

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: P331872-840

Luminaire Tested: **S123DIP-S340D365U840-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331872-840
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-9,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123DIP-S340D365U840-4F0-1E-UDD-F1
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 340 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 365 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2684.0 lumens
Efficiency: N/A
Efficacy: 132.2 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.18 / 1.31
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')
CIE Type: General Diffuse

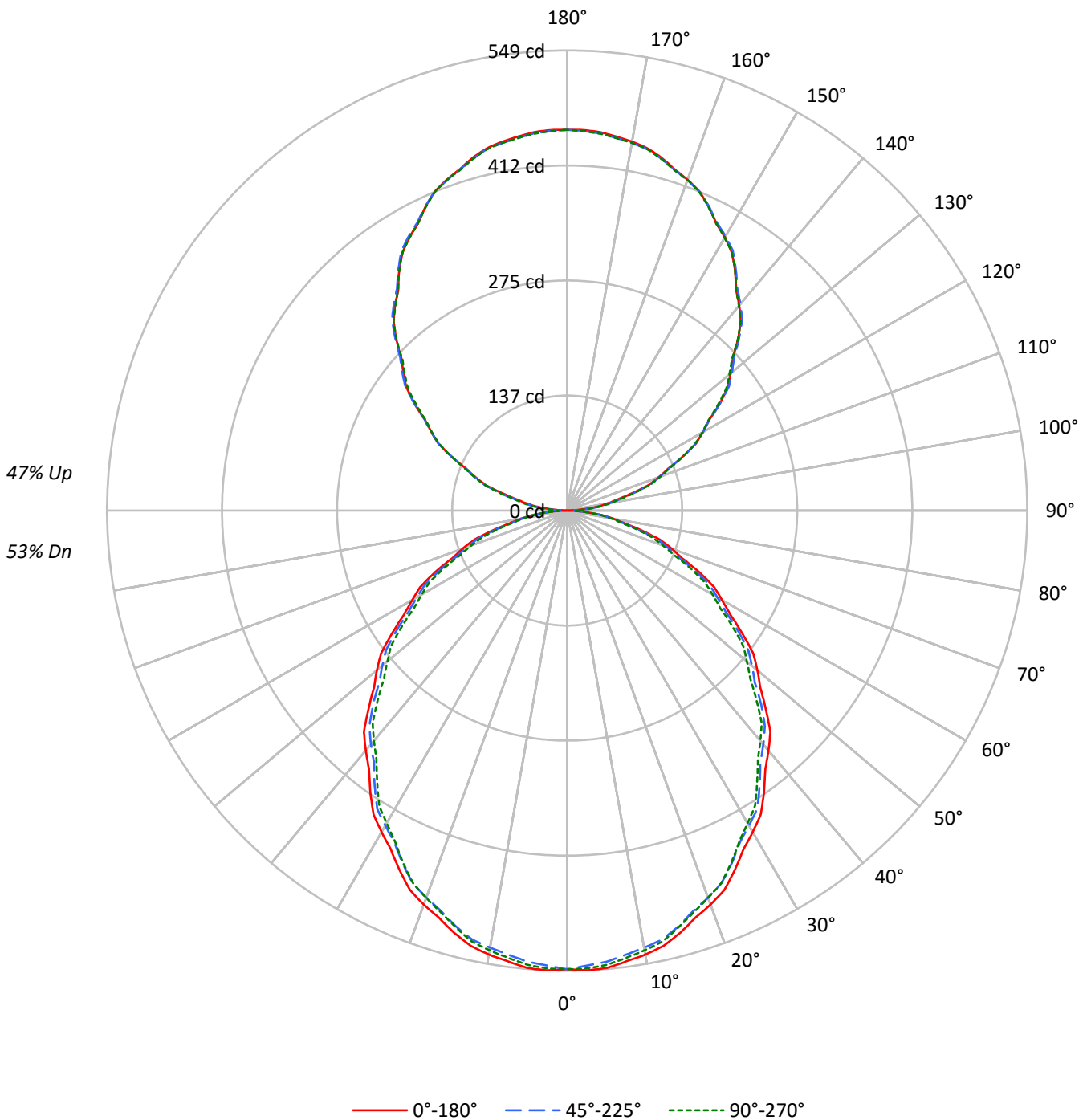
Input Watts (W): 20.3
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	108	108	108	108	100	100	100	100	85	85	85	71	71	71	59	59	59	53
1	98	94	90	87	91	87	84	81	74	72	70	63	61	59	52	51	50	45
2	90	82	76	71	83	76	71	66	65	61	58	55	52	50	46	44	42	37
3	82	72	65	59	75	67	61	55	58	53	48	49	45	42	40	38	36	32
4	75	64	56	50	69	59	52	47	51	46	41	43	39	36	36	33	31	27
5	69	57	49	43	63	53	46	40	46	40	36	39	35	31	33	29	27	23
6	63	51	43	37	58	48	40	35	41	35	31	35	31	27	30	26	23	21
7	58	46	38	32	54	43	36	31	37	32	27	32	27	24	27	24	21	18
8	54	42	34	29	50	39	32	27	34	28	24	29	25	21	25	21	19	16
9	51	38	31	26	47	36	29	24	31	26	22	27	22	19	23	19	17	15
10	47	35	28	23	44	33	26	22	29	23	20	25	21	17	21	18	15	13

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5890	5890	5890
5°	5919	5837	5877
10°	5879	5786	5822
15°	5810	5721	5731
20°	5730	5628	5632
25°	5621	5516	5505
30°	5504	5392	5351
35°	5380	5261	5194
40°	5251	5117	5039
45°	5107	4985	4864
50°	4963	4823	4687
55°	4778	4654	4511
60°	4590	4456	4316
65°	4422	4241	4111
70°	4176	3997	3821
75°	3818	3681	3523
80°	3440	3298	3267
85°	3013	2902	2791



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	51.5	1.9
10°-20°	145.6	5.4
20°-30°	215.0	8.0
30°-40°	251.2	9.4
40°-50°	252.5	9.4
50°-60°	221.8	8.3
60°-70°	165.2	6.2
70°-80°	94.1	3.5
80°-90°	28.4	1.1
90°-100°	29.6	1.1
100°-110°	88.6	3.3
110°-120°	150.7	5.6
120°-130°	198.2	7.4
130°-140°	222.7	8.3
140°-150°	219.0	8.2
150°-160°	184.3	6.9
160°-170°	122.7	4.6
170°-180°	43.0	1.6
0°-30°	412.1	15.4
0°-40°	663.3	24.7
0°-60°	1137.6	42.4
0°-90°	1425.3	53.1
90°-120°	268.8	10.0
90°-150°	908.7	33.9
90°-180°	1259.0	46.9
0°-180°	2684.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	547	547	547	547	547	
5°	548	545	540	545	544	52
15°	521	519	513	517	514	147
25°	473	470	464	465	464	218
35°	409	406	400	398	395	256
45°	336	333	328	322	320	259
55°	255	254	248	243	240	228
65°	174	171	166	163	161	171
75°	92	90	88	86	85	98
85°	24	24	24	23	23	27
90°	0	4	9	10	11	3
95°	21	24	26	28	28	24
105°	80	81	84	84	85	86
115°	152	153	152	152	152	150
125°	222	223	222	221	219	198
135°	288	290	290	288	288	222
145°	349	350	351	351	349	218
155°	400	400	400	402	399	184
165°	436	435	435	437	434	123
175°	453	452	452	454	451	43
180°	454	454	454	454	454	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	547.2	547.2	547.2	547.2	547.2	547.2	547.2	547.2	547.2	547.2	547.2
2.5°	549.2	548.8	548.5	548.2	547.8	547.1	546.2	545.3	544.4	543.5	544.3
5°	547.8	547.1	546.6	546.1	545.6	544.8	543.6	542.5	541.3	540.2	541.2
7.5°	542.4	541.8	541.3	540.8	540.3	539.4	538.3	537.0	535.8	534.6	535.5
10°	537.9	537.3	536.7	536.2	535.7	534.8	533.4	532.1	530.7	529.4	530.3
12.5°	531.8	531.4	530.9	530.5	530.1	529.2	528.0	526.6	525.3	524.1	524.8
15°	521.4	521.0	520.5	520.1	519.7	518.8	517.5	516.0	514.7	513.4	514.2
17.5°	509.2	508.7	508.2	507.6	507.1	506.1	504.7	503.4	502.0	500.7	501.2
20°	500.2	499.6	499.0	498.3	497.7	496.7	495.3	493.9	492.6	491.3	491.7
22.5°	490.0	489.4	488.8	488.2	487.6	486.6	485.1	483.8	482.4	481.1	481.4
25°	473.3	472.7	472.1	471.5	470.9	469.9	468.5	467.2	465.7	464.4	464.5
27.5°	455.6	454.9	454.3	453.7	453.1	452.1	450.7	449.2	447.8	446.3	446.4
30°	442.8	442.2	441.7	441.2	440.7	439.7	438.3	436.8	435.4	433.8	433.8
32.5°	430.0	429.3	428.6	427.9	427.3	426.3	425.2	424.0	422.9	421.8	421.2
35°	409.4	408.8	408.1	407.5	406.9	405.9	404.6	403.1	401.8	400.4	399.8
37.5°	388.3	387.5	386.7	385.9	385.2	384.1	382.6	381.2	379.9	378.5	377.8
40°	373.7	372.9	372.3	371.7	371.1	370.0	368.6	367.1	365.7	364.2	363.3
42.5°	358.9	358.2	357.5	356.8	356.1	355.0	353.6	352.0	350.6	349.1	348.3
45°	335.5	335.1	334.7	334.3	333.9	333.0	331.5	330.2	328.8	327.5	326.3
47.5°	312.3	311.6	311.0	310.4	309.8	308.9	307.6	306.3	305.1	303.8	302.6
50°	296.4	295.9	295.4	294.9	294.4	293.4	292.1	290.7	289.3	288.0	286.8
52.5°	279.8	279.5	279.1	278.8	278.4	277.5	276.1	274.7	273.3	271.8	270.8
55°	254.6	254.5	254.4	254.3	254.2	253.4	252.1	250.6	249.3	248.0	246.8
57.5°	230.5	230.1	229.7	229.4	229.0	228.3	227.2	226.1	225.1	224.0	223.0
60°	213.2	213.1	213.0	212.9	212.8	212.1	210.8	209.5	208.3	207.0	206.1
62.5°	197.7	197.4	197.2	196.9	196.6	195.9	194.6	193.4	192.1	190.9	190.0
65°	173.6	173.1	172.6	172.1	171.6	170.8	169.8	168.6	167.6	166.5	165.7
67.5°	148.1	147.6	147.2	146.7	146.3	145.6	144.9	144.1	143.3	142.5	141.8
70°	132.7	132.1	131.5	130.8	130.2	129.6	129.0	128.3	127.6	127.0	126.3
72.5°	116.5	116.0	115.6	115.1	114.6	114.1	113.4	112.7	112.0	111.3	110.6
75°	91.8	91.3	90.9	90.5	90.1	89.7	89.4	89.1	88.8	88.5	88.0
77.5°	69.8	69.6	69.4	69.2	68.9	68.6	68.3	67.9	67.5	67.1	66.8
80°	55.5	55.2	54.9	54.6	54.2	54.0	53.8	53.6	53.4	53.2	53.0
82.5°	41.6	41.5	41.5	41.4	41.3	41.3	41.2	41.2	41.2	41.1	40.9
85°	24.4	24.2	24.0	23.8	23.6	23.5	23.5	23.5	23.5	23.5	23.3
87.5°	9.9	9.8	9.7	9.6	9.5	9.5	9.6	9.8	9.9	10.0	10.0
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°	8.7	9.2	9.7	10.3	10.8	11.3	11.9	12.5	13.1	13.7	13.9
95°	21.1	21.6	22.1	22.7	23.2	23.8	24.5	25.1	25.8	26.5	26.8
97.5°	37.4	37.8	38.3	38.7	39.1	39.5	40.0	40.4	40.9	41.3	41.7
100°	48.6	49.0	49.5	50.0	50.4	50.9	51.3	51.7	52.1	52.4	52.7
102.5°	61.4	61.7	61.9	62.2	62.5	62.9	63.4	64.0	64.5	65.0	65.2
105°	80.3	80.5	80.6	80.8	80.9	81.4	82.1	82.8	83.5	84.2	84.2
107.5°	102.3	102.4	102.5	102.6	102.7	102.8	103.1	103.4	103.7	104.0	104.2
110°	116.0	116.1	116.3	116.4	116.6	116.7	116.9	117.1	117.2	117.4	117.8



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	130.3	130.4	130.5	130.6	130.7	130.7	130.8	130.8	130.8	130.9	131.2
115°	151.7	151.9	152.2	152.4	152.6	152.7	152.5	152.4	152.2	152.0	152.1
117.5°	173.2	173.4	173.6	173.7	173.9	173.8	173.6	173.4	173.2	173.0	173.0
120°	186.6	187.1	187.6	188.0	188.5	188.5	188.2	187.8	187.4	187.0	186.9
122.5°	200.7	201.0	201.4	201.7	202.1	202.1	201.9	201.7	201.5	201.3	201.1
125°	222.0	222.2	222.5	222.7	223.0	223.0	222.8	222.7	222.5	222.4	222.0
127.5°	241.7	242.2	242.7	243.2	243.7	243.9	243.7	243.5	243.4	243.2	242.8
130°	254.8	255.4	256.1	256.7	257.3	257.5	257.3	257.1	256.8	256.6	256.3
132.5°	267.9	268.6	269.2	269.8	270.4	270.7	270.5	270.3	270.1	270.0	269.6
135°	288.0	288.5	288.9	289.4	289.9	290.1	290.0	289.9	289.8	289.8	289.4
137.5°	306.6	307.0	307.3	307.7	308.1	308.4	308.6	308.8	309.0	309.2	308.9
140°	319.4	319.8	320.2	320.6	321.0	321.2	321.3	321.3	321.4	321.5	321.4
142.5°	331.1	331.5	331.9	332.3	332.6	333.0	333.2	333.3	333.4	333.6	333.5
145°	349.4	349.5	349.7	349.8	350.0	350.2	350.4	350.7	350.9	351.1	351.1
147.5°	365.4	365.7	366.0	366.3	366.5	366.8	367.0	367.2	367.4	367.7	367.7
150°	376.5	376.7	376.8	377.0	377.2	377.3	377.5	377.6	377.8	377.9	377.9
152.5°	385.7	385.9	386.1	386.3	386.6	386.7	386.8	386.9	387.0	387.1	387.2
155°	400.1	400.1	400.1	400.1	400.1	400.1	400.2	400.2	400.3	400.4	400.7
157.5°	412.3	412.2	412.1	412.0	411.9	411.9	412.0	412.0	412.1	412.2	412.5
160°	420.0	419.9	419.7	419.6	419.4	419.3	419.3	419.3	419.3	419.3	419.7
162.5°	426.9	426.7	426.5	426.3	426.0	426.0	426.0	426.1	426.2	426.2	426.6
165°	435.8	435.6	435.3	435.0	434.7	434.6	434.6	434.6	434.6	434.6	435.2
167.5°	442.8	442.5	442.2	441.8	441.5	441.4	441.5	441.5	441.6	441.7	442.1
170°	446.8	446.5	446.2	445.9	445.6	445.4	445.4	445.4	445.4	445.4	446.0
172.5°	450.0	449.6	449.3	449.0	448.7	448.5	448.5	448.5	448.5	448.5	449.0
175°	453.2	452.9	452.6	452.3	452.0	451.8	451.8	451.8	451.8	451.8	452.3
177.5°	454.5	454.3	454.0	453.8	453.5	453.4	453.4	453.4	453.4	453.4	453.8
180°	454.3	454.3	454.3	454.3	454.3	454.3	454.3	454.3	454.3	454.3	454.3



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	547.2	547.2	547.2	547.2	547.2	547.2	547.2	547.2
2.5°	545.1	546.0	546.8	547.2	547.1	547.0	546.9	546.8
5°	542.3	543.3	544.4	544.8	544.6	544.4	544.1	543.9
7.5°	536.5	537.5	538.4	538.8	538.7	538.6	538.5	538.3
10°	531.3	532.2	533.1	533.5	533.3	533.1	532.9	532.7
12.5°	525.4	526.1	526.8	527.1	527.0	526.8	526.7	526.6
15°	515.0	515.8	516.7	516.8	516.1	515.5	514.9	514.3
17.5°	501.8	502.4	503.0	503.2	502.9	502.7	502.5	502.3
20°	492.1	492.5	492.9	493.0	492.6	492.3	492.0	491.7
22.5°	481.7	482.1	482.4	482.4	482.0	481.6	481.2	480.8
25°	464.6	464.7	464.8	464.7	464.4	464.1	463.8	463.5
27.5°	446.5	446.6	446.6	446.5	446.1	445.7	445.2	444.8
30°	433.8	433.8	433.8	433.4	432.7	432.0	431.3	430.5
32.5°	420.6	420.0	419.5	419.0	418.6	418.2	417.8	417.4
35°	399.2	398.6	397.9	397.4	396.9	396.3	395.8	395.3
37.5°	377.0	376.3	375.5	375.0	374.7	374.3	374.0	373.7
40°	362.5	361.7	360.8	360.2	359.8	359.4	359.0	358.6
42.5°	347.5	346.6	345.8	345.2	344.8	344.4	344.0	343.5
45°	325.0	323.8	322.4	321.6	321.0	320.5	320.0	319.5
47.5°	301.3	300.1	298.8	298.0	297.5	297.1	296.6	296.2
50°	285.7	284.5	283.4	282.5	281.9	281.2	280.6	279.9
52.5°	269.8	268.8	267.8	267.0	266.4	265.8	265.2	264.6
55°	245.7	244.5	243.4	242.6	242.1	241.5	241.0	240.4
57.5°	222.0	220.9	219.8	219.0	218.4	217.8	217.2	216.6
60°	205.2	204.2	203.3	202.6	202.0	201.5	201.0	200.5
62.5°	188.9	188.0	187.1	186.4	186.1	185.7	185.4	185.0
65°	164.9	164.1	163.2	162.7	162.4	162.0	161.7	161.4
67.5°	141.0	140.3	139.6	139.0	138.6	138.0	137.6	137.2
70°	125.6	124.8	124.1	123.5	123.0	122.5	121.9	121.4
72.5°	110.0	109.3	108.7	108.2	108.0	107.7	107.3	107.0
75°	87.5	86.8	86.3	85.9	85.6	85.3	85.0	84.7
77.5°	66.3	66.0	65.6	65.5	65.5	65.5	65.5	65.5
80°	52.9	52.8	52.7	52.7	52.7	52.7	52.7	52.7
82.5°	40.8	40.6	40.4	40.2	40.2	40.1	40.0	39.9
85°	23.1	22.9	22.7	22.6	22.6	22.6	22.6	22.6
87.5°	10.0	9.9	9.9	9.9	10.0	10.0	10.0	10.0
90°	9.2	9.5	9.8	10.1	10.2	10.4	10.5	10.7
92.5°	14.2	14.4	14.7	14.8	14.7	14.6	14.5	14.4
95°	27.1	27.4	27.7	27.9	27.9	27.9	27.9	27.9
97.5°	42.0	42.4	42.8	42.9	42.9	42.9	42.8	42.8
100°	52.9	53.2	53.4	53.6	53.7	53.9	54.1	54.2
102.5°	65.5	65.7	65.9	66.0	66.0	66.0	65.9	65.9
105°	84.2	84.2	84.2	84.3	84.4	84.6	84.8	84.9
107.5°	104.5	104.7	105.0	105.1	105.0	104.9	104.8	104.7
110°	118.1	118.4	118.7	118.8	118.6	118.5	118.3	118.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	131.6	132.0	132.4	132.5	132.5	132.5	132.4	132.4
115°	152.2	152.3	152.4	152.4	152.3	152.2	152.1	152.0
117.5°	173.0	173.0	173.0	172.8	172.6	172.4	172.2	172.0
120°	186.8	186.7	186.7	186.5	186.4	186.2	186.1	185.9
122.5°	200.9	200.7	200.5	200.3	200.1	199.8	199.5	199.3
125°	221.7	221.4	221.1	220.8	220.5	220.2	219.7	219.4
127.5°	242.3	241.9	241.4	241.0	240.7	240.2	239.9	239.5
130°	256.0	255.6	255.3	254.9	254.4	253.8	253.3	252.7
132.5°	269.2	268.8	268.5	268.1	267.6	267.2	266.8	266.4
135°	289.1	288.8	288.5	288.3	288.1	287.9	287.8	287.6
137.5°	308.6	308.3	307.9	307.6	307.3	307.0	306.7	306.4
140°	321.3	321.3	321.2	320.9	320.3	319.8	319.2	318.7
142.5°	333.4	333.3	333.3	333.0	332.5	332.1	331.6	331.2
145°	351.0	350.9	350.8	350.6	350.3	350.0	349.7	349.4
147.5°	367.7	367.7	367.7	367.4	367.0	366.5	366.0	365.5
150°	377.9	377.9	377.9	377.7	377.2	376.8	376.3	375.8
152.5°	387.3	387.5	387.6	387.4	387.0	386.6	386.2	385.8
155°	401.0	401.3	401.7	401.5	401.0	400.4	399.9	399.3
157.5°	412.8	413.2	413.5	413.4	413.0	412.6	412.1	411.7
160°	420.1	420.5	420.9	420.9	420.6	420.3	420.0	419.7
162.5°	427.0	427.4	427.8	427.7	427.2	426.7	426.2	425.7
165°	435.7	436.1	436.6	436.6	436.0	435.5	434.8	434.3
167.5°	442.6	443.1	443.6	443.6	443.1	442.6	442.1	441.7
170°	446.5	447.1	447.6	447.6	447.1	446.5	446.0	445.4
172.5°	449.5	450.0	450.5	450.5	449.9	449.4	448.8	448.3
175°	452.7	453.2	453.7	453.6	453.1	452.5	452.0	451.4
177.5°	454.2	454.5	454.9	454.9	454.5	454.0	453.6	453.1
180°	454.3	454.3	454.3	454.3	454.3	454.3	454.3	454.3

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