

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: P332251-935

Luminaire Tested: **S123RDIP-S340D585U935-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332251-935
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: S123RDIP-S340D585U935-4F0-1E-UDD-F4
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 340 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 585 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2944.5 lumens
Efficiency: N/A
Efficacy: 115.0 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.06 / 1.22
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')
CIE Type: Semi-Indirect

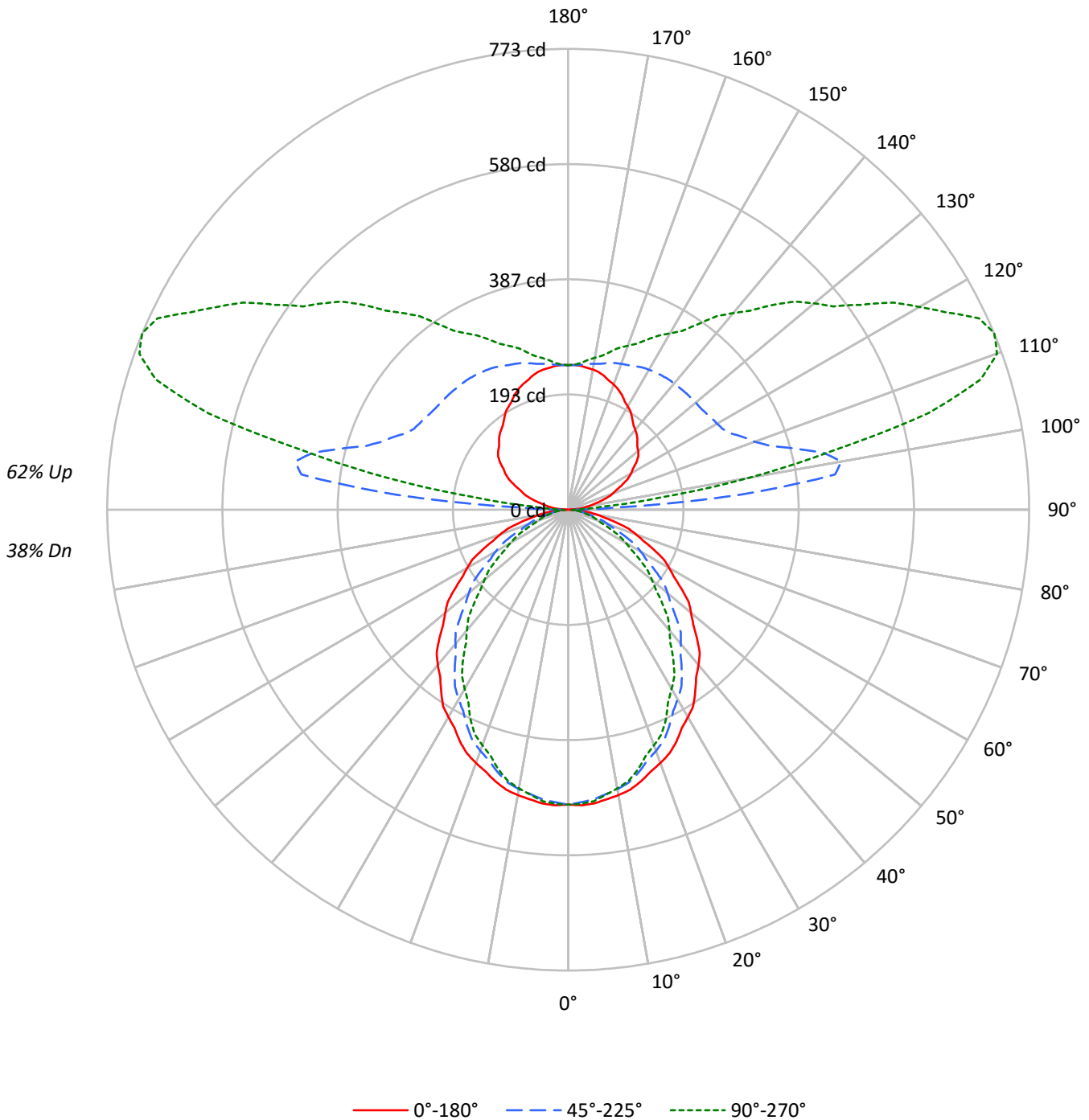
Input Watts (W): 25.6
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	104	104	104	104	95	95	95	95	77	77	77	60	60	60	45	45	45	38
1	95	91	87	84	86	83	80	77	67	65	63	53	52	51	40	39	39	32
2	87	80	74	69	79	73	68	63	59	56	53	47	45	43	36	34	33	28
3	79	70	63	58	72	64	58	53	53	48	45	42	39	36	32	30	28	24
4	73	62	55	49	66	57	50	45	47	42	38	37	34	31	29	26	24	20
5	67	56	48	42	60	51	44	39	42	37	33	34	30	27	26	23	21	18
6	62	50	42	36	56	46	39	34	38	33	29	30	27	24	23	21	19	16
7	57	45	37	32	52	41	35	30	34	29	25	28	24	21	21	19	17	14
8	53	41	33	28	48	38	31	26	31	26	23	25	22	19	20	17	15	13
9	49	37	30	25	45	34	28	23	29	24	20	23	20	17	18	16	14	12
10	46	34	27	22	42	31	25	21	26	21	18	22	18	15	17	14	12	10

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5324	5324	5324
5°	5344	5271	5302
10°	5314	5205	5187
15°	5258	5084	5029
20°	5179	4931	4816
25°	5099	4760	4608
30°	4992	4561	4313
35°	4882	4365	4043
40°	4780	4131	3710
45°	4647	3902	3408
50°	4501	3641	3069
55°	4352	3342	2755
60°	4215	3023	2409
65°	4037	2677	2063
70°	3811	2247	1668
75°	3489	1768	1568
80°	3106	1568	1438
85°	2631	1383	1284



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	46.5	1.6
10°-20°	129.2	4.4
20°-30°	186.1	6.3
30°-40°	209.6	7.1
40°-50°	200.5	6.8
50°-60°	164.2	5.6
60°-70°	110.8	3.8
70°-80°	55.7	1.9
80°-90°	16.6	0.6
90°-100°	135.0	4.6
100°-110°	382.3	13.0
110°-120°	376.1	12.8
120°-130°	300.0	10.2
130°-140°	236.5	8.0
140°-150°	176.5	6.0
150°-160°	123.0	4.2
160°-170°	72.3	2.5
170°-180°	23.5	0.8
0°-30°	361.8	12.3
0°-40°	571.4	19.4
0°-60°	936.2	31.8
0°-90°	1119.3	38.0
90°-120°	893.4	30.3
90°-150°	1606.4	54.6
90°-180°	1825.0	62.0
0°-180°	2944.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	495	495	495	495	495	
5°	495	492	488	491	491	47
15°	472	467	456	454	451	133
25°	429	419	401	393	388	197
35°	372	356	332	315	308	232
45°	305	286	256	234	224	235
55°	232	211	178	156	147	208
65°	158	136	105	86	81	157
75°	84	64	42	39	38	89
85°	21	13	11	10	10	24
90°	1	6	12	14	14	2
95°	17	54	291	85	57	18
105°	57	84	395	690	625	61
115°	101	125	302	662	760	100
125°	140	165	282	511	599	124
135°	164	196	278	421	486	127
145°	187	214	274	345	380	117
155°	213	229	266	302	315	98
165°	232	239	254	270	274	65
175°	242	242	244	248	247	23
180°	243	243	243	243	243	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	494.6	494.6	494.6	494.6	494.6	494.6	494.6	494.6	494.6	494.6	494.6
2.5°	496.3	495.9	495.7	495.4	495.2	494.6	493.7	492.8	492.0	491.1	491.9
5°	494.6	494.2	493.8	493.4	492.8	492.1	491.0	490.0	488.9	487.8	488.6
7.5°	490.1	489.6	489.1	488.6	488.2	487.2	485.9	484.5	483.0	481.6	482.1
10°	486.2	485.6	485.0	484.4	483.7	482.6	481.0	479.4	477.8	476.2	476.3
12.5°	480.8	480.1	479.4	478.7	478.0	476.6	474.7	472.8	470.8	468.8	468.7
15°	471.8	470.8	469.8	468.8	467.9	466.1	463.6	461.2	458.7	456.2	455.7
17.5°	460.5	459.3	458.2	457.0	455.9	453.7	450.6	447.4	444.3	441.1	440.1
20°	452.1	450.7	449.3	447.9	446.4	444.0	440.7	437.2	433.9	430.5	429.3
22.5°	442.8	441.2	439.5	437.9	436.3	433.7	430.1	426.5	422.8	419.2	417.8
25°	429.3	427.1	424.8	422.6	420.3	417.2	413.1	409.0	404.8	400.8	398.9
27.5°	412.8	410.4	407.9	405.4	402.9	399.5	394.9	390.3	385.7	381.2	378.6
30°	401.6	398.9	396.2	393.6	390.9	387.0	382.0	377.0	372.0	367.0	364.0
32.5°	390.4	387.3	384.3	381.3	378.2	374.1	368.8	363.5	358.3	352.9	349.7
35°	371.5	368.2	365.1	361.9	358.7	354.3	348.8	343.2	337.7	332.2	328.4
37.5°	352.4	348.8	345.3	341.7	338.1	333.4	327.5	321.6	315.7	309.8	305.5
40°	340.2	336.3	332.3	328.5	324.5	319.3	313.1	306.7	300.4	294.0	289.5
42.5°	326.4	322.4	318.6	314.6	310.7	305.5	298.9	292.4	285.9	279.3	274.2
45°	305.3	301.3	297.3	293.3	289.2	283.8	277.0	270.1	263.2	256.3	251.2
47.5°	284.2	279.8	275.3	271.0	266.6	261.0	254.1	247.2	240.4	233.5	228.0
50°	268.8	264.6	260.5	256.2	252.0	246.3	239.1	231.9	224.6	217.4	211.9
52.5°	255.0	250.5	245.9	241.3	236.8	230.9	223.8	216.6	209.5	202.3	196.7
55°	231.9	227.5	223.2	218.8	214.4	208.4	200.9	193.3	185.7	178.1	173.0
57.5°	210.5	205.8	201.0	196.2	191.5	185.3	177.7	170.0	162.5	154.9	150.0
60°	195.8	190.9	186.0	181.1	176.2	170.0	162.6	155.2	147.8	140.4	135.6
62.5°	181.0	176.1	171.2	166.3	161.4	155.2	147.8	140.4	133.0	125.6	121.1
65°	158.5	153.6	148.7	143.8	138.9	132.9	126.0	119.0	112.1	105.1	100.7
67.5°	136.0	131.0	126.0	121.1	116.1	110.3	103.6	96.9	90.2	83.6	80.3
70°	121.1	116.3	111.5	106.7	101.9	96.3	90.1	83.9	77.7	71.4	68.3
72.5°	106.4	101.7	96.9	92.1	87.4	82.2	76.5	70.9	65.2	59.5	57.0
75°	83.9	79.6	75.3	71.0	66.7	62.2	57.3	52.3	47.4	42.5	41.7
77.5°	63.3	59.4	55.5	51.7	47.9	44.3	41.2	38.0	34.9	31.7	31.3
80°	50.1	46.5	42.9	39.2	35.6	32.8	30.9	29.0	27.1	25.3	25.0
82.5°	37.6	34.4	31.3	28.2	25.0	23.0	22.1	21.3	20.4	19.5	19.2
85°	21.3	19.3	17.3	15.4	13.4	12.3	12.1	11.8	11.5	11.2	11.0
87.5°	7.9	7.3	6.7	6.2	5.7	5.4	5.8	6.0	6.4	6.6	6.5
90°	0.9	2.0	2.9	4.4	5.4	6.4	7.8	9.3	10.8	12.3	11.8
92.5°	6.1	9.0	13.2	17.0	21.1	28.4	41.2	62.3	83.1	75.5	57.0
95°	16.7	18.2	23.6	31.9	44.7	63.8	105.6	178.7	259.3	291.2	236.2
97.5°	28.5	29.0	33.2	40.5	53.0	73.8	113.7	196.1	330.4	451.3	482.8
100°	36.3	36.9	40.3	47.2	58.9	78.1	112.4	185.1	314.3	465.0	561.8
102.5°	44.6	45.5	48.6	55.0	65.6	83.2	114.0	175.7	290.8	439.5	565.8
105°	57.0	58.5	61.4	67.2	76.6	91.9	118.4	168.9	261.7	394.9	535.8
107.5°	70.1	71.6	74.5	80.2	89.0	103.1	126.4	168.4	243.3	355.3	483.4
110°	79.6	81.0	83.5	88.9	97.2	111.0	133.1	170.4	236.2	332.9	450.3



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	88.2	89.7	92.1	97.6	105.9	119.2	139.7	174.4	232.3	318.1	421.6
115°	100.7	102.6	105.6	110.5	118.8	132.1	150.8	180.7	230.8	302.0	387.0
117.5°	113.1	115.4	117.9	122.3	131.7	144.0	162.5	189.2	231.7	292.6	366.1
120°	121.8	123.3	125.7	130.6	140.0	152.2	169.9	195.4	233.2	288.3	355.1
122.5°	129.2	130.7	133.2	138.4	147.4	160.5	177.8	201.4	236.0	285.5	346.0
125°	140.0	140.9	143.9	149.3	158.6	171.9	189.1	210.7	240.1	281.9	334.4
127.5°	148.1	149.6	153.3	158.7	169.0	182.3	198.9	218.3	244.9	280.1	324.3
130°	153.3	154.7	159.1	165.0	175.3	188.6	204.7	223.4	248.0	279.0	318.7
132.5°	157.1	159.0	163.8	170.9	181.2	194.1	209.9	228.2	250.4	278.5	313.6
135°	164.0	166.0	171.4	178.7	189.1	202.3	217.6	234.3	253.9	277.9	306.9
137.5°	170.5	172.5	177.9	185.7	196.0	208.2	222.8	238.8	256.2	276.9	301.2
140°	174.9	177.3	182.2	190.0	199.8	212.2	226.4	241.2	257.8	276.5	297.6
142.5°	179.5	181.6	186.9	194.0	203.8	215.3	229.1	243.5	259.0	275.7	294.5
145°	187.1	188.6	193.0	200.4	208.7	220.0	232.8	246.1	259.8	274.5	290.2
147.5°	194.8	195.6	200.0	206.4	214.4	224.0	235.7	247.6	259.8	272.7	286.1
150°	199.8	200.4	204.3	210.7	217.6	226.4	237.7	248.0	259.8	271.0	283.4
152.5°	205.0	205.1	209.1	214.6	220.7	229.1	238.8	248.8	258.6	269.1	280.3
155°	212.7	212.7	215.6	220.5	225.9	232.8	241.2	249.0	257.4	265.7	275.5
157.5°	218.7	219.1	221.4	225.8	230.4	235.7	242.4	249.5	255.6	262.6	270.2
160°	223.4	223.4	225.4	229.4	232.8	237.7	243.6	249.5	254.9	260.3	266.7
162.5°	227.0	227.0	228.6	231.7	234.7	238.8	244.0	249.1	253.3	258.0	263.1
165°	232.3	231.8	232.8	235.2	237.2	240.6	244.5	248.0	251.0	254.4	258.3
167.5°	236.3	235.7	236.2	238.1	239.4	241.6	244.4	247.2	248.6	250.8	253.7
170°	238.7	237.7	238.2	239.6	240.6	241.6	244.1	246.1	247.0	248.5	251.0
172.5°	240.2	239.6	239.8	240.8	241.4	242.0	244.1	245.6	245.8	246.5	248.2
175°	242.1	241.6	241.2	242.1	242.1	242.6	243.6	244.5	244.1	244.1	245.0
177.5°	243.0	242.6	242.2	242.6	242.6	242.6	243.0	243.7	243.0	242.6	243.0
180°	242.6	242.6	242.6	242.6	242.6	242.6	242.6	242.6	242.6	242.6	242.6



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	494.6	494.6	494.6	494.6	494.6	494.6	494.6	494.6
2.5°	492.7	493.4	494.3	494.6	494.5	494.3	494.1	494.0
5°	489.5	490.3	491.0	491.4	491.2	491.0	490.9	490.7
7.5°	482.6	483.0	483.5	483.5	483.2	482.9	482.6	482.3
10°	476.4	476.5	476.6	476.4	476.0	475.5	475.0	474.6
12.5°	468.7	468.6	468.6	468.3	467.8	467.3	466.7	466.2
15°	455.2	454.8	454.3	453.8	453.2	452.5	451.9	451.3
17.5°	439.2	438.2	437.3	436.4	435.4	434.5	433.6	432.7
20°	428.2	427.0	425.9	424.7	423.6	422.6	421.5	420.4
22.5°	416.4	414.9	413.5	412.2	411.2	410.3	409.2	408.3
25°	397.0	395.2	393.3	391.8	390.9	389.9	388.9	388.0
27.5°	376.0	373.4	370.8	368.8	367.2	365.8	364.3	362.7
30°	361.0	358.0	355.0	352.8	351.3	349.9	348.4	347.0
32.5°	346.3	343.0	339.7	337.3	335.8	334.3	332.8	331.3
35°	324.5	320.6	316.8	314.1	312.5	310.9	309.3	307.7
37.5°	301.1	296.7	292.4	289.2	287.2	285.2	283.3	281.3
40°	284.8	280.2	275.5	272.2	270.1	268.1	266.0	264.0
42.5°	269.1	264.2	259.1	255.6	253.7	251.9	250.1	248.2
45°	246.2	241.1	236.0	232.4	230.3	228.2	226.0	223.9
47.5°	222.4	216.9	211.4	207.7	205.8	203.9	201.9	200.0
50°	206.4	200.9	195.4	191.6	189.5	187.4	185.4	183.3
52.5°	190.9	185.1	179.4	175.6	173.7	171.9	170.1	168.2
55°	167.8	162.6	157.5	153.9	152.2	150.4	148.6	146.8
57.5°	145.1	140.2	135.3	132.1	130.6	129.1	127.6	126.1
60°	130.8	126.0	121.1	118.0	116.5	114.9	113.5	111.9
62.5°	116.6	112.1	107.5	104.4	102.9	101.3	99.7	98.2
65°	96.3	92.0	87.6	85.0	83.9	83.0	82.1	81.0
67.5°	77.1	73.8	70.5	68.4	67.3	66.3	65.3	64.2
70°	65.2	62.1	58.9	56.9	55.9	54.9	53.9	53.0
72.5°	54.4	51.9	49.3	47.9	47.4	47.0	46.7	46.2
75°	40.7	39.9	38.9	38.4	38.2	38.1	37.9	37.7
77.5°	30.7	30.2	29.8	29.4	29.3	29.1	28.9	28.8
80°	24.7	24.5	24.2	24.0	23.8	23.6	23.4	23.2
82.5°	18.9	18.7	18.4	18.3	18.3	18.2	18.2	18.2
85°	10.8	10.7	10.5	10.4	10.4	10.4	10.4	10.4
87.5°	6.5	6.5	6.5	6.6	6.5	6.5	6.5	6.4
90°	12.3	12.7	13.3	14.2	13.8	14.2	14.7	14.2
92.5°	41.3	32.8	29.0	26.4	25.6	24.0	24.5	23.7
95°	176.8	119.9	93.8	76.1	66.8	62.3	58.9	57.0
97.5°	440.7	353.0	289.6	230.9	194.7	172.5	159.3	155.1
100°	579.0	539.2	481.7	412.0	362.4	326.6	307.5	307.9
102.5°	625.0	623.7	590.2	546.0	507.4	479.0	463.0	451.7
105°	638.4	687.5	696.9	684.1	661.5	642.8	627.2	624.7
107.5°	599.7	679.5	722.5	739.9	740.4	734.1	728.8	724.3
110°	562.7	653.2	715.1	749.4	763.2	767.1	766.1	765.1



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	526.2	618.5	687.9	732.1	757.2	769.5	773.2	773.4
115°	477.9	563.3	635.5	689.0	725.8	747.4	757.2	759.7
117.5°	442.7	516.5	581.3	635.7	674.1	698.8	713.0	716.3
120°	424.3	490.6	549.5	599.2	637.9	665.5	677.2	680.2
122.5°	409.7	469.8	524.3	570.4	604.9	629.6	642.7	646.4
125°	390.4	443.9	491.1	530.4	561.8	583.4	595.7	599.2
127.5°	373.5	421.3	463.8	499.6	527.5	546.0	557.1	560.3
130°	362.9	407.1	446.9	480.3	506.4	524.0	534.3	538.2
132.5°	353.1	393.7	430.8	462.6	487.1	504.7	513.8	516.6
135°	339.8	374.7	406.7	434.6	458.7	473.4	482.2	485.7
137.5°	327.8	356.4	383.8	408.1	428.3	443.2	450.7	453.0
140°	320.7	345.7	369.3	390.4	409.1	422.8	430.7	430.2
142.5°	314.0	335.5	355.9	374.3	390.2	402.4	409.5	409.0
145°	305.9	322.2	337.9	352.1	364.4	374.7	378.7	379.6
147.5°	299.4	312.2	324.9	335.0	344.3	351.3	355.1	355.4
150°	294.6	305.9	316.2	325.6	332.9	338.4	341.3	341.3
152.5°	290.3	300.1	309.2	316.9	322.7	327.8	329.5	329.5
155°	283.9	291.7	299.1	305.0	309.4	313.3	314.3	314.8
157.5°	277.0	283.5	289.3	293.9	297.7	300.7	301.4	301.4
160°	273.0	278.4	283.4	286.8	290.2	293.2	293.2	292.7
162.5°	268.4	272.9	277.5	280.5	282.8	285.3	285.3	284.8
165°	262.3	265.2	268.6	271.0	273.0	275.0	274.5	274.5
167.5°	256.9	259.2	261.1	262.9	263.8	265.2	264.7	264.7
170°	253.4	254.9	256.8	257.8	258.3	259.3	258.8	258.8
172.5°	250.3	251.3	252.9	253.5	253.6	254.6	253.7	253.3
175°	246.1	246.5	247.5	247.5	247.5	248.0	247.5	247.0
177.5°	243.4	243.7	244.2	244.2	243.7	244.2	243.4	243.4
180°	242.6	242.6	242.6	242.6	242.6	242.6	242.6	242.6

(END OF REPORT)