

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: P332243-840

Luminaire Tested: **S123RDIP-S340D365U840-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332243-840
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-5,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123RDIP-S340D365U840-4F0-1E-UDD-F
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 340 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 365 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2776.8 lumens
Efficiency: N/A
Efficacy: 136.8 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: General Diffuse

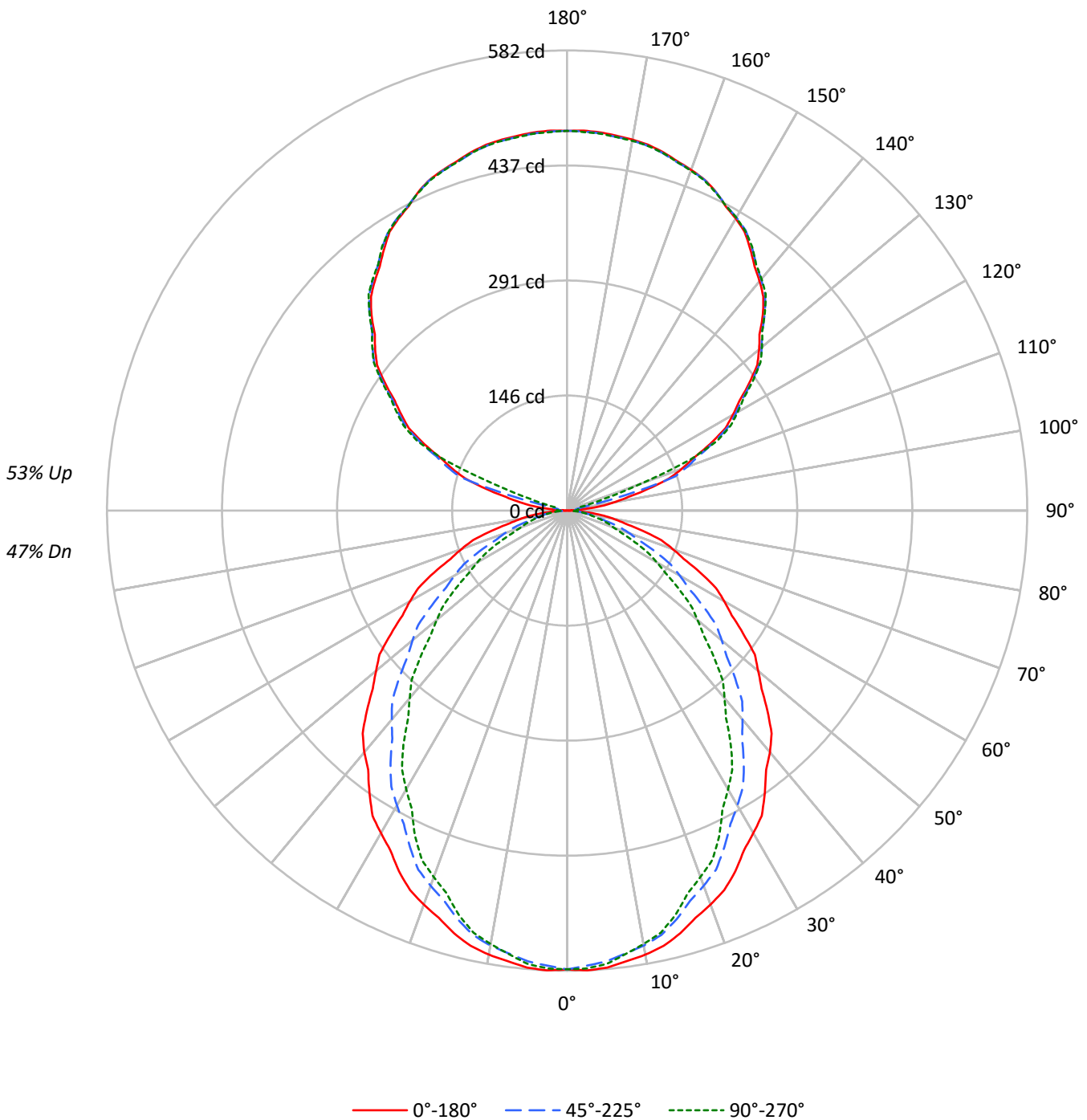
Input Watts (W): 20.3
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	106	106	106	106	98	98	98	98	82	82	82	67	67	67	54	54	54	47
1	97	93	90	86	89	86	83	80	72	70	68	59	58	56	48	47	46	40
2	89	82	76	71	82	75	70	66	64	60	57	53	50	48	42	41	39	34
3	81	72	65	59	75	67	60	55	56	52	48	47	43	41	38	36	34	29
4	75	64	56	50	68	59	52	47	50	45	41	42	38	35	34	31	29	25
5	69	57	49	43	63	53	46	41	45	40	36	38	34	31	31	28	26	22
6	63	51	43	38	58	48	41	35	41	35	31	34	30	27	28	25	23	20
7	58	46	39	33	54	43	36	31	37	31	27	31	27	24	26	23	20	18
8	54	42	35	29	50	39	32	28	34	28	24	28	24	21	24	20	18	16
9	51	39	31	26	47	36	29	25	31	26	22	26	22	19	22	19	16	14
10	47	35	28	24	44	33	27	22	29	23	20	24	20	17	20	17	15	13

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	6245	6245	6245
5°	6269	6183	6218
10°	6233	6105	6084
15°	6167	5962	5899
20°	6074	5783	5648
25°	5980	5583	5404
30°	5854	5351	5059
35°	5727	5119	4742
40°	5606	4846	4350
45°	5451	4576	3997
50°	5280	4270	3600
55°	5104	3920	3232
60°	4943	3546	2827
65°	4735	3140	2420
70°	4472	2634	1954
75°	4092	2075	1838
80°	3645	1841	1692
85°	3075	1618	1507



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	54.5	2.0
10°-20°	151.6	5.5
20°-30°	218.3	7.9
30°-40°	245.9	8.9
40°-50°	235.2	8.5
50°-60°	192.6	6.9
60°-70°	130.0	4.7
70°-80°	65.4	2.4
80°-90°	18.6	0.7
90°-100°	17.5	0.6
100°-110°	83.2	3.0
110°-120°	199.9	7.2
120°-130°	254.6	9.2
130°-140°	272.0	9.8
140°-150°	254.4	9.2
150°-160°	205.2	7.4
160°-170°	132.4	4.8
170°-180°	45.6	1.6
0°-30°	424.3	15.3
0°-40°	670.2	24.1
0°-60°	1098.1	39.5
0°-90°	1312.0	47.2
90°-120°	300.6	10.8
90°-150°	1081.5	38.9
90°-180°	1465.0	52.8
0°-180°	2776.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	580	580	580	580	580	
5°	580	578	572	576	576	55
15°	553	548	535	533	529	156
25°	504	491	470	460	455	231
35°	436	418	390	370	361	273
45°	358	336	301	275	263	276
55°	272	248	209	183	172	244
65°	186	159	123	101	95	184
75°	98	76	50	45	44	105
85°	25	15	13	12	12	28
90°	0	4	9	10	11	2
95°	22	8	11	13	14	27
105°	106	108	78	18	16	113
115°	199	202	205	208	210	197
125°	281	284	286	286	287	251
135°	350	352	354	355	354	269
145°	404	406	407	408	408	253
155°	445	444	445	446	444	205
165°	469	468	468	470	468	133
175°	480	479	479	481	479	46
180°	480	480	480	480	480	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	580.2	580.2	580.2	580.2	580.2	580.2	580.2	580.2	580.2	580.2	580.2
2.5°	582.1	581.7	581.4	581.1	580.8	580.1	579.1	578.0	577.0	576.0	576.9
5°	580.2	579.7	579.2	578.7	578.0	577.2	575.9	574.7	573.4	572.2	573.1
7.5°	574.8	574.2	573.7	573.1	572.6	571.5	569.9	568.3	566.5	564.9	565.4
10°	570.3	569.6	568.9	568.2	567.3	566.0	564.2	562.3	560.4	558.6	558.7
12.5°	563.9	563.1	562.3	561.5	560.7	559.1	556.7	554.5	552.2	549.9	549.8
15°	553.4	552.2	551.1	549.9	548.8	546.7	543.8	540.9	538.0	535.0	534.5
17.5°	540.1	538.8	537.5	536.0	534.7	532.2	528.5	524.7	521.1	517.4	516.2
20°	530.3	528.7	526.9	525.3	523.6	520.8	516.8	512.8	508.9	504.9	503.5
22.5°	519.4	517.5	515.5	513.6	511.7	508.7	504.4	500.2	495.9	491.7	490.0
25°	503.5	500.9	498.3	495.6	493.0	489.3	484.5	479.7	474.8	470.1	467.9
27.5°	484.2	481.3	478.4	475.5	472.6	468.6	463.2	457.8	452.4	447.1	444.0
30°	471.0	467.9	464.7	461.6	458.5	453.9	448.1	442.2	436.4	430.5	427.0
32.5°	457.9	454.2	450.7	447.2	443.6	438.8	432.5	426.4	420.2	413.9	410.1
35°	435.8	431.9	428.2	424.4	420.7	415.6	409.1	402.5	396.1	389.6	385.2
37.5°	413.3	409.1	405.0	400.8	396.6	391.0	384.2	377.2	370.3	363.3	358.3
40°	399.0	394.5	389.8	385.3	380.6	374.6	367.2	359.7	352.3	344.9	339.5
42.5°	382.8	378.2	373.7	369.0	364.5	358.3	350.6	343.0	335.3	327.6	321.6
45°	358.1	353.4	348.7	344.0	339.2	332.9	324.9	316.8	308.7	300.6	294.7
47.5°	333.4	328.2	323.0	317.8	312.7	306.1	298.0	289.9	282.0	273.9	267.4
50°	315.3	310.3	305.5	300.5	295.6	288.9	280.4	272.0	263.5	255.0	248.5
52.5°	299.1	293.8	288.4	283.1	277.7	270.8	262.5	254.1	245.7	237.3	230.7
55°	272.0	266.8	261.8	256.6	251.5	244.5	235.6	226.7	217.8	208.9	202.9
57.5°	246.9	241.4	235.8	230.1	224.6	217.3	208.4	199.4	190.6	181.7	175.9
60°	229.6	223.9	218.1	212.4	206.6	199.4	190.8	182.1	173.4	164.7	159.1
62.5°	212.3	206.5	200.8	195.1	189.3	182.1	173.4	164.7	156.0	147.3	142.1
65°	185.9	180.2	174.4	168.6	162.9	155.9	147.7	139.6	131.5	123.3	118.2
67.5°	159.5	153.6	147.7	142.0	136.1	129.4	121.5	113.7	105.8	98.1	94.2
70°	142.1	136.4	130.8	125.1	119.6	113.0	105.7	98.4	91.1	83.7	80.1
72.5°	124.8	119.3	113.7	108.1	102.5	96.4	89.8	83.1	76.4	69.8	66.9
75°	98.4	93.3	88.3	83.3	78.3	72.9	67.2	61.4	55.6	49.9	48.9
77.5°	74.2	69.7	65.1	60.6	56.1	52.0	48.3	44.5	40.9	37.2	36.7
80°	58.8	54.5	50.3	45.9	41.7	38.5	36.3	34.0	31.8	29.7	29.3
82.5°	44.1	40.4	36.8	33.0	29.3	27.0	26.0	24.9	23.9	22.8	22.5
85°	24.9	22.6	20.3	18.1	15.8	14.4	14.1	13.8	13.5	13.1	12.9
87.5°	9.1	8.4	7.6	6.9	6.1	5.8	6.0	6.2	6.4	6.6	6.6
90°	0.4	1.1	1.9	2.7	3.5	4.4	5.5	6.5	7.6	8.6	8.9
92.5°	6.7	6.5	6.2	6.0	5.8	6.1	6.8	7.6	8.4	9.1	9.6
95°	21.8	18.5	15.2	12.0	8.8	7.6	8.5	9.3	10.2	11.1	11.6
97.5°	43.7	42.3	40.8	39.4	37.9	34.3	28.6	22.9	17.2	11.5	12.1
100°	60.3	61.9	63.5	65.0	66.7	61.3	48.9	36.6	24.1	11.8	12.4
102.5°	79.2	80.3	81.4	82.6	83.7	77.6	64.0	50.5	37.0	23.5	21.5
105°	106.3	107.2	108.1	109.0	109.9	106.7	99.6	92.4	85.3	78.2	64.1
107.5°	135.0	135.7	136.4	137.1	137.8	138.8	139.9	141.0	142.1	143.2	132.9
110°	154.2	154.8	155.4	156.0	156.7	157.4	158.3	159.2	160.1	161.0	158.3



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	172.4	173.0	173.6	174.1	174.7	175.4	176.3	177.2	178.0	178.9	178.9
115°	199.4	200.0	200.5	200.9	201.4	202.0	202.7	203.4	204.1	204.8	205.6
117.5°	225.7	226.3	226.8	227.4	228.0	228.5	228.8	229.2	229.6	229.9	230.6
120°	242.0	242.7	243.4	244.1	244.8	245.3	245.5	245.8	246.0	246.2	246.9
122.5°	258.5	259.1	259.6	260.2	260.8	261.3	261.6	261.9	262.2	262.5	263.0
125°	281.2	281.9	282.5	283.1	283.8	284.2	284.6	284.9	285.2	285.5	285.7
127.5°	303.2	303.9	304.5	305.1	305.7	306.2	306.6	307.0	307.4	307.7	308.0
130°	316.9	317.5	318.1	318.8	319.4	319.9	320.2	320.5	320.8	321.1	321.4
132.5°	330.0	330.6	331.3	331.9	332.5	333.0	333.3	333.6	333.8	334.1	334.4
135°	350.1	350.5	351.0	351.5	351.9	352.3	352.6	353.0	353.4	353.7	353.9
137.5°	367.2	367.8	368.4	369.0	369.6	370.0	370.2	370.3	370.5	370.7	371.1
140°	378.6	379.1	379.6	380.0	380.5	380.9	381.1	381.3	381.6	381.8	382.1
142.5°	389.2	389.7	390.1	390.6	391.1	391.4	391.7	391.9	392.1	392.4	392.6
145°	403.9	404.6	405.1	405.7	406.2	406.6	406.7	406.9	407.0	407.2	407.4
147.5°	417.9	418.3	418.6	419.0	419.3	419.6	419.8	419.9	420.1	420.2	420.4
150°	426.5	426.7	426.9	427.2	427.4	427.6	427.8	427.9	428.1	428.2	428.4
152.5°	434.1	434.2	434.3	434.4	434.5	434.7	434.7	434.8	434.9	435.0	435.4
155°	445.0	444.8	444.6	444.5	444.3	444.3	444.4	444.4	444.5	444.6	445.0
157.5°	453.4	453.4	453.4	453.3	453.3	453.3	453.2	453.1	453.0	453.0	453.4
160°	458.6	458.5	458.4	458.3	458.3	458.2	458.1	458.0	458.0	457.9	458.3
162.5°	463.4	463.2	463.0	462.8	462.6	462.4	462.3	462.3	462.2	462.1	462.6
165°	469.3	469.0	468.8	468.6	468.3	468.2	468.1	468.0	467.9	467.9	468.5
167.5°	473.8	473.5	473.2	472.9	472.5	472.4	472.4	472.4	472.4	472.4	473.0
170°	476.4	476.1	475.7	475.4	475.1	474.9	474.9	474.9	474.9	474.9	475.6
172.5°	478.1	477.8	477.4	477.0	476.6	476.5	476.5	476.6	476.7	476.7	477.4
175°	480.3	479.9	479.5	479.2	478.8	478.6	478.7	478.8	478.8	478.9	479.5
177.5°	480.9	480.6	480.3	480.0	479.6	479.5	479.6	479.6	479.7	479.8	480.3
180°	480.3	480.3	480.3	480.3	480.3	480.3	480.3	480.3	480.3	480.3	480.3



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	580.2	580.2	580.2	580.2	580.2	580.2	580.2	580.2
2.5°	577.8	578.8	579.8	580.1	580.0	579.8	579.6	579.5
5°	574.1	575.0	575.9	576.3	576.1	575.9	575.7	575.5
7.5°	566.0	566.5	567.0	567.1	566.7	566.4	566.0	565.7
10°	558.8	558.9	559.0	558.8	558.3	557.7	557.1	556.6
12.5°	549.8	549.7	549.7	549.3	548.7	548.1	547.4	546.8
15°	533.9	533.4	532.9	532.3	531.6	530.8	530.1	529.4
17.5°	515.1	514.0	512.9	511.8	510.7	509.6	508.6	507.5
20°	502.2	500.8	499.5	498.2	496.9	495.6	494.4	493.1
22.5°	488.4	486.7	484.9	483.5	482.3	481.2	480.0	478.9
25°	465.6	463.5	461.3	459.6	458.5	457.4	456.2	455.0
27.5°	441.0	438.0	434.9	432.5	430.7	429.0	427.3	425.5
30°	423.4	419.9	416.4	413.7	412.0	410.4	408.7	407.0
32.5°	406.2	402.3	398.4	395.6	393.8	392.1	390.3	388.6
35°	380.6	376.1	371.6	368.4	366.6	364.7	362.7	360.9
37.5°	353.1	348.0	343.0	339.2	336.9	334.6	332.2	329.9
40°	334.1	328.6	323.2	319.2	316.8	314.5	312.0	309.6
42.5°	315.7	309.8	303.9	299.8	297.6	295.5	293.4	291.1
45°	288.7	282.8	276.8	272.6	270.1	267.6	265.1	262.6
47.5°	260.8	254.4	247.9	243.6	241.4	239.1	236.8	234.6
50°	242.1	235.6	229.1	224.7	222.3	219.8	217.4	215.0
52.5°	223.9	217.1	210.5	206.0	203.8	201.7	199.5	197.3
55°	196.8	190.8	184.7	180.6	178.5	176.4	174.3	172.2
57.5°	170.2	164.4	158.8	154.9	153.2	151.4	149.7	147.8
60°	153.4	147.7	142.1	138.4	136.6	134.8	133.1	131.3
62.5°	136.7	131.5	126.1	122.5	120.7	118.9	116.9	115.1
65°	113.0	108.0	102.8	99.7	98.5	97.4	96.2	95.0
67.5°	90.4	86.5	82.7	80.2	79.0	77.8	76.5	75.3
70°	76.4	72.8	69.1	66.8	65.5	64.4	63.2	62.1
72.5°	63.8	60.9	57.9	56.1	55.6	55.1	54.7	54.2
75°	47.8	46.8	45.6	45.0	44.8	44.6	44.4	44.2
77.5°	36.1	35.4	34.9	34.5	34.3	34.1	33.9	33.7
80°	29.0	28.7	28.4	28.2	27.9	27.7	27.5	27.3
82.5°	22.2	21.9	21.6	21.4	21.4	21.3	21.3	21.3
85°	12.7	12.5	12.3	12.2	12.2	12.2	12.2	12.2
87.5°	6.6	6.6	6.6	6.5	6.5	6.4	6.4	6.3
90°	9.2	9.5	9.8	10.1	10.2	10.4	10.5	10.7
92.5°	10.2	10.7	11.2	11.5	11.5	11.6	11.7	11.8
95°	12.2	12.7	13.3	13.5	13.5	13.5	13.5	13.5
97.5°	12.7	13.4	14.0	14.3	14.4	14.5	14.6	14.7
100°	13.0	13.6	14.3	14.6	14.7	14.8	14.9	14.9
102.5°	19.6	17.6	15.7	14.7	14.8	14.9	15.1	15.2
105°	50.1	36.1	22.0	15.0	15.2	15.3	15.6	15.7
107.5°	122.7	112.4	102.1	91.6	81.1	70.5	59.9	49.3
110°	155.7	153.1	150.5	143.5	132.2	120.8	109.5	98.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	179.0	179.0	179.2	177.9	175.5	173.2	170.8	168.3
115°	206.4	207.2	208.0	208.5	208.8	209.2	209.5	209.8
117.5°	231.3	231.9	232.5	232.9	232.9	233.0	233.1	233.1
120°	247.5	248.1	248.7	249.1	249.1	249.1	249.1	249.1
122.5°	263.4	263.9	264.3	264.5	264.6	264.7	264.7	264.8
125°	285.8	286.0	286.1	286.3	286.4	286.6	286.8	286.9
127.5°	308.2	308.5	308.8	308.8	308.6	308.5	308.3	308.2
130°	321.8	322.1	322.4	322.6	322.3	322.2	322.0	321.8
132.5°	334.7	335.0	335.3	335.4	335.1	334.9	334.7	334.5
135°	354.2	354.4	354.6	354.6	354.4	354.2	353.9	353.7
137.5°	371.4	371.8	372.2	372.3	372.1	372.0	371.8	371.7
140°	382.4	382.7	383.1	383.1	383.0	382.8	382.7	382.5
142.5°	392.9	393.1	393.4	393.4	393.2	392.9	392.7	392.5
145°	407.5	407.7	407.8	407.9	407.9	407.9	407.9	407.9
147.5°	420.5	420.7	420.9	420.8	420.4	420.0	419.7	419.3
150°	428.6	428.7	428.9	428.8	428.6	428.4	428.1	427.9
152.5°	435.7	436.0	436.3	436.2	435.9	435.5	435.0	434.7
155°	445.5	445.9	446.3	446.2	445.8	445.2	444.7	444.2
157.5°	453.9	454.4	454.9	454.8	454.2	453.6	452.9	452.3
160°	458.8	459.3	459.8	459.7	459.2	458.6	458.1	457.5
162.5°	463.2	463.7	464.2	464.3	463.8	463.3	462.8	462.3
165°	469.1	469.8	470.4	470.4	469.9	469.3	468.8	468.2
167.5°	473.6	474.3	474.9	474.9	474.3	473.6	473.0	472.4
170°	476.3	476.9	477.5	477.5	476.9	476.3	475.6	474.9
172.5°	478.0	478.6	479.2	479.2	478.5	477.8	477.1	476.4
175°	480.0	480.6	481.1	481.1	480.5	479.8	479.2	478.6
177.5°	480.8	481.3	481.8	481.7	481.1	480.5	479.8	479.2
180°	480.3	480.3	480.3	480.3	480.3	480.3	480.3	480.3

(END OF REPORT)