

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: P332498-940

Luminaire Tested: **SA4XXDIP-C350D365U940-4F0-1E-UDD-F4**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P332498-940
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-18,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA4XXDIP-C350D365U940-4F0-1E-UDD-F4
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 350 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 365 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

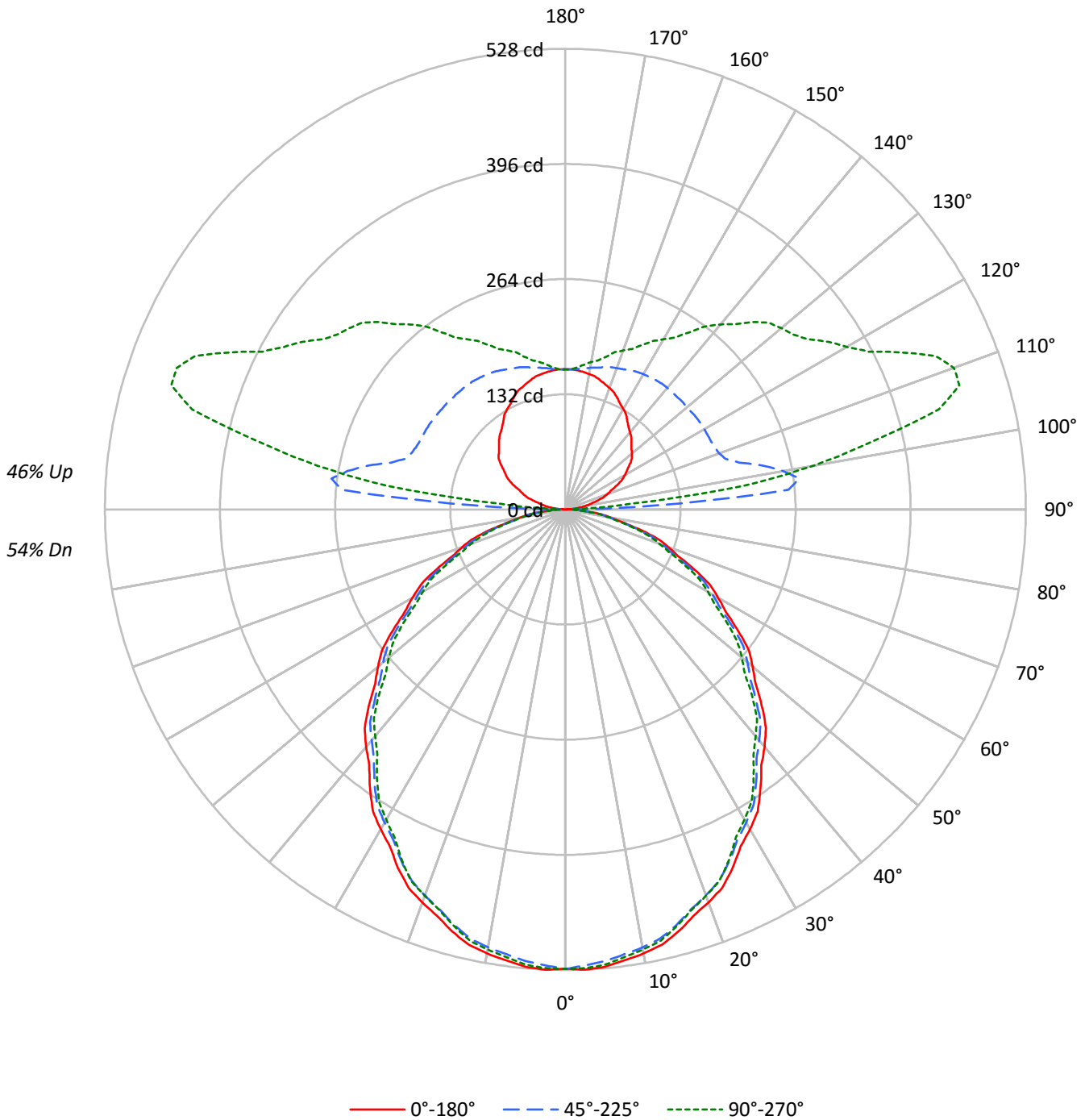
Lumens per Lamp: N/A
Luminaire Lumens: 2519.3 lumens
Efficiency: N/A
Efficacy: 124.1 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.17 / 1.3
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')
CIE Type: General Diffuse

Input Watts (W): 20.3
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	108	108	108	108	100	100	100	100	85	85	85	72	72	72	60	60	60	54				
1	99	94	90	87	91	87	84	81	75	72	70	63	61	60	53	51	50	45				
2	90	82	76	71	83	76	71	66	66	61	58	56	53	50	46	44	42	38				
3	82	72	65	59	76	67	61	56	58	53	49	49	45	42	41	38	36	32				
4	75	64	56	50	69	60	53	47	51	46	42	44	40	36	37	34	31	27				
5	69	57	49	43	63	53	46	40	46	40	36	39	35	31	33	30	27	24				
6	63	51	43	37	59	48	41	35	41	36	31	36	31	28	30	26	24	21				
7	59	46	38	33	54	43	36	31	38	32	28	32	28	24	27	24	21	19				
8	54	42	34	29	50	39	32	27	34	29	25	30	25	22	25	22	19	17				
9	51	38	31	26	47	36	29	24	31	26	22	27	23	20	23	20	17	15				
10	47	35	28	23	44	33	26	22	29	24	20	25	21	18	22	18	16	14				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4252	4252	4252
5°	4265	4214	4245
10°	4238	4180	4200
15°	4187	4120	4131
20°	4119	4046	4050
25°	4041	3963	3951
30°	3947	3864	3828
35°	3847	3761	3710
40°	3744	3643	3577
45°	3639	3528	3460
50°	3520	3425	3318
55°	3392	3291	3184
60°	3265	3142	3047
65°	3121	2999	2879
70°	2960	2809	2700
75°	2711	2583	2514
80°	2413	2315	2255
85°	2112	2029	1991



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	49.6	2.0
10°-20°	139.8	5.5
20°-30°	205.7	8.2
30°-40°	239.2	9.5
40°-50°	239.2	9.5
50°-60°	209.2	8.3
60°-70°	155.4	6.2
70°-80°	88.3	3.5
80°-90°	26.4	1.0
90°-100°	115.9	4.6
100°-110°	241.1	9.6
110°-120°	216.0	8.6
120°-130°	181.7	7.2
130°-140°	151.5	6.0
140°-150°	115.7	4.6
150°-160°	81.3	3.2
160°-170°	47.8	1.9
170°-180°	15.6	0.6
0°-30°	395.1	15.7
0°-40°	634.2	25.2
0°-60°	1082.6	43.0
0°-90°	1352.6	53.7
90°-120°	573.0	22.7
90°-150°	1021.9	40.6
90°-180°	1167.0	46.3
0°-180°	2519.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	527	527	527	527	527	
5°	526	524	520	524	524	50
15°	501	499	493	495	494	141
25°	454	451	445	445	444	209
35°	390	387	382	379	376	244
45°	319	316	309	305	303	246
55°	241	240	234	229	226	216
65°	163	161	157	153	151	162
75°	87	85	83	81	81	92
85°	23	23	22	22	22	25
90°	0	2	6	6	7	2
95°	10	33	257	127	77	12
105°	37	53	207	445	443	39
115°	65	81	184	354	426	64
125°	90	108	183	301	340	80
135°	108	128	182	268	304	83
145°	124	142	181	226	248	78
155°	141	152	176	199	208	65
165°	154	158	169	178	181	43
175°	160	160	162	164	163	15
180°	160	160	160	160	160	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	526.7	526.7	526.7	526.7	526.7	526.7	526.7	526.7	526.7	526.7	526.7
2.5°	528.1	527.9	527.6	527.4	527.2	526.6	525.8	525.0	524.2	523.3	524.1
5°	526.3	525.9	525.6	525.2	524.9	524.1	523.1	522.1	521.0	520.0	521.0
7.5°	521.5	521.0	520.7	520.3	520.0	519.2	518.0	516.9	515.8	514.6	515.4
10°	517.0	516.7	516.3	515.9	515.6	514.8	513.5	512.3	511.1	509.9	510.6
12.5°	511.3	511.0	510.6	510.1	509.8	509.0	507.7	506.4	505.1	503.8	504.6
15°	501.0	500.6	500.2	499.9	499.5	498.6	497.2	495.8	494.4	493.0	493.6
17.5°	488.6	488.1	487.7	487.2	486.7	485.8	484.5	483.1	481.8	480.5	480.8
20°	479.5	479.0	478.6	478.0	477.6	476.7	475.3	473.9	472.4	471.0	471.4
22.5°	469.7	469.0	468.4	467.8	467.2	466.2	464.8	463.4	462.0	460.6	461.1
25°	453.7	453.1	452.5	451.7	451.1	450.1	448.8	447.5	446.2	444.9	445.0
27.5°	435.5	434.8	434.2	433.5	432.8	431.9	430.6	429.4	428.2	427.0	426.8
30°	423.4	422.6	421.9	421.1	420.4	419.4	418.1	416.9	415.7	414.5	414.1
32.5°	410.5	409.8	409.1	408.5	407.8	406.8	405.6	404.2	403.0	401.6	401.2
35°	390.4	389.8	389.1	388.4	387.8	386.8	385.5	384.1	382.9	381.6	380.9
37.5°	369.3	368.6	368.0	367.5	366.8	365.9	364.4	363.0	361.6	360.2	359.4
40°	355.3	354.6	353.9	353.1	352.4	351.3	349.9	348.5	347.1	345.7	344.7
42.5°	340.5	340.1	339.7	339.2	338.8	337.7	336.2	334.6	333.1	331.5	330.4
45°	318.7	318.0	317.4	316.7	316.0	315.0	313.4	311.9	310.5	309.0	307.9
47.5°	295.8	295.3	294.9	294.4	294.0	293.1	291.7	290.3	288.9	287.5	286.3
50°	280.3	279.9	279.6	279.1	278.7	277.9	276.6	275.3	273.9	272.7	271.3
52.5°	265.1	264.6	264.1	263.7	263.2	262.3	260.9	259.6	258.2	256.8	255.7
55°	241.0	240.8	240.4	240.1	239.9	239.1	237.7	236.5	235.1	233.8	232.7
57.5°	218.0	217.8	217.4	217.1	216.8	216.0	214.6	213.4	212.0	210.8	209.7
60°	202.2	201.7	201.3	200.7	200.3	199.5	198.2	197.0	195.8	194.6	193.8
62.5°	186.6	186.3	185.8	185.5	185.0	184.2	182.9	181.6	180.3	179.1	178.3
65°	163.4	162.9	162.4	161.9	161.5	160.8	159.8	158.9	157.9	157.0	156.0
67.5°	139.9	139.5	139.0	138.6	138.1	137.5	136.6	135.7	134.8	133.8	133.0
70°	125.4	124.7	124.0	123.4	122.7	122.0	121.3	120.6	119.8	119.0	118.2
72.5°	109.9	109.1	108.5	107.9	107.2	106.6	105.9	105.4	104.8	104.2	103.5
75°	86.9	86.5	86.1	85.5	85.1	84.6	84.2	83.6	83.2	82.8	82.4
77.5°	65.1	64.9	64.6	64.5	64.3	63.9	63.6	63.1	62.7	62.3	62.2
80°	51.9	51.6	51.4	51.1	50.8	50.6	50.4	50.2	50.0	49.8	49.6
82.5°	39.1	39.0	38.8	38.7	38.5	38.4	38.4	38.4	38.3	38.3	38.3
85°	22.8	22.8	22.8	22.8	22.8	22.7	22.5	22.3	22.1	21.9	21.9
87.5°	8.8	8.9	9.0	9.0	9.0	8.9	9.2	9.1	9.2	9.3	9.2
90°	0.4	1.0	1.9	2.2	2.5	2.5	4.4	4.4	5.1	5.7	5.4
92.5°	3.6	5.3	8.2	12.0	16.7	23.2	39.2	63.7	87.5	100.0	83.3
95°	10.4	11.3	14.5	18.6	26.1	39.4	66.8	118.5	193.9	256.8	264.1
97.5°	18.6	18.6	21.4	25.1	31.7	42.7	63.8	106.6	181.4	270.5	331.8
100°	24.0	24.0	26.1	30.0	35.9	46.0	64.6	100.2	164.5	253.4	334.0
102.5°	29.0	29.5	31.5	35.0	40.8	50.3	67.1	98.4	153.2	231.9	315.1
105°	36.9	37.8	39.4	43.2	48.9	58.0	73.1	99.2	143.4	206.7	280.8
107.5°	45.6	46.2	47.8	51.8	57.2	66.3	80.1	104.0	141.6	192.6	253.1
110°	51.4	52.0	53.6	57.3	63.0	71.5	85.4	107.5	142.1	187.8	239.2



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	56.9	57.5	59.4	62.9	68.6	77.0	90.4	111.3	143.7	185.6	231.4
115°	64.9	65.9	68.0	71.2	77.2	85.7	98.4	117.3	146.5	184.4	224.1
117.5°	73.2	74.1	76.1	79.5	85.2	94.0	105.9	123.3	149.6	184.0	220.8
120°	78.8	79.5	81.6	85.1	90.4	99.2	111.3	127.6	151.9	184.0	219.0
122.5°	83.8	84.4	86.7	89.9	95.8	104.3	116.3	131.7	154.2	183.8	217.0
125°	90.4	91.7	93.6	97.1	103.1	111.9	123.2	137.7	157.6	183.4	213.7
127.5°	96.3	97.3	99.6	103.5	109.8	118.7	129.7	142.9	160.3	182.7	209.2
130°	99.6	100.9	103.3	108.1	114.0	123.2	133.9	146.2	162.3	182.4	206.4
132.5°	102.9	103.9	107.2	111.6	118.2	126.7	137.5	149.5	164.1	182.3	203.9
135°	107.5	108.7	111.9	117.3	123.9	132.1	142.4	153.8	166.7	181.8	200.1
137.5°	112.1	113.2	116.7	121.8	128.7	136.5	146.2	156.9	168.3	181.8	196.9
140°	115.4	116.3	119.8	125.1	131.7	139.3	148.7	158.8	169.5	181.6	195.1
142.5°	118.9	119.8	123.1	128.1	134.5	141.8	151.1	160.3	170.6	181.6	193.6
145°	123.9	124.8	128.0	132.3	138.4	145.3	153.5	162.0	171.1	180.9	191.0
147.5°	129.5	129.7	132.6	137.1	142.0	148.3	156.0	163.5	171.5	179.8	188.7
150°	133.0	133.3	135.8	139.6	144.4	150.3	157.3	164.2	171.5	179.0	186.9
152.5°	136.3	136.3	138.8	142.4	146.6	152.1	158.3	164.7	170.9	177.7	184.9
155°	140.9	141.2	143.1	146.2	149.7	154.4	159.8	165.1	170.2	175.8	181.8
157.5°	145.3	145.3	147.1	149.5	152.6	156.3	160.9	165.1	169.3	173.9	178.8
160°	148.1	148.1	149.4	151.6	154.1	157.6	161.4	165.1	168.6	172.4	176.5
162.5°	150.6	150.4	151.4	153.4	155.6	158.4	161.8	165.1	167.8	170.9	174.5
165°	153.5	153.5	154.1	155.7	157.3	159.2	162.0	164.5	166.4	168.6	171.1
167.5°	156.3	156.0	156.3	157.5	158.4	159.9	161.9	163.7	164.9	166.3	168.1
170°	157.6	157.3	157.6	158.5	159.2	160.1	161.7	163.3	163.9	164.8	166.1
172.5°	158.8	158.5	158.5	159.3	159.6	160.3	161.4	162.7	162.9	163.3	164.3
175°	160.1	159.8	159.8	160.1	160.4	160.4	161.0	162.0	161.7	161.7	162.3
177.5°	160.7	160.4	160.2	160.4	160.4	160.4	160.7	161.1	160.7	160.7	161.0
180°	160.4	160.4	160.4	160.4	160.4	160.4	160.4	160.4	160.4	160.4	160.4



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	526.7	526.7	526.7	526.7	526.7	526.7	526.7	526.7
2.5°	524.9	525.7	526.4	526.7	526.6	526.6	526.5	526.4
5°	522.1	523.1	524.1	524.5	524.3	524.1	524.0	523.8
7.5°	516.2	517.1	517.9	518.3	518.2	518.0	517.9	517.8
10°	511.4	512.1	512.9	513.2	513.0	512.7	512.6	512.4
12.5°	505.4	506.2	507.1	507.4	507.1	506.8	506.6	506.3
15°	494.1	494.6	495.3	495.3	495.1	494.8	494.5	494.3
17.5°	481.2	481.5	481.9	482.0	481.8	481.6	481.4	481.3
20°	471.6	471.9	472.2	472.3	472.0	471.8	471.6	471.4
22.5°	461.5	462.1	462.6	462.7	462.4	462.0	461.6	461.4
25°	445.1	445.1	445.2	445.1	444.7	444.3	444.0	443.6
27.5°	426.5	426.3	426.1	425.7	425.3	424.8	424.3	423.8
30°	413.8	413.4	413.0	412.6	412.1	411.6	411.2	410.7
32.5°	400.7	400.3	399.8	399.4	399.0	398.4	398.0	397.5
35°	380.2	379.6	378.9	378.4	377.9	377.5	376.9	376.5
37.5°	358.7	358.0	357.3	356.7	356.1	355.4	354.8	354.2
40°	343.8	342.9	342.0	341.3	340.7	340.3	339.8	339.4
42.5°	329.3	328.2	327.2	326.5	326.1	325.8	325.5	325.2
45°	306.9	305.9	304.9	304.2	303.9	303.6	303.4	303.1
47.5°	285.2	284.0	282.9	282.0	281.2	280.5	279.8	279.1
50°	270.0	268.8	267.4	266.4	265.9	265.4	264.7	264.2
52.5°	254.5	253.3	252.2	251.2	250.5	249.8	249.1	248.3
55°	231.6	230.4	229.3	228.5	227.9	227.4	226.8	226.2
57.5°	208.7	207.6	206.5	205.7	205.2	204.6	204.1	203.5
60°	192.9	192.1	191.2	190.6	190.1	189.6	189.1	188.7
62.5°	177.5	176.7	175.9	175.3	174.9	174.4	174.0	173.4
65°	155.2	154.2	153.3	152.6	152.1	151.6	151.1	150.7
67.5°	132.1	131.2	130.3	129.7	129.7	129.5	129.4	129.2
70°	117.5	116.8	116.0	115.5	115.2	114.9	114.7	114.4
72.5°	103.0	102.4	101.7	101.3	101.0	100.8	100.5	100.2
75°	81.9	81.6	81.2	81.0	80.9	80.8	80.7	80.6
77.5°	62.1	62.0	61.9	61.7	61.4	61.2	60.9	60.7
80°	49.4	49.2	49.0	49.0	48.8	48.7	48.6	48.5
82.5°	38.1	38.0	37.9	37.8	37.7	37.5	37.5	37.4
85°	21.9	21.9	21.9	21.9	21.8	21.8	21.6	21.5
87.5°	9.3	9.3	9.4	9.4	9.5	9.5	9.5	9.5
90°	5.7	6.0	6.3	6.3	6.6	7.0	6.6	6.6
92.5°	61.9	46.5	37.1	30.8	27.0	25.3	24.3	24.3
95°	233.5	184.7	142.4	111.9	96.4	86.7	81.0	76.9
97.5°	345.0	326.9	296.0	263.1	240.5	221.6	212.1	205.5
100°	380.0	386.4	371.0	347.6	320.2	301.0	291.5	289.0
102.5°	378.4	409.6	414.0	404.3	387.5	373.6	363.6	361.6
105°	352.9	407.5	438.7	451.7	452.3	449.7	445.3	443.4
107.5°	317.0	375.1	418.9	447.1	462.6	469.8	473.0	473.8
110°	295.3	349.8	395.6	430.2	452.5	465.8	471.4	474.3



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	279.4	327.6	370.8	405.5	430.9	446.9	454.9	459.4
115°	263.5	302.2	339.1	369.3	394.2	413.1	423.3	425.8
117.5°	255.7	287.8	316.7	342.4	363.6	379.5	389.7	391.6
120°	252.1	281.4	306.7	329.0	347.0	360.9	369.1	372.6
122.5°	249.1	277.4	300.3	319.9	335.1	347.0	353.9	357.4
125°	244.0	271.0	292.7	310.1	322.7	331.9	337.9	339.7
127.5°	237.6	263.5	285.3	301.7	314.3	322.4	327.5	329.4
130°	232.6	257.5	278.9	295.6	308.5	316.4	321.5	323.3
132.5°	227.3	250.7	271.6	288.3	301.0	309.9	314.7	316.6
135°	220.0	240.5	259.7	275.4	288.0	296.9	301.9	303.8
137.5°	213.4	230.7	246.9	261.1	273.0	281.6	285.8	288.0
140°	209.6	224.4	238.5	251.8	262.9	269.7	274.2	276.7
142.5°	206.1	219.1	231.2	242.7	252.5	259.0	262.9	264.6
145°	201.1	211.8	221.2	230.1	237.9	243.3	246.5	248.0
147.5°	197.0	205.5	213.0	220.0	225.8	230.4	232.7	233.4
150°	194.5	201.7	208.0	213.7	218.7	222.8	224.7	225.0
152.5°	191.7	198.0	203.8	208.4	212.7	216.0	217.1	217.5
155°	187.5	192.5	197.2	201.1	204.2	206.7	207.7	207.7
157.5°	183.1	187.3	191.3	194.3	196.6	198.6	199.1	199.1
160°	180.3	183.7	187.2	189.8	191.6	193.5	193.9	193.9
162.5°	177.5	180.5	183.2	185.5	186.8	188.7	189.0	188.8
165°	173.6	175.6	177.7	179.3	180.6	181.8	181.6	181.2
167.5°	170.0	171.4	173.2	174.1	174.7	175.6	175.5	175.2
170°	167.6	168.6	169.9	170.9	171.5	171.7	171.5	171.5
172.5°	165.7	166.3	167.1	167.8	168.2	168.4	168.2	167.6
175°	162.9	163.3	163.9	163.9	163.9	164.5	163.9	163.3
177.5°	161.1	161.4	161.4	161.7	161.4	161.7	161.1	160.7
180°	160.4	160.4	160.4	160.4	160.4	160.4	160.4	160.4

(END OF REPORT)