

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: P331284-930

Luminaire Tested: **SA2XXDIP-C290D1080U930-4F0-1E-UDD-F4**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331284-930
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-C290D1080U930-4F0-1E-UDD-F4
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 290 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 1080 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

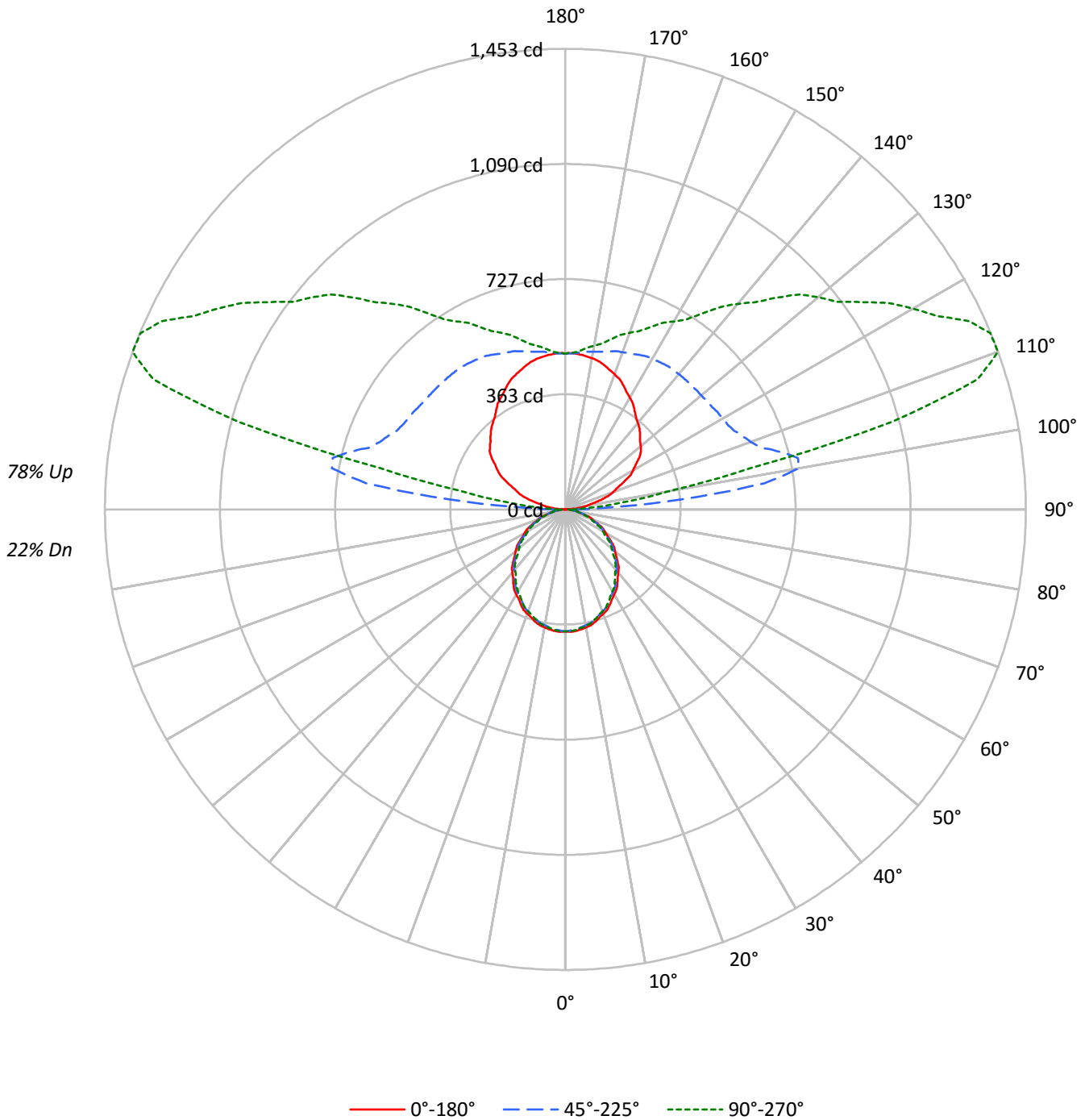
Lumens per Lamp: N/A
Luminaire Lumens: 4411.5 lumens
Efficiency: N/A
Efficacy: 104.5 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.3
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: Semi-Indirect

Input Watts (W): 42.2
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	50	30	10	0	
RCR																						
0	101	101	101	101	89	89	89	89	68	68	68	49	49	49	31	31	31	22				
1	92	87	84	80	81	78	75	72	59	57	55	43	41	40	27	26	26	19				
2	83	76	70	65	74	68	63	59	52	49	46	37	35	33	24	23	22	16				
3	76	67	60	54	67	60	54	49	46	42	38	33	30	28	21	20	18	13				
4	69	59	52	46	61	53	46	41	41	36	33	29	26	24	19	17	16	11				
5	64	52	45	39	56	47	40	35	36	32	28	26	23	21	17	15	14	10				
6	58	47	39	34	52	42	35	30	32	28	24	24	20	18	15	13	12	9				
7	54	42	35	29	48	38	31	27	29	25	21	21	18	16	14	12	11	8				
8	50	38	31	26	44	34	28	23	27	22	19	19	16	14	13	11	10	7				
9	46	35	27	23	41	31	25	21	24	20	17	18	15	13	12	10	9	6				
10	43	32	25	20	38	28	22	18	22	18	15	16	13	11	11	9	8	6				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	6218	6218	6218
5°	6242	6152	6190
10°	6205	6091	6120
15°	6128	6011	6006
20°	6019	5893	5887
25°	5911	5747	5747
30°	5774	5614	5565
35°	5643	5452	5373
40°	5480	5292	5191
45°	5318	5133	5005
50°	5144	4968	4793
55°	4963	4777	4597
60°	4760	4543	4379
65°	4542	4317	4118
70°	4263	4036	3843
75°	3880	3718	3624
80°	3440	3347	3171
85°	2816	2668	2408



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	36.2	0.8
10°-20°	101.9	2.3
20°-30°	149.8	3.4
30°-40°	174.0	3.9
40°-50°	173.8	3.9
50°-60°	151.6	3.4
60°-70°	112.1	2.5
70°-80°	63.5	1.4
80°-90°	21.5	0.5
90°-100°	196.9	4.5
100°-110°	668.2	15.1
110°-120°	709.9	16.1
120°-130°	584.4	13.2
130°-140°	469.3	10.6
140°-150°	354.6	8.0
150°-160°	249.2	5.6
160°-170°	146.7	3.3
170°-180°	47.8	1.1
0°-30°	287.9	6.5
0°-40°	461.9	10.5
0°-60°	787.3	17.8
0°-90°	984.4	22.3
90°-120°	1575.1	35.7
90°-150°	2983.4	67.6
90°-180°	3427.0	77.7
0°-180°	4411.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	385	385	385	385	385	
5°	385	384	380	382	382	37
15°	367	364	360	361	359	103
25°	332	329	323	323	323	153
35°	286	282	277	274	273	179
45°	233	230	225	221	219	180
55°	176	174	170	165	163	158
65°	119	117	113	110	108	118
75°	62	61	60	58	58	66
85°	15	15	14	13	13	17
90°	1	13	32	31	31	3
95°	33	81	371	140	108	35
105°	116	174	702	1254	1067	123
115°	204	257	587	1212	1405	202
125°	284	336	564	982	1139	252
135°	333	398	558	825	944	258
145°	381	438	555	689	754	239
155°	433	467	539	609	634	199
165°	472	486	516	547	556	133
175°	492	492	496	502	501	47
180°	492	492	492	492	492	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	385.1	385.1	385.1	385.1	385.1	385.1	385.1	385.1	385.1	385.1	385.1
2.5°	386.9	386.6	386.3	386.0	385.6	385.1	384.4	383.7	382.9	382.2	382.9
5°	385.1	384.8	384.5	384.2	383.8	383.3	382.4	381.5	380.5	379.6	380.3
7.5°	381.8	381.2	380.7	380.3	379.8	379.0	378.1	377.2	376.3	375.4	376.0
10°	378.5	378.0	377.4	376.8	376.2	375.4	374.5	373.5	372.5	371.5	372.1
12.5°	374.1	373.6	373.1	372.5	372.0	371.3	370.3	369.3	368.4	367.4	367.8
15°	366.6	366.2	365.7	365.2	364.7	363.9	362.8	361.7	360.7	359.6	360.0
17.5°	357.2	356.7	356.2	355.7	355.2	354.4	353.4	352.2	351.1	350.1	350.4
20°	350.3	349.8	349.4	348.9	348.4	347.6	346.4	345.3	344.1	343.0	343.2
22.5°	343.6	342.8	342.2	341.4	340.8	339.9	338.8	337.7	336.6	335.6	335.6
25°	331.8	331.2	330.5	329.9	329.2	328.2	326.8	325.4	324.0	322.6	322.8
27.5°	318.5	318.0	317.3	316.7	316.2	315.3	314.2	313.1	312.0	310.9	310.6
30°	309.7	309.0	308.3	307.7	307.0	306.1	304.8	303.6	302.3	301.1	300.8
32.5°	300.1	299.6	299.1	298.6	298.1	297.1	295.8	294.6	293.3	292.0	291.5
35°	286.3	285.4	284.6	283.8	283.0	281.9	280.6	279.3	278.0	276.6	276.1
37.5°	270.7	269.9	269.2	268.5	267.7	266.8	265.5	264.2	262.8	261.5	260.9
40°	260.0	259.3	258.7	258.0	257.4	256.4	255.0	253.7	252.4	251.1	250.4
42.5°	249.6	249.0	248.3	247.7	247.0	246.0	244.7	243.4	242.1	240.8	239.9
45°	232.9	232.4	231.8	231.2	230.6	229.8	228.5	227.3	226.1	224.8	223.9
47.5°	216.4	215.8	215.3	214.7	214.2	213.3	212.0	210.8	209.5	208.1	207.2
50°	204.8	204.4	204.0	203.6	203.2	202.4	201.2	200.1	198.9	197.8	196.7
52.5°	193.6	193.0	192.5	191.9	191.4	190.5	189.5	188.4	187.3	186.2	185.2
55°	176.3	175.8	175.3	174.8	174.3	173.6	172.6	171.6	170.6	169.7	168.6
57.5°	159.0	158.6	158.2	157.8	157.4	156.6	155.6	154.5	153.4	152.3	151.3
60°	147.4	147.1	146.8	146.4	146.1	145.4	144.2	143.1	141.9	140.7	139.8
62.5°	136.2	135.6	135.1	134.6	134.0	133.3	132.4	131.6	130.7	129.8	128.9
65°	118.9	118.4	117.9	117.4	116.9	116.3	115.4	114.6	113.8	113.0	112.2
67.5°	101.3	100.9	100.5	100.1	99.8	99.2	98.4	97.7	96.9	96.2	95.6
70°	90.3	90.0	89.7	89.4	89.0	88.5	87.8	87.1	86.3	85.5	85.0
72.5°	79.1	78.8	78.4	78.1	77.8	77.4	76.9	76.5	76.0	75.5	74.9
75°	62.2	62.0	61.9	61.7	61.6	61.3	60.9	60.4	60.0	59.6	59.1
77.5°	47.1	46.8	46.6	46.3	46.0	45.7	45.6	45.4	45.2	45.1	44.8
80°	37.0	36.9	36.9	36.8	36.7	36.6	36.4	36.3	36.1	36.0	35.7
82.5°	27.6	27.6	27.6	27.5	27.5	27.4	27.3	27.2	27.1	27.1	26.7
85°	15.2	15.1	15.0	14.9	14.8	14.8	14.7	14.6	14.5	14.4	14.2
87.5°	5.5	6.0	6.6	6.8	7.1	7.5	8.3	9.5	10.5	10.6	10.2
90°	1.0	3.8	7.6	9.5	11.3	14.2	18.9	25.6	31.2	32.2	31.2
92.5°	11.6	16.6	23.5	27.6	34.1	43.0	64.4	94.5	121.4	123.1	104.0
95°	33.2	36.9	46.4	55.0	70.1	92.8	136.4	218.7	328.6	371.3	324.9
97.5°	54.0	59.1	69.1	82.0	99.5	125.2	179.9	294.7	477.4	633.8	664.9
100°	72.9	75.7	84.3	99.5	118.4	144.9	195.1	310.6	515.2	748.2	884.6
102.5°	90.3	92.5	100.9	116.1	135.8	162.3	208.7	311.4	500.8	752.0	966.5
105°	115.5	119.4	126.0	140.1	161.0	187.5	232.0	316.3	472.6	701.8	953.7
107.5°	142.8	145.9	152.3	165.3	186.1	212.7	255.9	329.4	458.6	648.0	870.6
110°	161.0	164.8	170.5	182.8	202.7	230.2	271.8	340.0	455.6	622.2	818.3



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	177.7	181.5	187.9	199.4	218.6	246.8	287.0	351.4	456.3	605.6	782.0
115°	203.7	208.4	214.0	225.4	244.3	269.9	310.6	368.4	460.3	587.2	736.9
117.5°	230.6	234.3	240.0	250.1	268.2	294.7	332.4	386.6	467.1	578.3	708.4
120°	247.2	250.9	256.7	265.2	284.1	310.6	347.6	398.8	471.7	573.0	693.2
122.5°	263.1	266.1	271.8	281.1	300.0	327.3	362.0	409.4	477.0	570.0	680.4
125°	284.1	287.0	292.7	304.0	322.9	349.5	383.6	426.2	484.9	564.5	662.0
127.5°	300.8	304.6	312.6	325.1	343.2	370.5	403.7	441.9	493.1	561.3	645.0
130°	310.6	314.5	323.9	337.2	356.1	382.6	415.8	451.8	499.1	559.7	633.7
132.5°	319.8	324.3	334.5	348.5	368.3	394.8	426.4	461.6	505.2	559.0	624.5
135°	333.4	337.2	348.5	362.7	384.5	411.1	441.3	474.5	512.4	557.8	611.8
137.5°	346.3	350.8	362.2	377.3	398.9	423.5	453.5	484.4	518.9	557.7	602.9
140°	356.1	359.9	371.3	386.5	407.2	431.9	460.3	489.7	521.9	556.9	597.6
142.5°	366.0	369.0	379.6	394.8	414.8	438.0	465.6	494.2	524.2	556.9	592.3
145°	380.7	384.5	394.0	408.2	427.1	448.0	473.5	500.1	526.6	555.0	585.3
147.5°	396.6	399.5	408.5	421.7	437.4	455.9	480.0	503.3	527.3	551.6	578.1
150°	407.2	410.1	417.7	430.0	444.2	461.2	483.1	504.8	526.6	549.3	572.0
152.5°	417.8	419.2	426.7	437.6	451.0	466.5	486.1	505.6	525.1	545.5	566.7
155°	432.8	433.7	439.4	449.9	460.3	474.5	490.6	506.7	522.8	538.9	556.9
157.5°	445.3	446.3	450.9	459.9	468.2	480.2	493.8	506.7	518.4	532.1	547.6
160°	453.6	454.6	458.4	465.9	473.5	484.0	495.4	506.7	516.2	527.6	540.8
162.5°	462.0	461.5	465.2	471.2	478.1	486.2	496.1	506.0	513.9	523.7	534.8
165°	471.7	470.8	472.6	478.3	483.1	488.7	497.3	503.9	509.6	516.2	524.7
167.5°	479.6	478.5	480.2	483.8	487.2	490.8	497.0	502.6	505.2	509.6	514.9
170°	484.9	483.1	484.0	486.8	488.7	491.5	496.3	501.0	502.9	505.7	509.6
172.5°	488.0	486.8	486.2	489.1	490.2	492.3	495.5	498.7	499.9	501.2	504.3
175°	491.5	490.6	489.7	491.5	491.5	492.5	494.4	496.3	495.4	496.3	497.3
177.5°	493.3	491.7	491.0	492.5	492.5	492.5	493.3	494.8	493.3	492.5	493.3
180°	492.5	492.5	492.5	492.5	492.5	492.5	492.5	492.5	492.5	492.5	492.5



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	385.1	385.1	385.1	385.1	385.1	385.1	385.1	385.1
2.5°	383.5	384.2	384.8	385.1	385.0	384.8	384.7	384.6
5°	381.0	381.6	382.3	382.5	382.4	382.2	382.0	381.9
7.5°	376.7	377.3	378.0	378.2	378.1	377.8	377.6	377.5
10°	372.8	373.5	374.1	374.3	374.1	373.8	373.6	373.3
12.5°	368.3	368.7	369.2	369.3	369.2	368.9	368.8	368.6
15°	360.3	360.6	360.9	360.9	360.5	360.1	359.7	359.3
17.5°	350.8	351.2	351.6	351.6	351.1	350.8	350.4	350.0
20°	343.5	343.7	344.0	343.9	343.6	343.2	342.9	342.6
22.5°	335.7	335.7	335.7	335.7	335.5	335.3	335.1	334.9
25°	322.9	323.1	323.3	323.3	323.1	322.9	322.8	322.6
27.5°	310.4	310.1	309.9	309.6	309.2	308.8	308.4	308.0
30°	300.6	300.4	300.1	299.9	299.5	299.2	298.9	298.5
32.5°	291.1	290.6	290.2	289.8	289.4	289.1	288.8	288.5
35°	275.7	275.2	274.7	274.3	273.9	273.5	273.0	272.6
37.5°	260.2	259.7	259.0	258.5	258.1	257.7	257.4	257.0
40°	249.6	248.9	248.2	247.6	247.3	247.0	246.6	246.3
42.5°	239.1	238.3	237.5	236.8	236.4	235.9	235.5	235.1
45°	223.0	222.1	221.2	220.5	220.2	219.9	219.6	219.2
47.5°	206.3	205.3	204.3	203.6	203.2	202.7	202.2	201.7
50°	195.5	194.3	193.1	192.4	192.0	191.6	191.2	190.8
52.5°	184.3	183.4	182.4	181.6	181.1	180.6	180.0	179.4
55°	167.6	166.6	165.7	165.0	164.6	164.1	163.7	163.3
57.5°	150.3	149.4	148.4	147.7	147.5	147.2	146.8	146.5
60°	138.9	138.0	137.1	136.6	136.3	136.1	135.8	135.6
62.5°	128.1	127.3	126.5	125.9	125.6	125.2	124.9	124.6
65°	111.5	110.7	110.0	109.4	109.0	108.6	108.2	107.8
67.5°	95.1	94.5	93.9	93.4	93.1	92.8	92.5	92.1
70°	84.4	83.8	83.2	82.8	82.5	82.1	81.8	81.4
72.5°	74.4	73.8	73.2	72.7	72.5	72.2	72.0	71.7
75°	58.6	58.1	57.6	57.5	57.6	57.8	58.0	58.1
77.5°	44.6	44.4	44.1	43.9	43.6	43.5	43.2	43.0
80°	35.5	35.2	35.0	34.7	34.6	34.4	34.2	34.1
82.5°	26.4	26.1	25.8	25.6	25.6	25.5	25.5	25.5
85°	13.9	13.7	13.5	13.3	13.2	13.1	13.0	13.0
87.5°	9.8	9.2	9.5	9.5	9.4	9.4	9.3	9.2
90°	30.3	28.5	30.3	31.2	31.2	31.2	31.2	31.2
92.5°	82.6	70.8	62.9	57.0	56.3	53.2	54.0	52.5
95°	248.2	190.4	150.6	129.7	117.4	109.9	107.0	107.9
97.5°	579.0	473.8	371.3	302.9	257.6	234.3	220.5	212.5
100°	864.7	747.3	617.5	502.9	424.3	383.6	356.1	339.1
102.5°	1051.9	1025.3	930.4	809.0	723.6	654.1	619.8	596.7
105°	1150.7	1257.8	1270.1	1238.8	1180.1	1121.4	1080.7	1067.4
107.5°	1079.5	1240.7	1339.2	1385.0	1392.4	1389.2	1381.0	1363.4
110°	1018.1	1187.6	1308.9	1386.6	1427.3	1445.3	1453.8	1452.9



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	962.1	1124.8	1254.3	1343.4	1400.0	1430.1	1446.3	1451.3
115°	893.2	1039.0	1163.0	1260.6	1327.9	1371.4	1396.0	1404.6
117.5°	841.2	969.3	1081.8	1173.3	1241.9	1287.8	1313.9	1321.0
120°	815.5	932.9	1033.3	1119.5	1185.8	1230.3	1257.8	1267.2
122.5°	795.0	902.6	997.7	1075.5	1135.0	1178.8	1203.2	1211.1
125°	765.2	862.8	946.2	1017.2	1072.1	1108.2	1131.8	1139.4
127.5°	735.9	824.2	902.8	968.3	1016.3	1049.9	1070.4	1076.5
130°	717.0	798.4	873.3	935.7	982.2	1014.4	1033.3	1040.9
132.5°	698.8	774.2	842.9	901.6	947.3	979.5	996.9	1003.7
135°	673.4	735.9	798.4	851.4	892.2	923.4	940.4	944.3
137.5°	653.1	705.4	755.0	801.3	838.4	865.3	880.3	885.9
140°	640.3	685.7	729.3	770.9	801.3	825.9	840.1	845.8
142.5°	629.7	668.3	705.8	740.6	769.4	791.8	804.5	805.6
145°	614.7	646.0	675.3	702.8	725.5	741.6	751.1	753.9
147.5°	603.2	627.8	650.7	670.7	689.5	702.4	708.8	710.5
150°	594.8	615.6	635.5	652.6	666.8	678.2	683.8	684.8
152.5°	586.4	605.8	622.6	637.4	648.6	658.4	662.6	662.8
155°	574.9	590.0	604.2	614.7	625.1	631.7	635.5	633.7
157.5°	561.4	574.1	586.0	594.2	601.6	607.1	608.8	608.8
160°	553.1	563.5	574.0	580.6	587.2	591.9	592.9	592.9
162.5°	544.8	553.7	562.6	567.7	574.3	577.6	578.5	577.7
165°	532.3	538.9	545.5	549.3	553.1	556.9	556.9	556.0
167.5°	520.3	525.5	530.0	533.5	535.1	537.2	537.0	535.9
170°	514.3	517.1	520.9	522.8	523.7	526.6	525.6	523.7
172.5°	507.4	509.6	512.6	513.7	514.7	516.0	515.0	513.9
175°	500.1	501.0	502.0	502.9	502.9	503.9	502.9	501.0
177.5°	494.8	494.8	495.5	495.5	495.5	495.5	494.8	493.3
180°	492.5	492.5	492.5	492.5	492.5	492.5	492.5	492.5

(END OF REPORT)