

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: P331923-840

Luminaire Tested: **S123DIP-S560D585U840-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331923-840
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-9,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123DIP-S560D585U840-4F0-1E-UDD-D1
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 560 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 585 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4420.2 lumens
Efficiency: N/A
Efficacy: 134.8 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.25' x L: 4' x H: 0.08')
CIE Type: General Diffuse

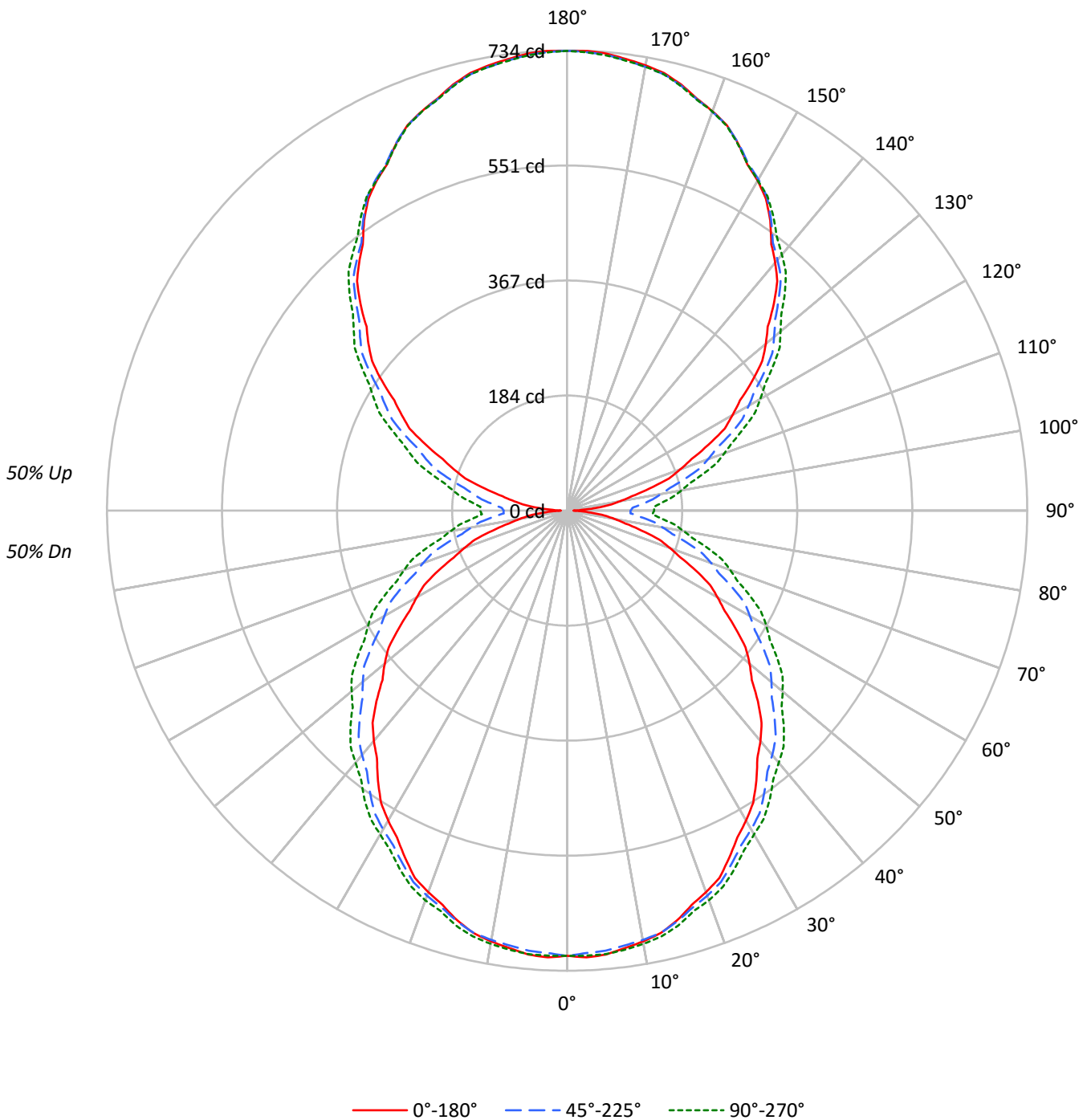
Input Watts (W): 32.8
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	107	107	107	107	99	99	99	99	83	83	83		69	69	69		56	56	56	50
1	97	92	88	84	89	85	81	78	71	69	66		59	57	55		48	46	45	40
2	88	80	73	68	80	73	68	63	62	58	54		51	48	45		41	39	37	32
3	80	70	62	56	73	64	57	52	54	49	45		45	41	38		36	33	31	27
4	73	61	53	47	67	57	49	44	48	42	38		40	36	32		32	29	26	23
5	67	55	46	40	61	50	43	37	43	37	32		36	31	28		29	26	23	20
6	61	49	40	34	56	45	38	32	38	33	28		32	28	24		26	23	20	17
7	57	44	36	30	52	41	34	28	35	29	25		29	25	21		24	20	18	15
8	52	40	32	27	48	37	30	25	32	26	22		27	22	19		22	18	16	13
9	49	36	29	24	45	34	27	22	29	23	20		24	20	17		20	17	14	12
10	46	33	26	21	42	31	24	20	27	21	18		23	18	15		19	15	13	11

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	7643	7643	7643
5°	7667	7451	7455
10°	7599	7280	7244
15°	7501	7084	7012
20°	7361	6862	6756
25°	7189	6606	6489
30°	7011	6375	6216
35°	6812	6132	6000
40°	6623	5910	5767
45°	6414	5697	5582
50°	6206	5488	5378
55°	5978	5271	5194
60°	5753	5053	5005
65°	5525	4819	4780
70°	5183	4558	4549
75°	4746	4256	4316
80°	4241	3962	4047
85°	3780	3757	3892



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	67.3	1.5
10°-20°	191.9	4.3
20°-30°	287.0	6.5
30°-40°	342.8	7.8
40°-50°	358.6	8.1
50°-60°	336.5	7.6
60°-70°	281.1	6.4
70°-80°	201.1	4.5
80°-90°	122.1	2.8
90°-100°	123.0	2.8
100°-110°	198.3	4.5
110°-120°	280.1	6.3
120°-130°	341.0	7.7
130°-140°	369.0	8.3
140°-150°	355.4	8.0
150°-160°	297.5	6.7
160°-170°	198.0	4.5
170°-180°	69.3	1.6
0°-30°	546.3	12.4
0°-40°	889.0	20.1
0°-60°	1584.2	35.8
0°-90°	2188.5	49.5
90°-120°	601.4	13.6
90°-150°	1666.8	37.7
90°-180°	2232.0	50.5
0°-180°	4420.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	710	710	710	710	710	
5°	711	709	705	710	710	67
15°	677	679	678	686	685	191
25°	611	619	621	631	631	282
35°	526	538	548	560	563	329
45°	430	449	468	482	489	332
55°	328	354	381	401	408	294
65°	227	257	291	313	322	224
75°	123	160	198	223	233	131
85°	38	77	118	143	152	40
90°	11	54	101	129	139	9
95°	42	77	119	144	153	45
105°	136	157	194	215	224	145
115°	249	261	286	305	311	246
125°	361	363	384	397	401	322
135°	466	469	477	488	491	359
145°	565	565	567	572	573	352
155°	646	646	646	648	645	297
165°	703	702	702	705	701	198
175°	732	729	729	732	729	69
180°	733	733	733	733	733	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	710.1	710.1	710.1	710.1	710.1	710.1	710.1	710.1	710.1	710.1	710.1
2.5°	713.3	712.9	712.5	712.0	711.6	710.8	709.7	708.6	707.5	706.4	707.5
5°	710.9	710.5	710.2	709.9	709.5	708.8	707.8	706.8	705.8	704.7	706.1
7.5°	704.0	704.0	704.1	704.2	704.3	703.8	702.8	701.8	700.7	699.7	701.5
10°	697.8	698.1	698.4	698.8	699.1	698.9	698.0	697.2	696.3	695.5	697.2
12.5°	690.3	690.8	691.4	691.8	692.3	692.3	691.7	691.1	690.4	689.8	691.5
15°	676.9	677.4	677.9	678.4	678.9	679.1	678.9	678.7	678.6	678.4	680.1
17.5°	659.8	660.9	662.0	663.0	664.0	664.5	664.4	664.3	664.3	664.2	665.7
20°	647.5	648.5	649.5	650.6	651.6	652.3	652.7	653.0	653.3	653.7	655.2
22.5°	634.5	635.5	636.5	637.6	638.6	639.3	639.9	640.4	640.9	641.3	643.3
25°	611.2	612.9	614.6	616.3	618.0	619.1	619.7	620.2	620.7	621.2	623.4
27.5°	587.6	589.6	591.6	593.5	595.4	596.9	598.0	599.2	600.3	601.4	603.3
30°	570.9	573.1	575.3	577.6	579.9	581.7	583.0	584.4	585.7	587.1	589.3
32.5°	552.3	554.8	557.3	559.9	562.4	564.5	566.3	568.0	569.9	571.7	573.9
35°	526.0	528.8	531.5	534.3	537.0	539.6	541.8	544.0	546.2	548.5	551.1
37.5°	498.2	501.3	504.3	507.5	510.6	513.5	516.2	519.0	521.7	524.5	527.5
40°	479.6	482.7	485.8	488.9	492.0	495.2	498.7	502.1	505.5	509.0	511.9
42.5°	459.2	463.0	466.8	470.5	474.3	478.0	481.6	485.1	488.8	492.3	495.5
45°	430.1	434.2	438.4	442.5	446.6	450.8	455.1	459.4	463.7	468.0	471.3
47.5°	399.6	404.3	409.0	413.6	418.3	423.1	428.1	432.9	437.9	442.8	446.5
50°	379.8	384.7	389.4	394.3	399.1	404.1	409.5	414.9	420.1	425.5	429.4
52.5°	358.8	363.9	369.0	374.1	379.1	384.7	390.5	396.4	402.2	408.2	412.2
55°	328.0	333.7	339.3	345.0	350.7	356.6	362.8	369.0	375.2	381.3	386.0
57.5°	298.0	303.9	309.8	315.7	321.6	328.0	334.8	341.5	348.3	355.1	359.7
60°	276.9	283.2	289.3	295.5	301.6	308.3	315.4	322.4	329.4	336.5	341.3
62.5°	257.1	263.5	269.8	276.1	282.5	289.3	296.8	304.3	311.7	319.2	324.0
65°	226.6	233.4	240.0	246.8	253.5	260.6	268.2	275.7	283.3	290.8	296.0
67.5°	195.7	202.9	210.0	217.0	224.2	231.6	239.3	247.0	254.7	262.4	268.0
70°	174.1	181.5	188.8	196.2	203.6	211.5	219.6	227.9	236.2	244.5	249.9
72.5°	154.2	161.7	169.1	176.4	183.8	191.8	200.3	208.8	217.3	225.9	231.6
75°	123.0	131.1	139.2	147.2	155.3	163.7	172.3	180.9	189.5	198.0	203.7
77.5°	95.7	103.9	112.1	120.2	128.4	136.7	145.4	154.1	162.8	171.5	177.4
80°	76.5	85.0	93.4	101.9	110.3	119.0	127.8	136.8	145.8	154.7	160.6
82.5°	59.9	68.5	77.0	85.5	94.1	102.9	112.0	121.1	130.2	139.3	145.1
85°	37.9	46.5	55.1	63.7	72.3	81.1	90.3	99.4	108.5	117.5	123.4
87.5°	20.7	29.5	38.4	47.2	55.9	64.9	74.0	83.1	92.2	101.3	107.2
90°	10.6	20.3	30.0	39.8	49.5	59.5	70.0	80.4	90.8	101.2	107.6
92.5°	23.3	31.8	40.3	48.8	57.3	66.2	75.8	85.4	95.0	104.6	110.7
95°	42.5	50.1	57.7	65.3	72.9	81.4	90.9	100.3	109.8	119.2	125.0
97.5°	68.0	74.6	81.4	88.1	94.8	102.6	111.4	120.2	129.0	137.7	143.4
100°	85.3	91.6	97.9	104.1	110.4	117.8	126.3	134.9	143.4	152.0	157.3
102.5°	105.4	110.8	116.2	121.7	127.0	134.1	142.7	151.3	160.0	168.5	173.8
105°	135.8	140.2	144.5	149.0	153.3	159.8	168.3	176.8	185.4	194.0	198.7
107.5°	170.4	174.0	177.6	181.4	185.0	190.6	198.0	205.5	213.0	220.5	225.5
110°	191.9	195.2	198.5	201.9	205.2	210.5	217.6	224.8	231.9	239.0	244.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	214.9	217.6	220.3	223.0	225.7	230.4	237.0	243.7	250.3	257.0	262.0
115°	248.6	251.2	253.6	256.0	258.4	262.7	268.6	274.5	280.4	286.4	290.6
117.5°	283.3	284.9	286.4	287.9	289.4	293.0	298.4	303.9	309.3	314.9	318.9
120°	304.4	306.0	307.6	309.2	310.8	314.2	319.2	324.3	329.3	334.4	338.1
122.5°	326.9	327.9	328.9	329.9	330.9	334.0	339.1	344.2	349.2	354.3	357.8
125°	360.6	361.0	361.3	361.7	362.1	364.7	369.4	374.2	378.9	383.6	386.7
127.5°	392.4	393.0	393.6	394.4	395.0	397.3	401.1	405.0	408.8	412.6	415.3
130°	413.6	414.4	415.3	416.2	417.0	419.0	422.0	425.1	428.1	431.2	433.9
132.5°	434.1	435.2	436.2	437.2	438.2	439.9	442.3	444.8	447.3	449.7	452.2
135°	466.4	467.0	467.6	468.2	468.8	470.0	471.7	473.5	475.2	477.0	479.6
137.5°	496.1	496.7	497.2	497.7	498.2	499.2	500.6	501.9	503.3	504.7	507.0
140°	516.3	516.9	517.6	518.3	518.9	519.5	520.2	520.8	521.4	522.1	524.5
142.5°	535.2	535.7	536.2	536.7	537.2	537.7	538.0	538.3	538.7	539.0	541.2
145°	564.7	564.8	564.8	564.9	565.0	565.2	565.6	566.0	566.4	566.8	568.0
147.5°	589.8	590.2	590.7	591.1	591.6	592.0	592.4	592.7	593.1	593.4	593.8
150°	607.7	607.9	608.2	608.4	608.7	608.9	609.3	609.5	609.8	610.0	610.0
152.5°	622.5	622.8	623.2	623.5	623.9	624.1	624.3	624.4	624.6	624.7	624.9
155°	645.7	645.7	645.7	645.7	645.7	645.8	645.9	646.0	646.2	646.3	646.8
157.5°	665.5	665.4	665.2	665.1	664.9	664.9	665.0	665.1	665.2	665.3	665.8
160°	677.9	677.7	677.4	677.2	676.9	676.8	676.8	676.8	676.8	676.8	677.4
162.5°	689.0	688.6	688.3	687.9	687.6	687.5	687.6	687.7	687.8	687.9	688.5
165°	703.3	703.0	702.6	702.2	701.8	701.6	701.6	701.6	701.6	701.6	702.4
167.5°	714.7	714.2	713.7	713.2	712.7	712.5	712.6	712.7	712.8	712.9	713.7
170°	721.1	720.6	720.1	719.6	719.1	718.8	718.8	718.8	718.8	718.8	719.7
172.5°	726.2	725.7	725.2	724.7	724.2	724.0	724.0	724.0	724.0	724.0	724.8
175°	731.5	731.0	730.5	730.0	729.5	729.2	729.2	729.2	729.2	729.2	730.0
177.5°	733.8	733.4	733.0	732.5	732.1	731.8	731.8	731.8	731.8	731.8	732.5
180°	733.3	733.3	733.3	733.3	733.3	733.3	733.3	733.3	733.3	733.3	733.3



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	710.1	710.1	710.1	710.1	710.1	710.1	710.1	710.1
2.5°	708.6	709.7	710.8	711.3	711.1	711.0	710.9	710.7
5°	707.5	708.8	710.2	710.8	710.6	710.4	710.3	710.1
7.5°	703.2	704.9	706.7	707.4	707.2	707.0	706.8	706.6
10°	698.9	700.6	702.4	703.0	702.7	702.4	702.0	701.7
12.5°	693.1	694.6	696.2	696.8	696.5	696.1	695.8	695.5
15°	681.9	683.6	685.3	686.1	685.9	685.7	685.6	685.4
17.5°	667.3	668.8	670.3	671.1	670.8	670.6	670.3	670.0
20°	656.8	658.3	659.8	660.8	660.9	661.1	661.3	661.4
22.5°	645.2	647.2	649.1	650.1	649.9	649.8	649.7	649.6
25°	625.6	627.9	630.2	631.3	631.3	631.3	631.3	631.3
27.5°	605.2	607.1	609.0	610.2	610.3	610.4	610.6	610.7
30°	591.3	593.3	595.4	596.4	596.4	596.4	596.4	596.4
32.5°	576.0	578.2	580.5	581.8	582.2	582.6	583.0	583.4
35°	553.6	556.2	558.8	560.4	561.1	561.8	562.5	563.2
37.5°	530.3	533.2	536.1	538.0	538.5	539.0	539.6	540.1
40°	514.8	517.8	520.7	522.5	523.2	523.9	524.5	525.2
42.5°	498.7	501.9	505.1	507.2	508.2	509.1	510.1	511.0
45°	474.5	477.8	481.1	483.4	484.7	486.1	487.6	488.9
47.5°	450.2	453.8	457.5	459.9	460.9	462.0	463.1	464.1
50°	433.3	437.4	441.3	443.8	445.0	446.3	447.5	448.7
52.5°	416.4	420.4	424.5	427.3	428.8	430.2	431.7	433.2
55°	390.6	395.3	399.9	402.9	404.3	405.7	407.1	408.5
57.5°	364.5	369.1	373.8	376.9	378.5	380.1	381.7	383.3
60°	346.2	350.9	355.8	359.1	361.0	362.8	364.8	366.7
62.5°	328.8	333.7	338.4	341.7	343.5	345.2	347.0	348.7
65°	301.1	306.3	311.5	315.0	316.7	318.4	320.1	321.8
67.5°	273.7	279.3	285.0	288.5	289.9	291.3	292.9	294.3
70°	255.5	260.9	266.5	270.0	271.8	273.5	275.2	276.9
72.5°	237.1	242.8	248.4	252.2	253.9	255.6	257.3	259.0
75°	209.3	215.1	220.8	224.6	226.6	228.7	230.8	232.9
77.5°	183.4	189.3	195.3	199.1	200.8	202.3	203.9	205.5
80°	166.4	172.3	178.1	181.9	183.6	185.3	187.0	188.7
82.5°	151.0	156.7	162.6	166.4	168.1	169.9	171.6	173.3
85°	129.3	135.1	141.0	144.7	146.4	148.1	149.9	151.6
87.5°	113.2	119.2	125.1	129.0	130.8	132.5	134.3	136.0
90°	113.9	120.3	126.6	130.9	132.8	134.8	136.7	138.8
92.5°	116.8	122.9	129.1	132.8	134.2	135.7	137.1	138.6
95°	130.9	136.7	142.6	146.3	148.0	149.8	151.5	153.2
97.5°	149.2	154.8	160.6	164.2	165.9	167.6	169.3	171.0
100°	162.7	168.0	173.5	177.1	179.2	181.1	183.1	185.0
102.5°	179.0	184.2	189.5	192.9	194.6	196.2	197.9	199.5
105°	203.6	208.4	213.2	216.5	218.3	220.2	222.0	223.7
107.5°	230.5	235.5	240.5	243.7	245.1	246.4	247.8	249.1
110°	248.9	254.0	258.9	262.0	263.1	264.3	265.4	266.5



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	266.8	271.8	276.7	279.9	281.4	282.9	284.4	285.8
115°	294.9	299.1	303.4	306.2	307.4	308.6	309.9	311.1
117.5°	323.0	327.0	331.1	333.7	334.6	335.6	336.6	337.6
120°	341.9	345.8	349.6	352.0	352.9	354.0	354.9	355.8
122.5°	361.2	364.8	368.2	370.4	371.2	372.0	372.9	373.8
125°	389.8	392.9	396.0	397.9	398.6	399.3	400.0	400.7
127.5°	418.0	420.7	423.3	425.0	425.6	426.2	426.8	427.3
130°	436.7	439.4	442.2	443.6	443.7	443.9	444.0	444.1
132.5°	454.7	457.3	459.8	461.3	461.8	462.2	462.7	463.2
135°	482.2	484.7	487.4	489.0	489.6	490.2	490.7	491.3
137.5°	509.1	511.3	513.4	514.7	515.1	515.4	515.8	516.2
140°	526.9	529.5	531.9	533.1	533.1	533.0	533.0	532.9
142.5°	543.3	545.5	547.6	548.9	549.0	549.2	549.4	549.5
145°	569.3	570.6	571.8	572.5	572.7	572.9	573.0	573.2
147.5°	594.2	594.6	595.1	595.2	595.0	594.9	594.7	594.6
150°	610.0	610.0	610.0	609.8	609.4	608.9	608.5	608.1
152.5°	625.2	625.4	625.6	625.4	624.8	624.2	623.6	623.0
155°	647.3	647.8	648.3	648.1	647.2	646.3	645.5	644.6
157.5°	666.4	666.9	667.4	667.3	666.6	665.9	665.2	664.5
160°	678.1	678.7	679.3	679.4	678.9	678.4	677.9	677.4
162.5°	689.1	689.8	690.4	690.3	689.5	688.7	687.9	687.1
165°	703.2	703.9	704.7	704.6	703.7	702.8	702.0	701.0
167.5°	714.5	715.3	716.1	716.1	715.3	714.5	713.7	712.9
170°	720.6	721.5	722.5	722.5	721.5	720.6	719.7	718.8
172.5°	725.5	726.3	727.1	727.1	726.2	725.3	724.4	723.5
175°	730.7	731.5	732.4	732.3	731.3	730.4	729.5	728.6
177.5°	733.2	733.8	734.4	734.3	733.6	732.9	732.2	731.4
180°	733.3	733.3	733.3	733.3	733.3	733.3	733.3	733.3

(END OF REPORT)