

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: P331870-935

Luminaire Tested: **S123DIP-S340D365U935-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331870-935
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-17,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123DIP-S340D365U935-4F0-1E-UDD-D4
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 340 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 365 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2369.6 lumens
Efficiency: N/A
Efficacy: 116.7 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

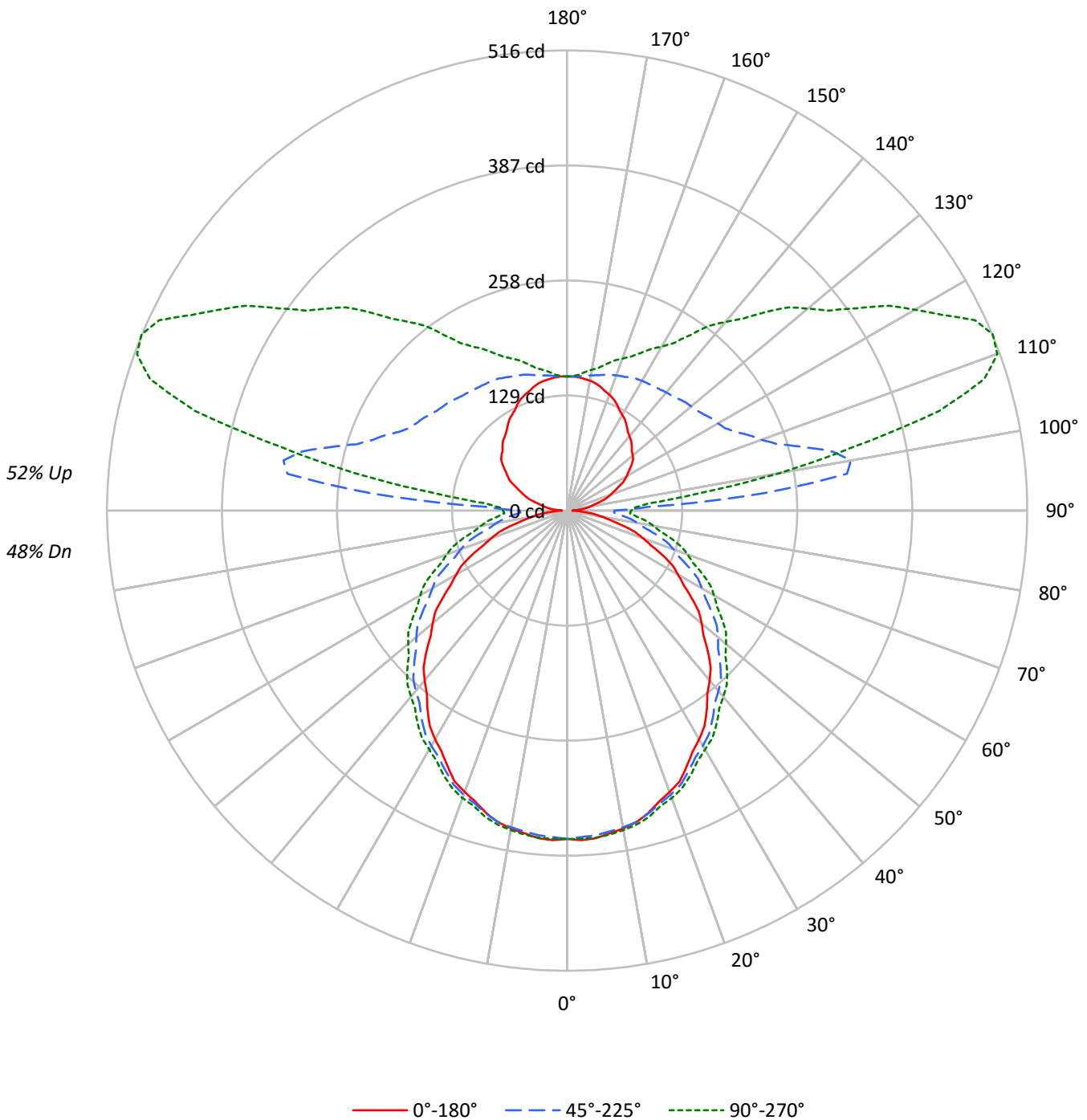
Input Watts (W): 20.3
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	98	98	98	98	82	82	82	68	68	68	54	54	54	48
1	96	92	87	83	88	84	81	77	70	68	65	58	56	54	46	45	44	38
2	87	79	73	67	80	73	67	63	61	57	53	50	47	44	40	38	36	31
3	79	69	62	56	73	64	57	52	54	49	44	44	40	37	35	33	30	26
4	72	61	53	47	66	56	49	44	47	42	37	39	35	32	31	28	26	22
5	66	54	46	40	61	50	43	37	42	37	32	35	31	27	28	25	22	19
6	61	49	40	34	56	45	38	32	38	32	28	32	27	24	25	22	20	17
7	56	44	36	30	52	41	33	28	34	29	24	29	24	21	23	20	17	15
8	52	40	32	26	48	37	30	25	31	26	22	26	22	19	21	18	15	13
9	49	36	29	23	45	34	27	22	29	23	19	24	20	17	20	16	14	12
10	45	33	26	21	42	31	24	20	26	21	17	22	18	15	18	15	13	11

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3963	3963	3963
5°	3977	3865	3866
10°	3941	3776	3757
15°	3890	3674	3636
20°	3818	3559	3504
25°	3728	3427	3365
30°	3637	3307	3224
35°	3533	3181	3112
40°	3435	3065	2991
45°	3327	2955	2895
50°	3219	2846	2789
55°	3100	2734	2693
60°	2984	2620	2596
65°	2865	2499	2479
70°	2685	2362	2359
75°	2462	2208	2239
80°	2201	2054	2100
85°	1955	1950	2018



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	34.9	1.5
10°-20°	99.5	4.2
20°-30°	148.9	6.3
30°-40°	177.8	7.5
40°-50°	186.0	7.8
50°-60°	174.5	7.4
60°-70°	145.8	6.2
70°-80°	104.3	4.4
80°-90°	63.4	2.7
90°-100°	122.7	5.2
100°-110°	265.5	11.2
110°-120°	252.1	10.6
120°-130°	196.8	8.3
130°-140°	151.4	6.4
140°-150°	110.4	4.7
150°-160°	76.2	3.2
160°-170°	44.8	1.9
170°-180°	14.6	0.6
0°-30°	283.3	12.0
0°-40°	461.0	19.5
0°-60°	821.6	34.7
0°-90°	1135.0	47.9
90°-120°	640.3	27.0
90°-150°	1099.0	46.4
90°-180°	1235.0	52.1
0°-180°	2369.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	368	368	368	368	368	
5°	369	368	366	368	368	35
15°	351	352	352	356	355	99
25°	317	321	322	327	327	146
35°	273	279	284	290	292	171
45°	223	233	243	250	254	172
55°	170	183	198	208	212	152
65°	118	133	151	162	167	116
75°	64	83	103	116	121	68
85°	20	40	61	74	79	21
90°	6	29	53	67	72	4
95°	15	54	220	104	91	15
105°	38	65	275	469	432	41
115°	64	85	208	441	505	64
125°	88	104	188	337	395	78
135°	102	122	177	272	315	79
145°	116	133	170	217	240	73
155°	132	142	165	187	195	61
165°	144	148	158	167	170	41
175°	150	150	151	153	153	14
180°	150	150	150	150	150	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	368.2	368.2	368.2	368.2	368.2	368.2	368.2	368.2	368.2	368.2	368.2
2.5°	369.9	369.7	369.5	369.3	369.0	368.7	368.1	367.5	367.0	366.4	367.0
5°	368.7	368.5	368.3	368.2	368.0	367.6	367.0	366.5	366.0	365.5	366.2
7.5°	365.1	365.2	365.2	365.2	365.2	365.0	364.5	363.9	363.4	362.9	363.8
10°	361.9	362.1	362.2	362.4	362.6	362.5	362.0	361.5	361.1	360.7	361.5
12.5°	358.0	358.3	358.5	358.8	359.0	359.0	358.7	358.3	358.1	357.7	358.6
15°	351.0	351.3	351.5	351.8	352.1	352.2	352.1	352.0	351.9	351.8	352.8
17.5°	342.2	342.8	343.3	343.8	344.3	344.6	344.6	344.5	344.5	344.5	345.3
20°	335.8	336.3	336.8	337.4	337.9	338.3	338.5	338.6	338.8	339.0	339.8
22.5°	329.1	329.6	330.1	330.6	331.2	331.6	331.8	332.1	332.3	332.6	333.6
25°	316.9	317.8	318.7	319.6	320.5	321.1	321.3	321.6	321.8	322.2	323.3
27.5°	304.7	305.7	306.8	307.8	308.8	309.6	310.1	310.7	311.3	311.9	312.9
30°	296.1	297.2	298.4	299.5	300.7	301.6	302.4	303.1	303.8	304.5	305.6
32.5°	286.5	287.7	289.0	290.3	291.6	292.7	293.7	294.6	295.6	296.4	297.6
35°	272.8	274.2	275.7	277.1	278.5	279.8	280.9	282.1	283.3	284.5	285.8
37.5°	258.4	259.9	261.6	263.2	264.8	266.3	267.7	269.1	270.6	272.0	273.5
40°	248.7	250.4	251.9	253.6	255.1	256.8	258.6	260.5	262.2	264.0	265.5
42.5°	238.2	240.1	242.0	244.0	246.0	247.9	249.8	251.6	253.5	255.3	257.0
45°	223.1	225.2	227.3	229.5	231.6	233.8	236.0	238.2	240.5	242.7	244.4
47.5°	207.2	209.7	212.1	214.6	217.0	219.5	222.0	224.5	227.0	229.6	231.5
50°	197.0	199.5	202.0	204.5	207.0	209.6	212.3	215.2	217.9	220.7	222.7
52.5°	186.1	188.7	191.3	194.0	196.7	199.5	202.5	205.6	208.6	211.6	213.8
55°	170.1	173.1	176.0	178.9	181.8	184.9	188.1	191.4	194.6	197.8	200.2
57.5°	154.5	157.6	160.7	163.8	166.8	170.1	173.6	177.1	180.6	184.2	186.6
60°	143.6	146.8	150.1	153.3	156.4	159.9	163.6	167.2	170.8	174.5	177.0
62.5°	133.4	136.6	139.9	143.2	146.5	150.1	153.9	157.8	161.7	165.6	168.0
65°	117.5	121.1	124.5	127.9	131.5	135.2	139.1	143.0	146.9	150.8	153.5
67.5°	101.5	105.2	108.9	112.5	116.2	120.1	124.1	128.1	132.1	136.1	139.0
70°	90.2	94.1	97.9	101.8	105.6	109.7	113.9	118.2	122.5	126.7	129.7
72.5°	80.0	83.9	87.6	91.5	95.3	99.4	103.8	108.3	112.7	117.2	120.1
75°	63.8	68.0	72.2	76.4	80.6	84.9	89.4	93.8	98.2	102.7	105.6
77.5°	49.7	53.9	58.1	62.3	66.6	70.9	75.4	79.9	84.4	88.9	92.0
80°	39.7	44.1	48.5	52.9	57.2	61.7	66.3	70.9	75.6	80.2	83.3
82.5°	31.1	35.5	40.0	44.3	48.8	53.4	58.1	62.8	67.5	72.2	75.3
85°	19.6	24.1	28.6	33.1	37.5	42.1	46.8	51.5	56.2	61.0	64.0
87.5°	10.8	15.3	19.9	24.5	29.1	33.8	38.5	43.1	47.9	52.6	55.6
90°	5.9	10.8	15.8	21.1	26.0	31.1	36.6	42.0	47.4	53.0	55.7
92.5°	8.7	14.5	20.9	27.2	33.8	42.4	54.9	72.5	89.8	89.5	81.0
95°	14.7	19.1	26.0	34.6	46.0	61.8	92.0	141.7	196.0	220.2	188.8
97.5°	21.6	25.1	30.7	38.4	49.3	65.9	94.7	150.0	237.4	316.4	338.6
100°	26.1	29.3	34.3	41.4	51.6	66.9	92.3	141.4	225.5	323.0	385.6
102.5°	30.9	34.0	38.5	45.0	54.2	68.4	91.5	133.8	209.1	305.3	386.0
105°	38.5	41.6	45.5	51.3	59.2	71.6	92.0	127.1	188.4	274.7	364.5
107.5°	46.1	48.9	52.5	57.9	65.2	76.6	94.7	124.3	174.4	247.5	329.2
110°	51.7	54.2	57.3	62.3	69.1	80.2	97.5	124.2	168.5	232.0	307.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	57.1	59.3	62.2	66.8	73.3	83.9	100.0	124.9	164.3	220.8	287.2
115°	64.4	66.6	69.6	73.7	79.9	90.2	105.0	126.8	161.1	208.4	263.1
117.5°	72.1	74.0	76.3	79.7	86.2	95.6	110.0	129.7	159.0	199.8	247.4
120°	77.1	78.4	80.4	83.9	90.1	99.4	113.3	132.1	158.4	195.4	238.8
122.5°	81.7	82.8	84.6	88.1	93.8	103.5	117.0	134.4	158.7	192.2	231.6
125°	87.9	88.5	90.3	93.7	99.4	109.0	122.3	138.2	159.0	187.5	221.9
127.5°	93.0	93.8	95.9	99.3	105.6	114.8	127.3	141.5	160.0	184.0	213.1
130°	96.2	96.9	99.6	103.1	109.4	118.6	130.4	143.7	160.7	181.7	208.0
132.5°	98.2	99.4	102.4	106.7	113.0	121.7	133.0	145.8	160.9	179.8	203.1
135°	102.5	103.6	106.9	111.3	117.6	126.2	136.6	148.0	161.2	177.0	196.6
137.5°	106.3	107.5	110.8	115.5	121.8	129.7	139.3	149.7	161.1	174.4	190.9
140°	108.7	110.2	113.3	118.1	124.2	132.0	141.0	150.5	161.1	172.9	187.4
142.5°	111.7	112.9	116.1	120.4	126.4	133.5	142.2	151.1	160.7	171.2	183.9
145°	116.3	117.2	119.8	124.2	129.3	136.3	144.2	152.4	160.9	170.0	180.6
147.5°	120.7	121.2	123.9	127.9	132.9	138.8	146.0	153.4	160.9	168.9	177.5
150°	123.8	124.2	126.6	130.5	134.7	140.3	147.2	153.7	160.9	168.0	175.6
152.5°	127.0	127.1	129.5	132.9	136.7	142.0	148.0	154.1	160.2	166.8	173.6
155°	131.7	131.7	133.5	136.6	140.0	144.2	149.4	154.3	159.5	164.6	170.7
157.5°	135.5	135.8	137.2	139.9	142.8	146.0	150.2	154.5	158.4	162.7	167.4
160°	138.4	138.4	139.7	142.1	144.2	147.2	150.9	154.5	157.9	161.3	165.2
162.5°	140.6	140.6	141.6	143.5	145.4	148.0	151.2	154.3	157.0	159.8	163.0
165°	143.9	143.6	144.2	145.8	147.0	149.1	151.5	153.7	155.5	157.6	160.1
167.5°	146.4	146.0	146.4	147.5	148.4	149.7	151.4	153.2	154.0	155.4	157.2
170°	147.8	147.2	147.6	148.4	149.1	149.7	151.2	152.4	153.1	153.9	155.5
172.5°	148.9	148.4	148.5	149.2	149.6	149.9	151.2	152.2	152.3	152.7	153.8
175°	150.0	149.7	149.4	150.0	150.0	150.3	150.9	151.5	151.2	151.2	151.8
177.5°	150.6	150.3	150.1	150.3	150.3	150.3	150.6	151.0	150.6	150.3	150.6
180°	150.3	150.3	150.3	150.3	150.3	150.3	150.3	150.3	150.3	150.3	150.3



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	368.2	368.2	368.2	368.2	368.2	368.2	368.2	368.2
2.5°	367.5	368.1	368.7	368.9	368.9	368.8	368.7	368.6
5°	366.9	367.6	368.3	368.7	368.6	368.4	368.3	368.2
7.5°	364.7	365.6	366.4	366.9	366.8	366.6	366.5	366.4
10°	362.5	363.3	364.2	364.5	364.4	364.2	364.0	363.9
12.5°	359.4	360.2	361.0	361.4	361.2	361.0	360.8	360.7
15°	353.6	354.5	355.4	355.8	355.7	355.6	355.5	355.4
17.5°	346.0	346.9	347.7	348.0	347.8	347.8	347.7	347.5
20°	340.6	341.4	342.2	342.7	342.8	342.9	342.9	343.0
22.5°	334.6	335.6	336.7	337.2	337.1	337.0	337.0	336.9
25°	324.4	325.6	326.7	327.4	327.4	327.4	327.4	327.4
27.5°	313.8	314.9	315.9	316.4	316.5	316.6	316.6	316.7
30°	306.6	307.7	308.8	309.3	309.3	309.3	309.3	309.3
32.5°	298.8	299.9	301.0	301.7	302.0	302.1	302.4	302.6
35°	287.1	288.4	289.8	290.7	291.0	291.4	291.7	292.1
37.5°	275.0	276.6	278.1	279.0	279.2	279.6	279.8	280.1
40°	267.0	268.5	270.0	271.0	271.3	271.7	272.1	272.4
42.5°	258.6	260.3	261.9	263.0	263.6	264.0	264.5	265.0
45°	246.1	247.8	249.5	250.7	251.4	252.1	252.9	253.6
47.5°	233.4	235.4	237.3	238.5	239.0	239.6	240.1	240.7
50°	224.7	226.8	228.9	230.2	230.8	231.4	232.0	232.7
52.5°	215.9	218.0	220.2	221.6	222.4	223.2	223.9	224.6
55°	202.6	205.0	207.4	209.0	209.7	210.4	211.1	211.8
57.5°	189.0	191.4	193.8	195.4	196.3	197.2	198.0	198.8
60°	179.5	182.0	184.5	186.2	187.2	188.2	189.2	190.2
62.5°	170.5	173.0	175.5	177.2	178.1	179.0	179.9	180.9
65°	156.2	158.9	161.5	163.3	164.2	165.1	166.0	166.9
67.5°	141.9	144.8	147.7	149.6	150.3	151.1	151.9	152.6
70°	132.5	135.3	138.2	140.1	140.9	141.8	142.8	143.6
72.5°	123.0	125.9	128.8	130.8	131.6	132.5	133.5	134.3
75°	108.6	111.5	114.5	116.5	117.5	118.6	119.7	120.8
77.5°	95.1	98.2	101.3	103.2	104.1	105.0	105.7	106.6
80°	86.3	89.4	92.4	94.3	95.2	96.1	97.0	97.9
82.5°	78.3	81.3	84.4	86.3	87.2	88.1	88.9	89.9
85°	67.1	70.1	73.1	75.1	75.9	76.9	77.7	78.6
87.5°	58.7	61.8	64.9	67.0	67.8	68.7	69.7	70.5
90°	59.0	62.3	65.7	68.3	68.8	70.0	71.2	71.8
92.5°	74.3	72.0	72.6	72.8	73.1	73.0	74.1	74.5
95°	154.8	122.3	108.9	99.8	94.9	93.0	91.8	91.4
97.5°	315.2	263.5	226.9	192.3	170.7	157.9	150.6	148.9
100°	398.8	376.8	343.7	302.3	272.4	251.1	240.1	241.3
102.5°	425.2	427.0	408.7	383.0	360.0	343.3	334.2	328.1
105°	430.6	463.6	471.8	465.5	452.4	441.6	432.7	432.0
107.5°	403.6	455.4	484.5	496.9	497.9	494.8	492.3	490.3
110°	379.0	437.3	477.9	500.8	510.0	513.2	513.2	513.3



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	354.3	413.7	458.9	487.8	504.2	512.6	515.7	516.5
115°	321.6	376.7	423.5	458.1	481.6	495.8	502.6	504.8
117.5°	297.0	344.8	387.1	422.1	446.7	462.7	472.2	474.9
120°	283.9	326.9	365.5	397.6	422.2	439.9	447.8	450.3
122.5°	273.1	312.2	348.0	377.9	399.8	415.9	424.5	427.4
125°	258.5	293.5	324.6	350.2	370.3	384.3	392.5	395.3
127.5°	245.4	276.7	304.8	328.2	346.1	358.2	365.7	368.2
130°	237.0	266.1	292.5	314.3	331.0	342.4	349.4	352.3
132.5°	229.2	256.1	280.6	301.4	317.2	328.7	335.0	337.3
135°	218.6	241.8	263.1	281.5	296.9	306.4	312.4	315.0
137.5°	208.8	227.9	246.3	262.3	275.3	285.0	290.1	291.9
140°	202.9	219.8	235.7	249.7	261.7	270.7	276.0	276.1
142.5°	197.3	211.8	225.7	237.8	248.1	256.1	261.0	261.1
145°	191.0	201.7	212.2	221.5	229.5	236.3	239.0	240.0
147.5°	185.9	194.1	202.2	208.7	214.8	219.5	222.1	222.7
150°	182.5	189.6	196.0	201.8	206.6	210.1	212.1	212.2
152.5°	179.9	185.9	191.6	196.4	200.0	203.1	204.3	204.3
155°	175.9	180.7	185.3	188.9	191.7	194.2	194.8	195.0
157.5°	171.6	175.6	179.2	182.1	184.4	186.2	186.8	186.7
160°	169.2	172.5	175.6	177.7	179.8	181.7	181.7	181.3
162.5°	166.3	169.1	171.9	173.8	175.2	176.8	176.8	176.5
165°	162.5	164.3	166.4	168.0	169.2	170.4	170.0	170.0
167.5°	159.2	160.6	161.8	162.9	163.4	164.3	164.0	164.0
170°	157.0	157.9	159.1	159.7	160.1	160.7	160.3	160.3
172.5°	155.1	155.8	156.7	157.0	157.1	157.7	157.2	157.0
175°	152.4	152.7	153.3	153.3	153.3	153.7	153.3	153.1
177.5°	150.8	151.0	151.3	151.3	151.0	151.3	150.8	150.8
180°	150.3	150.3	150.3	150.3	150.3	150.3	150.3	150.3

(END OF REPORT)