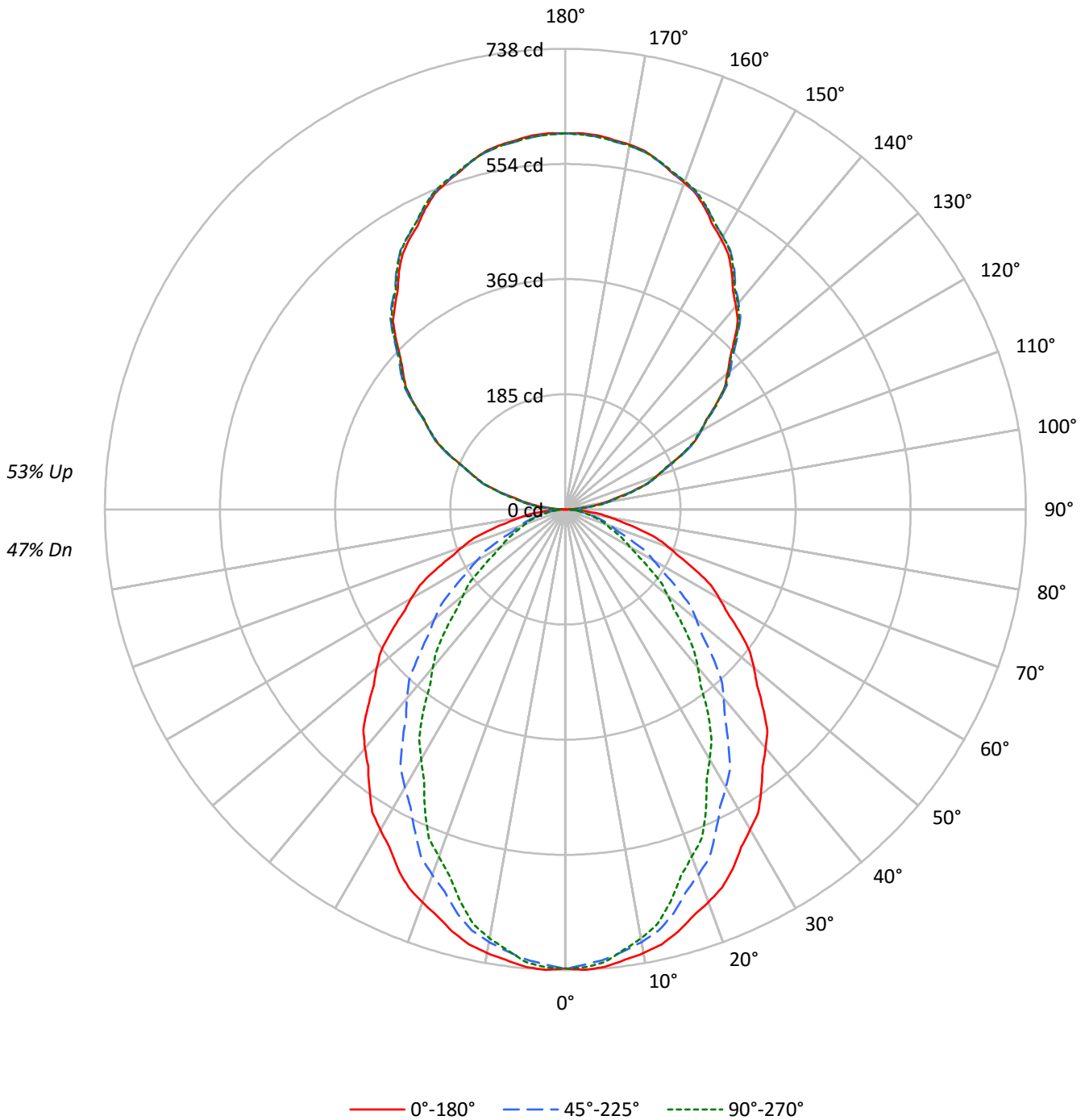
Input Watts (W): 32.8
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	98	98	98	98	82	82	82	67	67	67	54	54	54	47				
1	98	93	90	86	90	86	83	80	72	70	68	60	58	57	48	47	46	41				
2	89	82	76	71	82	76	71	66	64	60	57	53	50	48	43	41	40	35				
3	82	73	66	60	75	67	61	56	57	52	49	47	44	41	38	36	34	30				
4	75	65	57	51	69	60	53	48	51	46	42	42	39	36	35	32	30	26				
5	69	58	50	44	63	54	47	41	46	40	36	38	34	31	31	29	26	23				
6	64	52	44	38	58	48	41	36	41	36	32	35	31	28	29	26	23	20				
7	59	47	39	34	54	44	37	32	38	32	28	32	28	25	26	23	21	18				
8	55	43	35	30	50	40	33	28	34	29	25	29	25	22	24	21	19	17				
9	51	39	32	27	47	37	30	25	32	26	23	27	23	20	22	19	17	15				
10	48	36	29	24	44	34	27	23	29	24	21	25	21	18	21	18	16	14				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	11880	11880	11880
5°	11925	11733	11797
10°	11835	11540	11442
15°	11699	11198	10877
20°	11510	10710	10172
25°	11318	10156	9492
30°	11050	9587	8617
35°	10789	8966	7849
40°	10526	8323	6962
45°	10218	7604	6158
50°	9902	6875	5368
55°	9579	6092	4611
60°	9203	5270	3827
65°	8779	4424	3484
70°	8266	3644	3205
75°	7642	3319	2994
80°	6750	2966	2724
85°	5298	2353	2353



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	68.9	2.2
10°-20°	189.1	5.9
20°-30°	265.6	8.3
30°-40°	289.6	9.0
40°-50°	266.3	8.3
50°-60°	209.1	6.5
60°-70°	136.4	4.3
70°-80°	70.3	2.2
80°-90°	20.6	0.6
90°-100°	38.2	1.2
100°-110°	118.6	3.7
110°-120°	202.7	6.3
120°-130°	266.6	8.3
130°-140°	299.2	9.3
140°-150°	293.4	9.2
150°-160°	246.1	7.7
160°-170°	163.2	5.1
170°-180°	57.0	1.8
0°-30°	523.6	16.4
0°-40°	813.2	25.4
0°-60°	1288.6	40.3
0°-90°	1515.9	47.4
90°-120°	359.5	11.2
90°-150°	1218.6	38.1
90°-180°	1685.0	52.6
0°-180°	3200.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	736	736	736	736	736	
5°	736	732	724	729	728	70
15°	700	692	670	658	651	197
25°	635	613	570	544	533	292
35°	547	512	455	414	398	342
45°	448	402	333	287	270	345
55°	340	287	216	178	164	304
65°	230	176	116	94	91	228
75°	122	77	53	49	48	130
85°	29	15	13	13	13	34
90°	0	7	18	17	17	3
95°	26	31	32	32	32	30
105°	109	111	112	113	113	115
115°	203	206	206	205	203	201
125°	296	300	299	298	297	264
135°	383	388	390	389	387	296
145°	465	468	471	472	470	290
155°	531	533	534	537	536	244
165°	578	578	578	581	579	163
175°	602	600	599	602	600	57
180°	602	602	602	602	602	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	735.8	735.8	735.8	735.8	735.8	735.8	735.8	735.8	735.8	735.8	735.8
2.5°	738.5	738.0	737.4	736.7	736.2	735.2	734.0	732.6	731.3	730.0	731.2
5°	735.8	735.1	734.4	733.7	732.9	731.6	729.7	727.7	725.9	723.9	725.2
7.5°	728.3	727.4	726.5	725.5	724.6	723.0	720.8	718.5	716.3	714.1	714.4
10°	721.9	720.9	719.8	718.8	717.7	715.8	712.8	709.8	706.9	703.9	703.5
12.5°	713.9	712.7	711.3	710.1	708.8	706.3	702.5	698.7	694.9	691.2	690.4
15°	699.9	698.3	696.7	695.0	693.4	690.1	685.0	680.0	675.0	669.9	667.2
17.5°	682.8	680.3	677.8	675.3	672.8	668.3	661.9	655.4	649.0	642.5	639.2
20°	669.9	667.0	664.1	661.1	658.1	652.9	645.5	638.1	630.7	623.3	619.6
22.5°	656.1	652.8	649.4	646.1	642.8	637.0	628.7	620.3	612.0	603.6	598.9
25°	635.3	630.6	625.9	621.1	616.4	609.1	599.3	589.6	579.8	570.1	564.0
27.5°	610.3	605.1	599.9	594.9	589.7	581.6	570.6	559.5	548.6	537.5	530.5
30°	592.7	587.1	581.5	575.9	570.2	561.5	549.7	537.8	525.9	514.2	506.6
32.5°	575.7	569.1	562.5	556.0	549.4	540.0	528.0	515.9	503.8	491.8	483.1
35°	547.4	539.8	532.4	524.8	517.2	506.9	493.9	480.9	467.9	454.9	445.5
37.5°	519.2	510.9	502.6	494.3	486.1	474.9	461.1	447.2	433.3	419.5	409.1
40°	499.4	490.6	481.7	472.9	464.0	452.4	438.0	423.7	409.3	394.9	384.4
42.5°	479.2	469.8	460.5	451.2	441.8	429.7	414.9	400.0	385.2	370.4	359.5
45°	447.5	437.7	427.7	417.8	407.9	395.1	379.6	364.1	348.5	333.0	322.4
47.5°	416.6	406.1	395.7	385.1	374.6	361.3	345.3	329.2	313.2	297.1	286.7
50°	394.2	383.7	373.3	362.7	352.2	338.9	322.5	306.3	290.0	273.7	263.5
52.5°	372.4	361.4	350.4	339.5	328.5	315.0	299.1	283.2	267.2	251.4	241.5
55°	340.3	328.8	317.2	305.7	294.2	280.4	264.4	248.4	232.4	216.4	207.6
57.5°	307.4	295.6	283.7	271.9	260.0	246.5	231.1	215.7	200.4	185.0	176.8
60°	285.0	273.2	261.4	249.5	237.6	224.2	208.9	193.7	178.4	163.2	155.6
62.5°	263.1	251.4	239.5	227.7	215.8	202.7	188.2	173.6	159.1	144.5	137.3
65°	229.8	217.8	205.8	193.8	181.8	169.2	155.9	142.5	129.2	115.8	110.8
67.5°	197.5	185.7	173.7	161.8	149.9	137.9	126.0	114.0	102.0	90.1	87.7
70°	175.1	163.6	152.0	140.5	128.9	118.1	107.9	97.6	87.5	77.2	75.8
72.5°	153.8	142.8	131.7	120.6	109.6	100.0	91.8	83.6	75.3	67.1	65.9
75°	122.5	112.2	101.8	91.5	81.1	73.4	68.4	63.3	58.3	53.2	52.3
77.5°	91.8	82.7	73.6	64.5	55.5	49.7	47.3	44.9	42.4	39.9	39.3
80°	72.6	65.0	57.5	49.9	42.4	37.9	36.4	35.0	33.4	31.9	31.4
82.5°	55.0	49.1	43.2	37.4	31.5	28.0	27.0	25.9	25.0	24.0	23.6
85°	28.6	25.5	22.4	19.4	16.2	14.4	14.0	13.6	13.1	12.7	12.7
87.5°	8.6	7.9	7.3	6.6	5.9	5.8	6.3	6.9	7.3	7.8	7.7
90°	0.5	1.9	3.2	4.5	6.0	7.8	10.3	12.8	15.3	17.8	17.6
92.5°	9.1	10.1	11.1	12.0	13.0	13.8	14.4	15.0	15.6	16.1	16.2
95°	26.5	27.6	28.7	29.9	30.9	31.7	31.8	32.1	32.3	32.5	32.5
97.5°	48.3	49.3	50.3	51.3	52.3	53.0	53.4	53.9	54.3	54.8	54.8
100°	64.6	65.5	66.3	67.3	68.2	68.8	69.2	69.5	69.8	70.2	70.2
102.5°	81.7	82.4	83.1	83.8	84.5	85.2	85.6	86.0	86.4	86.9	86.9
105°	109.3	109.7	110.0	110.3	110.7	110.9	111.2	111.4	111.6	111.9	112.1
107.5°	137.2	137.7	138.2	138.7	139.2	139.5	139.5	139.5	139.5	139.5	139.6
110°	155.1	155.8	156.4	157.1	157.8	158.1	158.1	158.1	158.1	158.1	158.1



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	174.6	175.3	175.9	176.6	177.4	177.6	177.5	177.5	177.4	177.3	177.0
115°	203.4	204.1	204.7	205.5	206.1	206.3	206.1	205.9	205.6	205.5	205.4
117.5°	232.1	233.0	233.9	234.8	235.7	235.9	235.2	234.5	233.9	233.3	233.0
120°	251.2	252.1	253.0	253.9	254.9	254.9	253.9	253.0	252.1	251.2	251.2
122.5°	268.7	269.7	270.9	272.0	273.0	273.2	272.6	272.0	271.3	270.7	270.5
125°	296.0	296.9	298.0	299.0	300.0	300.3	300.0	299.7	299.3	299.0	298.6
127.5°	322.4	323.8	325.0	326.4	327.6	328.1	327.7	327.3	326.9	326.5	326.0
130°	339.2	340.6	342.1	343.6	345.0	345.6	345.4	345.2	345.0	344.7	344.6
132.5°	357.8	359.1	360.3	361.5	362.7	363.3	363.4	363.4	363.5	363.5	363.0
135°	382.9	384.1	385.4	386.6	387.9	388.6	388.8	389.1	389.3	389.5	389.4
137.5°	409.2	410.3	411.3	412.3	413.3	413.9	414.3	414.6	414.8	415.1	415.0
140°	425.1	426.1	427.1	428.1	429.2	430.0	430.5	431.1	431.7	432.2	432.2
142.5°	441.4	442.4	443.4	444.4	445.4	446.1	446.6	446.9	447.3	447.6	447.7
145°	464.8	465.6	466.4	467.2	468.0	468.7	469.3	470.0	470.7	471.4	471.4
147.5°	485.6	486.5	487.5	488.5	489.4	490.1	490.5	491.0	491.4	492.0	492.1
150°	499.9	500.5	501.2	501.9	502.6	503.1	503.5	504.0	504.4	505.0	505.2
152.5°	512.5	513.2	513.8	514.5	515.1	515.8	516.3	516.8	517.4	518.0	518.4
155°	531.4	531.7	532.1	532.4	532.7	533.1	533.4	533.8	534.0	534.4	535.0
157.5°	547.5	547.8	548.0	548.2	548.5	548.7	548.8	549.1	549.3	549.5	550.3
160°	557.3	557.5	557.8	557.9	558.2	558.4	558.5	558.6	558.7	558.8	559.5
162.5°	566.2	566.3	566.3	566.4	566.4	566.5	566.6	566.8	566.9	566.9	567.8
165°	578.2	578.0	577.9	577.8	577.7	577.7	577.7	577.7	577.7	577.7	578.5
167.5°	588.1	587.8	587.5	587.1	586.7	586.6	586.6	586.6	586.5	586.5	587.3
170°	593.4	593.1	592.7	592.4	592.1	591.8	591.7	591.6	591.5	591.4	592.2
172.5°	597.1	596.7	596.4	596.0	595.8	595.5	595.4	595.3	595.1	595.0	595.8
175°	601.5	601.2	600.8	600.6	600.2	599.9	599.7	599.5	599.2	599.0	599.8
177.5°	603.4	603.1	602.8	602.5	602.3	602.1	601.9	601.7	601.5	601.4	601.9
180°	602.5	602.5	602.5	602.5	602.5	602.5	602.5	602.5	602.5	602.5	602.5



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	735.8	735.8	735.8	735.8	735.8	735.8	735.8	735.8
2.5°	732.4	733.6	734.8	735.2	735.0	734.8	734.5	734.3
5°	726.6	727.9	729.2	729.7	729.2	728.8	728.3	727.9
7.5°	714.8	715.2	715.6	715.4	714.6	713.8	713.1	712.3
10°	703.0	702.6	702.1	701.5	700.6	699.7	698.8	697.9
12.5°	689.6	688.8	688.0	686.8	685.3	683.9	682.3	680.9
15°	664.3	661.6	658.7	656.6	655.1	653.6	652.1	650.7
17.5°	635.8	632.5	629.1	626.2	623.7	621.1	618.6	616.0
20°	615.9	612.2	608.5	605.0	601.8	598.5	595.3	592.0
22.5°	594.1	589.3	584.6	580.9	578.5	576.1	573.7	571.2
25°	557.9	551.9	545.8	541.6	539.4	537.2	535.0	532.8
27.5°	523.4	516.3	509.3	504.0	500.4	497.0	493.4	489.9
30°	499.0	491.5	483.9	478.1	474.1	470.2	466.2	462.2
32.5°	474.5	465.9	457.3	451.1	447.4	443.6	439.8	436.0
35°	436.2	426.9	417.6	411.3	408.0	404.7	401.5	398.2
37.5°	398.9	388.6	378.4	371.3	367.7	363.9	360.2	356.4
40°	373.9	363.4	352.8	345.7	341.9	338.0	334.1	330.3
42.5°	348.7	337.8	327.0	319.7	315.9	312.2	308.4	304.7
45°	311.9	301.5	291.0	283.9	280.4	276.8	273.2	269.7
47.5°	276.3	265.8	255.4	248.5	245.3	242.1	238.8	235.6
50°	253.2	243.1	232.8	226.2	223.1	220.0	216.9	213.7
52.5°	231.6	221.8	211.9	205.5	202.7	199.8	196.9	194.0
55°	198.7	189.8	180.9	175.0	172.3	169.4	166.7	163.8
57.5°	168.7	160.6	152.5	147.2	144.8	142.5	140.1	137.7
60°	148.0	140.5	133.0	128.0	125.6	123.2	120.9	118.5
62.5°	130.1	123.0	115.7	111.5	110.0	108.6	107.2	105.8
65°	105.8	100.8	95.8	93.0	92.6	92.1	91.7	91.2
67.5°	85.4	83.1	80.8	79.5	78.9	78.5	78.0	77.5
70°	74.3	72.9	71.3	70.3	69.7	69.1	68.5	67.9
72.5°	64.6	63.4	62.2	61.3	61.0	60.6	60.3	59.9
75°	51.2	50.2	49.1	48.5	48.4	48.2	48.1	48.0
77.5°	38.8	38.2	37.6	37.2	36.9	36.7	36.5	36.2
80°	30.8	30.2	29.6	29.3	29.3	29.3	29.3	29.3
82.5°	23.3	22.9	22.6	22.4	22.4	22.4	22.4	22.4
85°	12.7	12.7	12.7	12.7	12.7	12.7	12.7	12.7
87.5°	7.5	7.3	7.1	7.1	7.1	7.1	7.1	7.2
90°	17.4	17.1	16.9	16.9	16.9	17.0	17.2	17.3
92.5°	16.2	16.3	16.3	16.4	16.4	16.4	16.5	16.5
95°	32.5	32.5	32.5	32.5	32.2	32.0	31.7	31.6
97.5°	54.8	54.8	54.8	54.7	54.7	54.7	54.7	54.6
100°	70.2	70.2	70.2	70.1	70.0	69.9	69.8	69.6
102.5°	87.0	87.1	87.2	87.2	87.1	86.9	86.9	86.8
105°	112.4	112.5	112.8	112.9	112.9	112.9	112.9	112.9
107.5°	139.6	139.7	139.8	139.6	139.0	138.6	138.0	137.5
110°	158.1	158.1	158.1	158.0	157.7	157.3	156.9	156.6



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	176.7	176.5	176.2	175.9	175.7	175.4	175.1	175.0
115°	205.2	205.1	205.0	204.7	204.4	204.1	203.8	203.4
117.5°	232.7	232.5	232.2	231.9	231.6	231.2	230.9	230.5
120°	251.2	251.2	251.2	251.0	250.7	250.4	250.0	249.7
122.5°	270.2	269.9	269.7	269.4	269.1	268.9	268.7	268.4
125°	298.3	298.0	297.7	297.4	297.3	297.2	297.0	296.9
127.5°	325.7	325.2	324.9	324.4	324.0	323.7	323.3	323.0
130°	344.3	344.1	343.8	343.5	343.0	342.6	342.1	341.7
132.5°	362.5	361.9	361.5	361.1	360.7	360.3	360.0	359.6
135°	389.3	389.1	389.1	388.8	388.5	388.2	387.8	387.4
137.5°	414.9	414.8	414.7	414.5	414.0	413.6	413.1	412.7
140°	432.2	432.2	432.2	432.0	431.5	431.1	430.6	430.2
142.5°	447.8	447.9	448.0	447.8	447.4	446.9	446.5	446.0
145°	471.6	471.7	471.8	471.6	471.2	470.7	470.3	469.8
147.5°	492.4	492.7	492.9	492.8	492.4	492.0	491.5	491.1
150°	505.6	506.0	506.3	506.3	506.0	505.6	505.2	505.0
152.5°	518.8	519.2	519.7	519.7	519.2	518.8	518.4	518.0
155°	535.6	536.1	536.7	536.8	536.5	536.1	535.7	535.5
157.5°	551.0	551.8	552.6	552.7	552.1	551.6	551.1	550.5
160°	560.2	560.9	561.5	561.7	561.2	560.8	560.3	559.8
162.5°	568.5	569.3	570.1	570.2	569.6	569.1	568.6	568.0
165°	579.3	580.1	580.8	580.9	580.3	579.8	579.3	578.6
167.5°	588.1	588.9	589.7	589.8	589.2	588.6	588.0	587.4
170°	593.0	593.8	594.5	594.6	593.9	593.3	592.5	591.9
172.5°	596.6	597.4	598.2	598.2	597.6	596.9	596.2	595.6
175°	600.6	601.4	602.2	602.3	601.5	600.8	600.2	599.5
177.5°	602.4	603.0	603.5	603.5	603.0	602.4	601.9	601.4
180°	602.5	602.5	602.5	602.5	602.5	602.5	602.5	602.5

(END OF REPORT)