

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: P331416-935

Luminaire Tested: **SA2XXDIP-C865D1080U935-4F0-1E-UDD-D4**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331416-935
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-16,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA2XXDIP-C865D1080U935-4F0-1E-UDD-D4
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 865 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1080 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

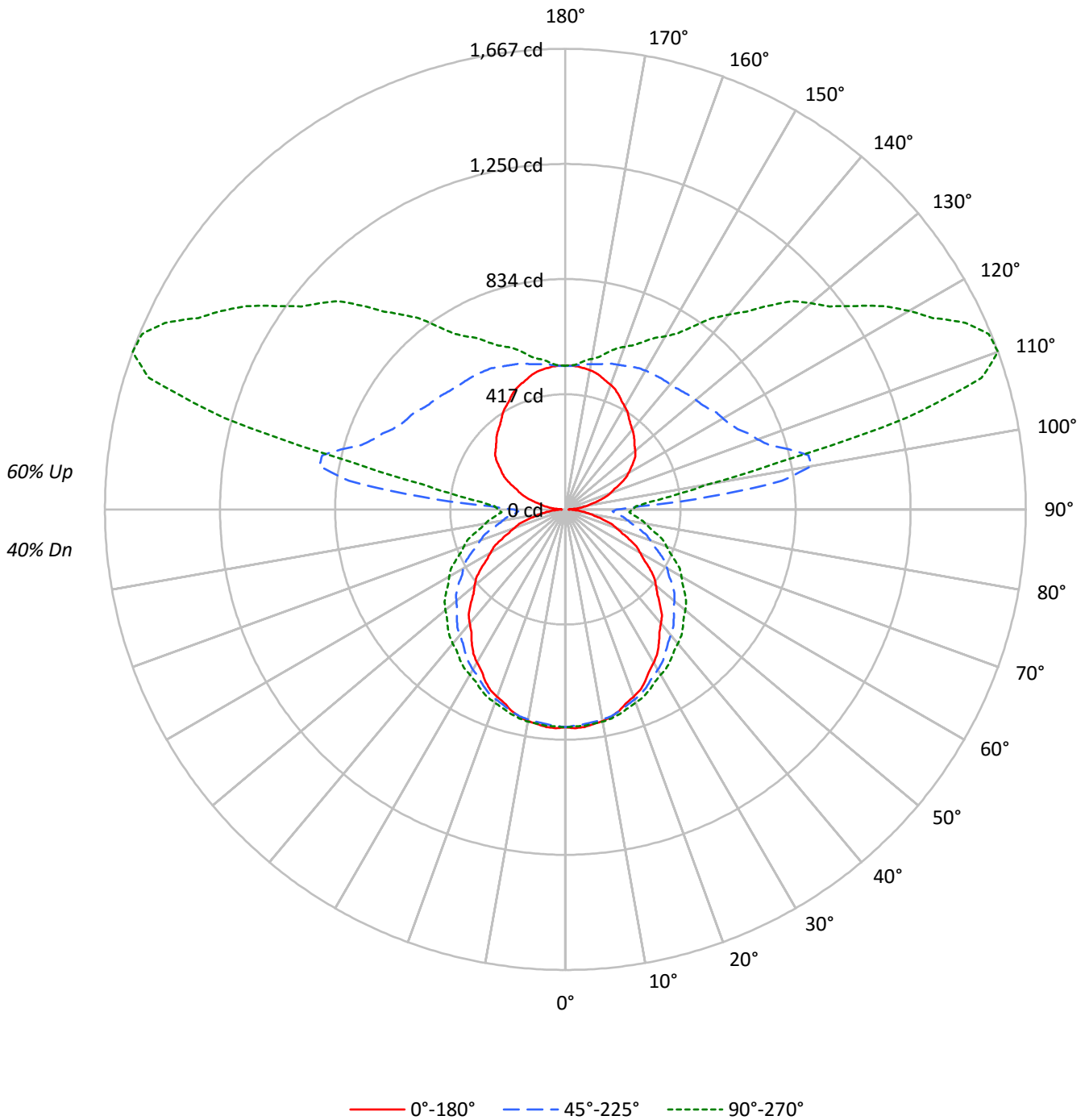
Lumens per Lamp: N/A
Luminaire Lumens: 6631.4 lumens
Efficiency: N/A
Efficacy: 101.4 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.32 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')
CIE Type: General Diffuse

Input Watts (W): 65.4
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	50	30	10	0	
RCR																						
0	105	105	105	105	95	95	95	95	78	78	78	62	62	62	47	47	47	40				
1	94	90	85	81	86	82	78	75	66	64	61	53	51	49	40	39	37	31				
2	85	78	71	65	77	71	65	60	58	53	50	45	43	40	34	32	31	25				
3	78	68	60	54	70	62	55	50	50	45	41	40	36	33	30	28	26	21				
4	71	60	51	45	64	54	47	42	44	39	35	35	31	28	27	24	22	18				
5	65	53	45	38	59	48	41	35	40	34	30	31	27	24	24	21	19	15				
6	60	47	39	33	54	43	36	31	35	30	26	28	24	21	21	19	16	13				
7	55	42	34	29	50	39	32	27	32	26	22	26	21	18	20	17	14	12				
8	51	38	31	25	46	35	28	23	29	24	20	23	19	16	18	15	13	10				
9	47	35	27	22	43	32	25	21	27	21	18	21	17	14	16	14	11	9				
10	44	32	25	20	40	29	23	18	24	19	16	20	16	13	15	12	10	8				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	12728	12728	12728
5°	12790	12252	12205
10°	12710	11890	11756
15°	12535	11506	11284
20°	12312	11097	10828
25°	12095	10701	10415
30°	11786	10293	10000
35°	11474	9900	9708
40°	11147	9566	9415
45°	10835	9267	9165
50°	10500	8995	8920
55°	10150	8703	8668
60°	9721	8403	8403
65°	9278	8047	8088
70°	8774	7666	7748
75°	8132	7293	7435
80°	7126	6912	7117
85°	6164	6582	6872



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	74.7	1.1
10°-20°	214.2	3.2
20°-30°	324.6	4.9
30°-40°	395.4	6.0
40°-50°	425.3	6.4
50°-60°	413.1	6.2
60°-70°	360.7	5.4
70°-80°	277.7	4.2
80°-90°	191.0	2.9
90°-100°	336.3	5.1
100°-110°	799.4	12.1
110°-120°	811.6	12.2
120°-130°	651.7	9.8
130°-140°	510.1	7.7
140°-150°	377.0	5.7
150°-160°	263.2	4.0
160°-170°	154.9	2.3
170°-180°	50.4	0.8
0°-30°	613.5	9.3
0°-40°	1008.9	15.2
0°-60°	1847.2	27.9
0°-90°	2676.6	40.4
90°-120°	1947.4	29.4
90°-150°	3486.3	52.6
90°-180°	3955.0	59.6
0°-180°	6631.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	788	788	788	788	788	
5°	791	787	780	787	786	75
15°	754	756	756	766	766	212
25°	686	694	704	717	721	315
35°	591	610	632	656	665	369
45°	484	516	555	589	602	374
55°	371	413	472	512	528	332
65°	254	310	377	422	439	252
75°	140	205	278	325	342	149
85°	41	112	185	231	249	44
90°	12	92	185	227	243	10
95°	44	150	524	321	303	44
105°	128	224	839	1462	1278	136
115°	220	291	689	1381	1599	217
125°	302	359	635	1105	1283	269
135°	353	422	602	907	1043	273
145°	402	462	586	734	809	253
155°	457	494	569	644	669	210
165°	498	513	545	578	587	140
175°	519	520	524	531	529	49
180°	520	520	520	520	520	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	788.3	788.3	788.3	788.3	788.3	788.3	788.3	788.3	788.3	788.3	788.3
2.5°	792.9	792.3	791.7	791.1	790.5	789.5	788.0	786.6	785.1	783.8	784.8
5°	790.6	789.9	789.1	788.3	787.6	786.4	784.9	783.3	781.9	780.3	781.9
7.5°	783.5	783.0	782.5	782.0	781.5	780.7	779.5	778.3	777.1	776.0	777.8
10°	778.1	777.6	777.1	776.5	776.0	775.4	774.6	773.9	773.1	772.3	774.4
12.5°	768.9	769.0	769.1	769.2	769.3	769.0	768.5	767.9	767.4	766.8	768.9
15°	754.1	754.6	755.1	755.6	756.0	756.3	756.3	756.3	756.3	756.3	758.6
17.5°	734.9	735.9	737.0	738.0	739.1	740.0	740.9	741.7	742.5	743.3	745.7
20°	722.0	723.3	724.6	725.9	727.1	728.3	729.3	730.3	731.3	732.4	735.1
22.5°	708.3	709.8	711.3	712.7	714.2	715.7	717.1	718.5	720.0	721.3	724.2
25°	685.5	687.3	689.1	690.9	692.6	694.7	696.9	699.2	701.5	703.8	706.8
27.5°	658.1	661.0	663.8	666.8	669.7	672.4	675.1	677.9	680.5	683.2	687.1
30°	639.8	643.1	646.4	649.7	653.0	656.3	659.6	662.9	666.2	669.5	673.6
32.5°	619.7	623.4	627.1	630.9	634.6	638.3	642.2	646.2	650.1	653.9	658.7
35°	590.6	595.0	599.3	603.6	608.0	612.5	617.3	622.2	627.0	631.8	637.4
37.5°	559.1	564.1	569.1	574.0	579.0	584.6	590.9	597.2	603.4	609.7	615.9
40°	538.1	543.7	549.3	554.9	560.4	566.7	573.5	580.4	587.3	594.1	600.7
42.5°	518.0	523.6	529.2	534.8	540.4	547.1	554.9	562.8	570.7	578.6	585.7
45°	484.4	491.3	498.1	505.0	511.9	519.7	528.6	537.5	546.4	555.3	563.1
47.5°	451.3	458.7	466.2	473.7	481.1	490.1	500.5	510.9	521.3	531.8	539.9
50°	428.4	436.3	444.2	452.0	459.9	469.6	481.0	492.4	503.9	515.3	523.9
52.5°	406.5	414.7	423.1	431.4	439.6	449.8	461.8	473.8	485.9	497.9	506.7
55°	371.3	380.5	389.6	398.7	407.9	419.0	432.2	445.5	458.7	471.8	481.0
57.5°	336.6	346.9	357.2	367.5	377.8	389.7	403.1	416.6	430.1	443.5	453.4
60°	311.9	322.8	333.7	344.7	355.6	368.2	382.7	397.2	411.6	426.2	435.8
62.5°	290.0	301.3	312.6	323.9	335.3	348.2	362.7	377.1	391.6	406.0	416.3
65°	253.7	266.0	278.5	290.9	303.4	317.1	332.1	347.1	362.1	377.0	387.4
67.5°	220.2	233.2	246.2	259.2	272.2	286.5	301.8	317.1	332.4	347.8	358.3
70°	196.5	209.7	222.9	236.1	249.3	263.8	279.6	295.2	311.0	326.7	337.7
72.5°	174.6	188.2	201.8	215.4	229.0	243.7	259.8	275.7	291.6	307.5	318.3
75°	140.5	154.7	168.9	183.2	197.4	212.7	228.9	245.1	261.4	277.6	288.5
77.5°	107.6	122.5	137.4	152.2	167.1	182.8	199.3	215.9	232.3	248.8	259.7
80°	85.7	101.2	116.7	132.2	147.7	163.6	180.1	196.7	213.1	229.6	240.3
82.5°	67.4	82.7	98.0	113.2	128.5	144.6	161.3	178.0	194.7	211.4	222.1
85°	41.2	56.9	72.6	88.3	104.1	120.1	136.3	152.6	168.8	185.1	195.8
87.5°	22.6	38.3	54.2	69.8	85.3	101.6	118.8	136.5	153.9	170.4	180.6
90°	12.4	30.1	48.9	65.6	82.3	100.8	122.1	145.3	167.6	184.9	194.0
92.5°	22.7	41.8	62.8	80.8	101.3	125.4	163.7	211.1	255.2	272.6	262.3
95°	44.2	60.1	82.1	103.0	130.9	168.5	229.7	332.0	463.2	523.5	484.1
97.5°	65.0	81.0	102.2	126.5	155.5	195.3	267.7	403.6	611.1	790.9	833.1
100°	85.0	97.4	115.8	141.2	170.6	210.4	277.7	413.9	644.1	904.4	1057.8
102.5°	102.5	113.3	130.9	155.4	184.9	224.0	286.9	409.1	622.9	902.0	1137.6
105°	127.8	139.1	153.4	175.8	205.2	243.5	303.7	405.9	584.2	839.4	1114.3
107.5°	156.3	165.4	178.1	197.8	225.5	262.9	321.2	411.5	560.5	773.3	1016.8
110°	174.6	183.7	194.8	212.8	238.9	276.7	333.1	417.6	552.1	740.5	955.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	192.2	200.4	211.5	228.0	252.4	290.3	344.6	424.4	547.1	716.5	910.9
115°	219.6	227.4	236.2	251.0	273.8	307.9	362.3	434.8	543.2	688.7	854.3
117.5°	246.8	252.7	260.5	272.9	294.0	328.2	378.6	446.3	541.9	669.9	814.9
120°	264.5	269.5	276.6	286.5	307.5	341.1	390.3	454.4	541.7	658.8	793.0
122.5°	281.3	284.9	291.3	301.5	321.9	355.7	401.8	461.4	542.3	650.1	773.7
125°	302.4	305.3	311.3	323.4	343.4	375.4	419.6	472.7	542.9	635.0	744.9
127.5°	319.9	323.7	331.8	344.8	363.8	395.7	437.2	484.2	544.8	623.4	718.1
130°	330.4	334.1	343.9	357.6	377.4	407.9	448.2	491.5	546.9	616.2	700.3
132.5°	339.9	344.5	355.1	369.6	390.1	420.1	457.6	498.9	549.1	609.9	685.1
135°	353.2	357.2	369.2	384.2	407.3	436.5	471.1	508.6	551.1	601.7	664.0
137.5°	366.8	371.6	383.5	399.5	422.2	448.8	481.5	515.2	552.8	594.9	647.3
140°	377.2	381.0	392.7	408.5	430.2	456.3	486.9	518.4	552.8	590.4	637.5
142.5°	387.6	390.5	401.5	417.2	438.2	462.5	491.9	522.2	553.9	588.6	629.2
145°	402.1	406.0	416.1	431.1	451.1	473.1	500.1	528.1	556.1	586.1	619.7
147.5°	418.9	421.9	431.4	445.3	461.9	481.5	506.9	531.5	556.9	582.6	610.7
150°	430.1	433.1	441.1	454.1	469.1	487.1	510.1	533.1	556.1	580.1	604.1
152.5°	441.3	442.7	450.6	462.1	476.3	492.7	513.3	533.9	554.5	576.1	598.5
155°	457.1	458.1	464.1	475.1	486.1	501.1	518.1	535.1	552.1	569.1	588.1
157.5°	470.3	471.3	476.1	485.7	494.5	507.1	521.5	535.1	547.5	561.9	578.3
160°	479.1	480.1	484.1	492.1	500.1	511.1	523.1	535.1	545.1	557.2	571.1
162.5°	487.9	487.3	491.3	497.7	504.9	513.5	523.9	534.3	542.7	553.1	564.7
165°	498.1	497.1	499.1	505.1	510.1	516.1	525.1	532.1	538.1	545.1	554.1
167.5°	506.5	505.3	507.1	510.9	514.5	518.3	524.9	530.7	533.5	538.1	543.7
170°	512.1	510.1	511.1	514.1	516.1	519.1	524.1	529.1	531.1	534.1	538.1
172.5°	515.3	514.1	513.5	516.5	517.7	519.9	523.3	526.7	527.9	529.3	532.5
175°	519.1	518.1	517.1	519.1	519.1	520.1	522.1	524.1	523.1	524.1	525.1
177.5°	520.9	519.3	518.5	520.1	520.1	520.1	520.9	522.5	520.9	520.1	520.9
180°	520.1	520.1	520.1	520.1	520.1	520.1	520.1	520.1	520.1	520.1	520.1



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	788.3	788.3	788.3	788.3	788.3	788.3	788.3	788.3
2.5°	785.7	786.8	787.8	788.2	787.7	787.3	786.9	786.5
5°	783.3	784.9	786.4	787.0	786.8	786.5	786.3	786.0
7.5°	779.6	781.4	783.3	784.1	783.9	783.6	783.3	783.1
10°	776.4	778.4	780.5	781.4	781.1	780.8	780.6	780.3
12.5°	770.9	772.9	775.0	775.8	775.6	775.3	775.1	774.8
15°	760.9	763.2	765.5	766.5	766.2	765.9	765.7	765.5
17.5°	748.1	750.4	752.9	754.1	754.1	754.1	754.1	754.1
20°	738.0	740.7	743.5	744.9	744.9	744.9	744.9	744.9
22.5°	726.9	729.8	732.5	734.2	734.5	734.9	735.4	735.8
25°	709.9	712.9	716.0	717.9	718.6	719.4	720.1	720.9
27.5°	691.0	694.8	698.6	700.9	701.5	702.0	702.6	703.1
30°	677.6	681.7	685.8	688.2	688.9	689.7	690.4	691.2
32.5°	663.3	668.0	672.6	675.7	677.0	678.4	679.8	681.1
35°	643.0	648.6	654.2	657.8	659.6	661.4	663.1	665.0
37.5°	622.0	628.2	634.4	638.4	640.3	642.2	644.1	646.0
40°	607.3	613.9	620.5	624.9	627.2	629.5	631.8	634.1
42.5°	593.0	600.2	607.4	612.2	614.4	616.7	619.0	621.3
45°	571.0	578.9	586.8	591.9	594.5	597.0	599.6	602.1
47.5°	548.2	556.4	564.6	570.2	572.9	575.8	578.5	581.3
50°	532.5	541.1	549.8	555.5	558.3	561.1	563.9	566.7
52.5°	515.6	524.4	533.2	539.2	542.2	545.2	548.1	551.1
55°	490.2	499.3	508.4	514.6	517.9	521.2	524.5	527.8
57.5°	463.2	473.0	482.9	489.6	492.8	496.2	499.6	502.9
60°	445.5	455.1	464.8	471.3	474.9	478.5	482.0	485.6
62.5°	426.5	436.8	447.0	453.9	457.2	460.5	463.9	467.3
65°	397.9	408.3	418.7	425.5	428.8	432.1	435.4	438.7
67.5°	368.8	379.3	389.9	396.8	400.3	403.7	407.2	410.6
70°	348.6	359.5	370.4	377.4	380.5	383.5	386.6	389.6
72.5°	329.0	339.7	350.4	357.6	361.3	364.9	368.6	372.2
75°	299.5	310.4	321.3	328.4	331.7	335.0	338.3	341.6
77.5°	270.6	281.5	292.3	299.5	303.1	306.6	310.2	313.7
80°	251.0	261.7	272.3	279.4	282.9	286.5	290.1	293.6
82.5°	232.7	243.3	254.0	261.1	264.4	267.7	271.0	274.4
85°	206.4	217.1	227.7	234.9	238.4	241.9	245.5	249.1
87.5°	190.7	200.7	211.5	218.4	221.7	225.0	228.2	231.4
90°	203.1	211.3	223.4	231.0	234.1	237.1	240.2	243.2
92.5°	249.7	247.3	248.8	249.1	251.3	251.2	255.0	256.5
95°	412.8	361.4	329.0	313.3	303.4	298.4	298.5	302.6
97.5°	751.9	650.1	551.2	485.2	440.4	418.8	407.2	401.7
100°	1046.2	931.6	803.9	689.1	608.8	568.6	542.3	527.2
102.5°	1237.1	1218.2	1127.2	1005.0	917.6	847.0	813.5	791.9
105°	1331.3	1453.2	1475.1	1447.9	1388.7	1329.5	1289.3	1278.1
107.5°	1246.0	1424.7	1537.3	1591.4	1602.0	1601.4	1595.5	1579.8
110°	1174.8	1362.0	1498.1	1585.6	1631.4	1653.2	1665.0	1666.8



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	1109.2	1289.2	1434.2	1533.6	1596.2	1630.8	1650.6	1658.8
115°	1027.0	1188.6	1327.2	1435.5	1509.3	1558.1	1586.9	1598.7
117.5°	962.6	1105.4	1231.7	1333.3	1408.3	1459.6	1489.5	1499.7
120°	929.1	1060.2	1173.4	1269.3	1342.1	1391.9	1423.7	1436.5
122.5°	901.6	1022.1	1129.5	1216.3	1281.5	1330.1	1358.3	1369.1
125°	860.7	970.6	1065.5	1145.0	1205.3	1245.6	1272.9	1283.2
127.5°	820.4	919.9	1009.2	1082.7	1135.5	1173.4	1197.2	1205.8
130°	794.4	886.6	971.7	1041.8	1092.8	1128.9	1150.9	1160.9
132.5°	769.4	854.9	933.4	999.4	1049.6	1085.6	1106.0	1115.3
135°	734.3	805.7	877.1	936.8	981.8	1016.8	1036.9	1042.9
137.5°	705.0	764.9	822.0	874.0	914.9	945.0	962.6	970.3
140°	686.6	738.7	788.7	835.5	869.0	896.6	913.1	920.6
142.5°	671.9	715.9	758.8	797.9	829.7	854.5	869.3	871.8
145°	652.2	686.7	719.2	749.7	774.9	793.2	804.4	808.7
147.5°	637.3	663.6	687.9	709.6	730.0	744.2	751.6	754.0
150°	628.1	650.1	671.1	689.1	704.1	716.2	722.1	723.2
152.5°	619.3	639.7	657.5	673.1	684.9	695.3	699.7	699.9
155°	607.1	623.1	638.1	649.1	660.1	667.1	671.1	669.2
157.5°	592.9	606.3	618.9	627.5	635.3	641.1	642.9	642.9
160°	584.1	595.1	606.1	613.1	620.1	625.1	626.1	626.1
162.5°	575.3	584.7	594.1	599.5	606.5	609.9	610.9	610.1
165°	562.1	569.1	576.1	580.1	584.1	588.1	588.1	587.1
167.5°	549.5	554.9	559.7	563.4	565.1	567.3	567.1	565.9
170°	543.1	546.1	550.1	552.1	553.1	556.1	555.1	553.1
172.5°	535.9	538.1	541.3	542.5	543.5	544.9	543.9	542.7
175°	528.1	529.1	530.1	531.1	531.1	532.1	531.1	529.1
177.5°	522.5	522.5	523.3	523.3	523.3	523.3	522.5	520.9
180°	520.1	520.1	520.1	520.1	520.1	520.1	520.1	520.1

(END OF REPORT)