

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: P332869-940

Luminaire Tested: **SA4XXRDIP-C350D365U940-4F0-1E-UDD-F1**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P332869-940
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-10,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA4XXRDIP-C350D365U940-4F0-1E-UDD-F1
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 350 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 365 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

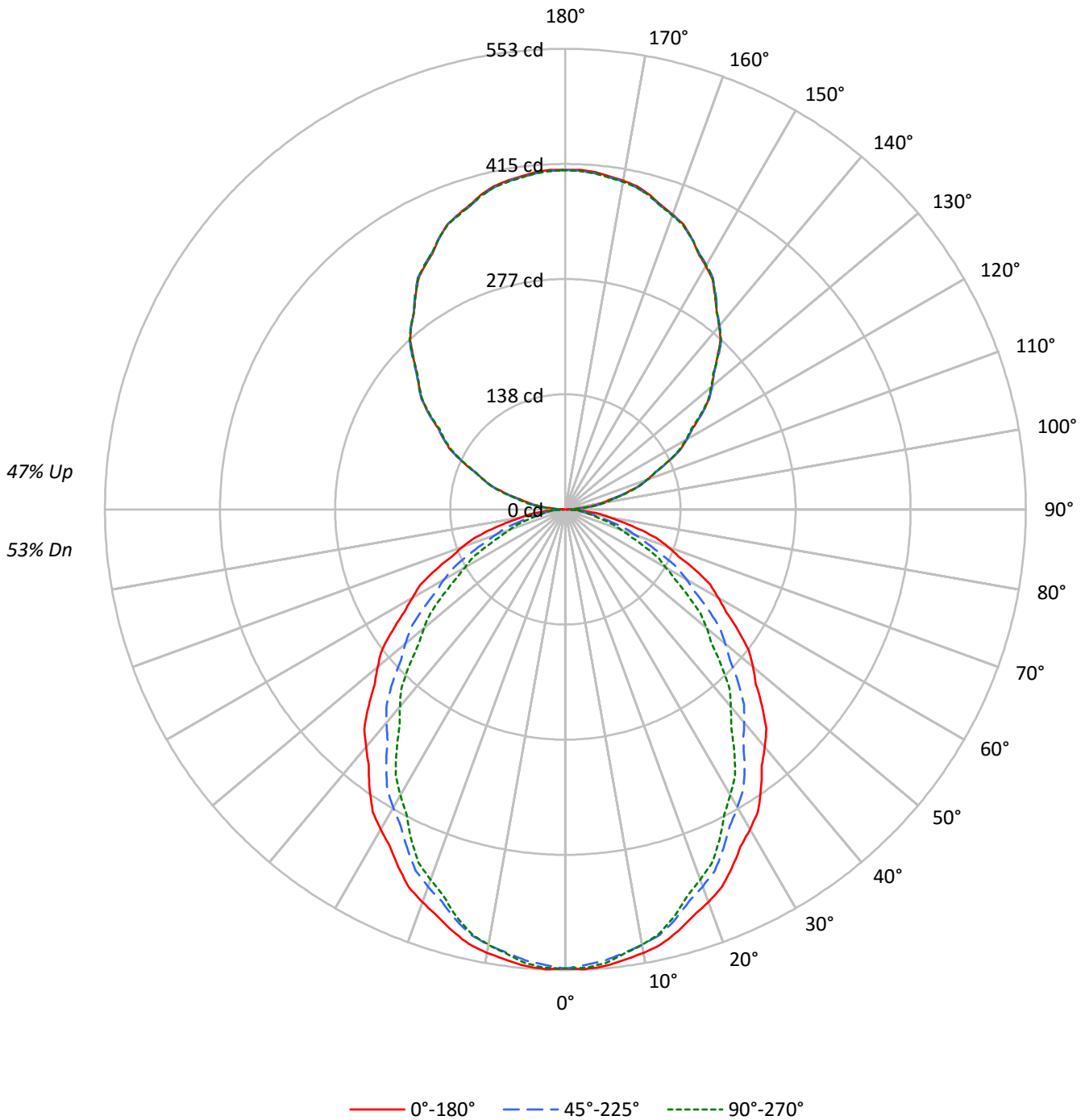
Lumens per Lamp: N/A
Luminaire Lumens: 2405.2 lumens
Efficiency: N/A
Efficacy: 118.5 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.09 / 1.24
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')
CIE Type: General Diffuse

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	71	71	71	59	59	59	53				
1	99	95	91	87	91	88	84	81	75	73	70	63	62	60	52	51	50	45				
2	90	83	77	72	83	77	72	67	66	62	59	56	53	51	47	45	43	38				
3	82	73	66	60	76	68	62	57	58	54	50	50	46	43	41	39	37	33				
4	76	65	57	51	70	60	54	48	52	47	43	44	40	37	37	34	32	28				
5	69	58	50	44	64	54	47	42	47	41	37	40	36	32	34	30	28	25				
6	64	52	44	38	59	49	41	36	42	37	32	36	32	28	31	27	25	22				
7	59	47	39	34	55	44	37	32	38	33	29	33	29	25	28	25	22	19				
8	55	43	35	30	51	40	33	28	35	29	25	30	26	23	26	22	20	17				
9	51	39	32	27	48	37	30	25	32	27	23	28	24	20	24	20	18	16				
10	48	36	29	24	45	34	27	23	30	24	21	26	22	19	22	19	16	14				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4451	4451	4451
5°	4460	4406	4433
10°	4432	4353	4353
15°	4381	4262	4229
20°	4312	4141	4064
25°	4222	4000	3899
30°	4135	3852	3691
35°	4039	3698	3482
40°	3923	3523	3256
45°	3817	3350	3027
50°	3695	3149	2783
55°	3564	2940	2519
60°	3421	2713	2249
65°	3289	2428	1983
70°	3099	2110	1683
75°	2857	1753	1369
80°	2492	1334	1255
85°	2112	1213	1130



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	51.8	2.2
10°-20°	144.4	6.0
20°-30°	208.5	8.7
30°-40°	236.4	9.8
40°-50°	228.2	9.5
50°-60°	189.8	7.9
60°-70°	131.1	5.4
70°-80°	66.4	2.8
80°-90°	18.3	0.8
90°-100°	26.9	1.1
100°-110°	79.6	3.3
110°-120°	135.1	5.6
120°-130°	178.2	7.4
130°-140°	200.1	8.3
140°-150°	196.6	8.2
150°-160°	165.4	6.9
160°-170°	110.0	4.6
170°-180°	38.5	1.6
0°-30°	404.7	16.8
0°-40°	641.0	26.7
0°-60°	1059.1	44.0
0°-90°	1274.8	53.0
90°-120°	241.6	10.0
90°-150°	816.5	33.9
90°-180°	1130.0	47.0
0°-180°	2405.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	551	551	551	551	551	
5°	550	548	544	548	547	52
15°	524	520	510	509	506	148
25°	474	466	449	442	438	218
35°	410	396	375	361	353	256
45°	334	318	293	273	265	258
55°	253	236	209	188	179	226
65°	172	154	127	110	104	170
75°	92	76	56	47	44	97
85°	23	15	13	12	12	26
90°	1	4	7	9	10	2
95°	19	22	24	25	25	21
105°	73	74	75	76	77	78
115°	137	137	137	136	136	135
125°	200	200	200	199	198	178
135°	258	260	260	259	258	200
145°	314	315	315	315	314	196
155°	359	359	359	360	359	165
165°	391	390	390	391	390	110
175°	407	405	405	407	405	39
180°	407	407	407	407	407	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	551.3	551.3	551.3	551.3	551.3	551.3	551.3	551.3	551.3	551.3	551.3
2.5°	552.6	552.2	552.0	551.7	551.3	550.8	550.0	549.2	548.3	547.5	548.3
5°	550.4	550.0	549.7	549.3	548.8	548.1	547.0	545.9	544.7	543.7	544.6
7.5°	545.4	545.0	544.7	544.2	543.9	542.9	541.4	539.9	538.5	537.1	537.6
10°	540.6	540.2	539.8	539.3	538.8	537.7	536.0	534.3	532.6	531.0	531.4
12.5°	534.6	534.0	533.5	533.0	532.4	531.2	529.1	527.2	525.2	523.2	523.4
15°	524.2	523.3	522.5	521.7	520.8	519.2	516.9	514.5	512.2	509.9	509.7
17.5°	511.7	510.4	509.2	508.0	506.8	504.7	501.9	499.1	496.3	493.5	492.9
20°	501.9	500.6	499.4	498.2	497.0	494.8	491.6	488.4	485.2	482.0	481.3
22.5°	491.1	489.6	488.3	487.0	485.5	483.1	479.7	476.4	473.0	469.5	468.4
25°	474.0	472.3	470.6	469.0	467.3	464.5	460.7	456.8	452.9	449.1	447.5
27.5°	456.1	454.0	451.8	449.8	447.6	444.5	440.4	436.3	432.2	428.1	426.1
30°	443.6	441.2	438.9	436.6	434.3	430.9	426.4	422.0	417.6	413.2	410.9
32.5°	430.4	427.8	425.2	422.5	419.8	416.3	411.7	407.2	402.6	398.1	395.3
35°	409.8	406.8	403.9	400.8	397.8	394.0	389.3	384.6	380.0	375.2	372.0
37.5°	387.8	384.7	381.7	378.5	375.4	371.3	366.0	360.9	355.7	350.5	347.0
40°	372.3	369.2	366.0	363.0	359.9	355.7	350.4	345.0	339.7	334.3	330.4
42.5°	357.4	354.2	350.9	347.7	344.5	340.0	334.5	328.9	323.3	317.7	313.7
45°	334.3	330.8	327.3	323.9	320.4	315.8	310.2	304.6	299.0	293.4	288.7
47.5°	310.4	306.8	303.3	299.6	296.0	291.3	285.5	279.6	273.8	268.0	263.1
50°	294.2	290.5	286.9	283.2	279.6	274.7	268.8	262.7	256.7	250.7	246.0
52.5°	277.7	274.0	270.5	266.9	263.3	258.4	252.3	246.1	240.0	233.8	229.1
55°	253.2	249.5	245.8	242.0	238.3	233.3	227.2	221.1	215.0	208.9	204.0
57.5°	229.1	225.2	221.3	217.4	213.5	208.6	202.5	196.5	190.6	184.5	179.6
60°	211.9	208.1	204.4	200.6	196.9	192.0	186.0	179.9	174.0	168.0	163.1
62.5°	196.4	192.4	188.5	184.7	180.7	175.8	169.6	163.5	157.3	151.1	146.6
65°	172.2	168.2	164.2	160.2	156.0	151.1	145.1	139.0	133.0	127.1	123.1
67.5°	147.1	143.3	139.4	135.5	131.7	127.0	121.4	115.8	110.2	104.7	101.2
70°	131.3	127.3	123.4	119.5	115.5	110.8	105.5	100.1	94.8	89.4	86.4
72.5°	114.4	110.8	107.3	103.7	100.1	95.9	90.8	85.7	80.7	75.6	73.0
75°	91.6	88.1	84.6	81.1	77.7	73.7	69.4	64.9	60.5	56.2	53.9
77.5°	68.5	65.5	62.6	59.7	56.7	53.4	49.8	46.3	42.7	39.1	37.9
80°	53.6	50.9	48.2	45.5	42.7	39.9	37.2	34.3	31.5	28.7	28.4
82.5°	40.8	38.3	35.8	33.3	30.8	28.7	27.1	25.5	23.9	22.3	22.1
85°	22.8	21.0	19.1	17.1	15.2	14.2	13.9	13.6	13.4	13.1	12.9
87.5°	7.9	7.5	7.0	6.6	6.2	6.0	6.0	6.1	6.1	6.2	6.2
90°	1.0	1.7	2.5	3.3	4.0	4.7	5.3	5.8	6.3	7.0	7.3
92.5°	6.8	7.7	8.5	9.4	10.3	10.9	11.3	11.7	12.1	12.5	12.8
95°	18.9	19.5	20.2	20.8	21.4	22.0	22.5	23.0	23.5	24.0	24.2
97.5°	33.0	33.5	34.1	34.5	35.0	35.6	36.1	36.7	37.3	37.9	38.2
100°	44.1	44.4	44.7	44.9	45.2	45.7	46.3	47.0	47.6	48.2	48.3
102.5°	55.7	55.8	55.9	56.1	56.2	56.5	57.1	57.7	58.2	58.8	59.0
105°	73.4	73.5	73.6	73.7	73.7	73.8	74.2	74.5	74.7	75.0	75.2
107.5°	92.0	92.1	92.2	92.3	92.4	92.4	92.5	92.5	92.6	92.6	92.7
110°	104.6	104.8	104.9	105.0	105.1	105.2	105.1	105.0	105.0	105.0	104.8



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	117.7	117.7	117.8	117.8	117.8	117.8	117.6	117.5	117.4	117.3	117.3
115°	137.4	137.4	137.4	137.4	137.4	137.3	137.1	137.1	136.9	136.8	136.7
117.5°	155.9	156.0	156.0	156.0	156.1	156.1	156.0	156.0	155.8	155.7	155.5
120°	168.3	168.5	168.8	169.1	169.4	169.4	169.2	169.0	168.8	168.6	168.3
122.5°	181.1	181.2	181.4	181.5	181.6	181.6	181.5	181.4	181.3	181.2	180.9
125°	200.1	200.1	200.1	200.1	200.1	200.0	200.0	199.9	199.8	199.7	199.7
127.5°	217.3	217.5	217.8	217.9	218.1	218.2	218.1	217.9	217.8	217.8	217.6
130°	229.4	229.6	229.8	230.1	230.2	230.3	230.3	230.3	230.3	230.3	230.2
132.5°	241.7	241.9	242.0	242.2	242.4	242.4	242.4	242.3	242.3	242.2	242.0
135°	258.1	258.5	258.9	259.3	259.8	259.9	259.9	259.9	259.9	259.9	259.8
137.5°	275.8	276.1	276.3	276.4	276.6	276.8	276.9	277.0	277.1	277.2	277.1
140°	287.7	287.8	287.9	288.1	288.3	288.3	288.3	288.3	288.3	288.3	288.3
142.5°	298.5	298.6	298.8	298.9	299.1	299.2	299.1	299.0	299.0	298.9	298.9
145°	313.5	313.8	314.1	314.3	314.7	314.9	314.9	315.0	315.0	315.1	315.0
147.5°	328.4	328.8	329.0	329.4	329.8	329.8	329.8	329.8	329.8	329.7	329.6
150°	337.5	337.8	338.0	338.3	338.6	338.8	338.8	338.8	338.8	338.8	338.8
152.5°	346.1	346.3	346.3	346.5	346.7	346.8	346.9	347.0	347.0	347.1	347.2
155°	359.2	359.2	359.2	359.2	359.2	359.2	359.1	359.0	359.0	358.9	359.2
157.5°	370.3	370.1	370.1	370.0	369.8	369.7	369.7	369.7	369.7	369.7	369.9
160°	376.8	376.7	376.7	376.7	376.6	376.5	376.5	376.4	376.3	376.2	376.5
162.5°	382.9	382.7	382.5	382.4	382.2	382.1	382.0	381.9	381.8	381.7	382.2
165°	391.0	390.8	390.7	390.4	390.2	390.0	389.9	389.8	389.6	389.5	389.9
167.5°	397.3	397.0	396.7	396.4	396.1	395.9	396.0	396.0	396.0	396.0	396.5
170°	400.8	400.5	400.1	399.8	399.4	399.3	399.3	399.4	399.5	399.6	399.9
172.5°	403.3	403.1	402.7	402.4	402.2	402.0	402.0	402.1	402.1	402.1	402.5
175°	406.8	406.4	406.1	405.7	405.4	405.2	405.1	405.0	405.0	404.9	405.4
177.5°	408.0	407.7	407.3	407.1	406.8	406.7	406.7	406.7	406.7	406.7	407.1
180°	407.4	407.4	407.4	407.4	407.4	407.4	407.4	407.4	407.4	407.4	407.4



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	551.3	551.3	551.3	551.3	551.3	551.3	551.3	551.3
2.5°	549.2	550.0	550.8	551.2	551.1	551.1	551.0	550.9
5°	545.5	546.4	547.4	547.8	547.6	547.4	547.2	547.0
7.5°	538.2	538.9	539.5	539.6	539.3	539.0	538.7	538.4
10°	531.7	532.1	532.4	532.4	532.1	531.7	531.4	531.0
12.5°	523.6	523.9	524.1	524.0	523.4	522.9	522.4	521.8
15°	509.5	509.3	509.1	508.7	508.0	507.4	506.8	506.0
17.5°	492.4	492.0	491.4	490.6	489.6	488.7	487.7	486.7
20°	480.5	479.7	479.0	478.0	476.8	475.5	474.4	473.1
22.5°	467.3	466.1	465.0	464.0	463.0	462.0	461.0	459.9
25°	445.9	444.3	442.7	441.5	440.5	439.5	438.6	437.7
27.5°	424.1	422.1	420.2	418.6	417.1	415.8	414.5	413.1
30°	408.5	406.2	403.9	401.9	400.4	399.0	397.4	395.9
32.5°	392.6	389.9	387.2	385.0	383.6	382.2	380.8	379.3
35°	368.8	365.7	362.5	360.1	358.4	356.7	355.0	353.3
37.5°	343.4	339.8	336.3	333.6	331.9	330.2	328.5	326.8
40°	326.4	322.4	318.5	315.8	314.1	312.4	310.7	309.0
42.5°	309.7	305.7	301.7	298.8	297.0	295.2	293.5	291.8
45°	284.2	279.6	274.9	271.8	270.1	268.4	266.7	265.1
47.5°	258.4	253.6	248.9	245.6	243.7	241.8	240.0	238.2
50°	241.3	236.7	231.9	228.7	226.9	225.2	223.4	221.6
52.5°	224.3	219.5	214.8	211.4	209.6	207.8	205.9	204.0
55°	199.2	194.3	189.4	186.1	184.3	182.5	180.7	179.0
57.5°	174.6	169.7	164.7	161.6	160.2	158.9	157.5	156.1
60°	158.2	153.4	148.5	145.3	143.7	142.3	140.8	139.3
62.5°	142.1	137.6	133.1	130.3	129.0	127.9	126.6	125.5
65°	119.0	114.9	110.9	108.3	107.2	106.1	105.0	103.8
67.5°	97.7	94.3	90.8	88.5	87.2	86.0	84.7	83.5
70°	83.3	80.2	77.1	75.1	74.1	73.2	72.2	71.3
72.5°	70.4	67.7	65.1	63.3	62.4	61.6	60.7	59.8
75°	51.8	49.7	47.5	46.2	45.6	45.0	44.5	43.9
77.5°	36.6	35.4	34.2	33.4	33.3	33.1	32.9	32.7
80°	28.2	27.8	27.6	27.4	27.3	27.2	27.1	27.0
82.5°	21.8	21.7	21.5	21.3	21.2	21.1	21.0	21.0
85°	12.8	12.5	12.3	12.2	12.2	12.2	12.2	12.2
87.5°	6.2	6.2	6.2	6.2	6.3	6.4	6.5	6.6
90°	7.8	8.2	8.6	8.9	9.0	9.2	9.3	9.5
92.5°	13.0	13.2	13.5	13.6	13.7	13.8	13.9	14.0
95°	24.3	24.6	24.8	24.9	24.9	24.9	24.9	24.9
97.5°	38.3	38.6	38.9	39.0	39.0	39.0	39.0	39.0
100°	48.5	48.6	48.8	48.9	48.9	48.9	48.9	48.9
102.5°	59.2	59.4	59.6	59.7	59.7	59.8	59.8	59.9
105°	75.4	75.6	75.8	76.1	76.2	76.5	76.7	76.9
107.5°	93.0	93.2	93.4	93.5	93.5	93.5	93.5	93.4
110°	104.7	104.5	104.3	104.4	104.6	104.9	105.0	105.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	117.3	117.2	117.2	117.2	117.3	117.3	117.3	117.3
115°	136.6	136.5	136.4	136.4	136.3	136.3	136.2	136.2
117.5°	155.2	155.0	154.8	154.6	154.4	154.3	154.2	154.0
120°	167.9	167.6	167.2	167.1	167.2	167.4	167.5	167.6
122.5°	180.7	180.5	180.2	179.9	179.8	179.5	179.2	179.0
125°	199.5	199.4	199.2	199.0	198.9	198.8	198.7	198.5
127.5°	217.5	217.3	217.1	217.0	217.0	216.9	216.7	216.6
130°	230.1	229.9	229.8	229.5	229.3	229.0	228.7	228.5
132.5°	241.9	241.7	241.7	241.5	241.4	241.3	241.2	241.0
135°	259.7	259.6	259.4	259.2	259.0	258.8	258.6	258.4
137.5°	276.9	276.7	276.5	276.4	276.4	276.5	276.5	276.6
140°	288.2	288.1	288.0	287.9	287.9	287.8	287.8	287.7
142.5°	298.9	298.9	298.8	298.8	298.8	298.8	298.8	298.8
145°	315.0	314.9	314.9	314.7	314.5	314.2	314.1	313.9
147.5°	329.6	329.5	329.4	329.4	329.3	329.2	329.1	329.1
150°	338.8	338.8	338.8	338.7	338.7	338.6	338.5	338.4
152.5°	347.4	347.6	347.8	347.7	347.5	347.3	347.1	347.0
155°	359.4	359.7	360.0	360.0	359.7	359.4	359.2	358.9
157.5°	370.1	370.3	370.5	370.5	370.2	370.1	369.8	369.5
160°	376.7	376.8	377.1	377.0	376.7	376.3	375.9	375.6
162.5°	382.5	382.9	383.3	383.3	383.0	382.6	382.3	381.9
165°	390.3	390.7	391.1	391.2	390.9	390.7	390.4	390.1
167.5°	396.9	397.3	397.7	397.7	397.3	396.8	396.4	395.9
170°	400.4	400.8	401.3	401.2	400.7	400.2	399.8	399.2
172.5°	403.1	403.5	403.9	403.9	403.5	403.0	402.5	402.0
175°	405.9	406.4	406.9	406.9	406.4	405.9	405.4	404.9
177.5°	407.4	407.9	408.2	408.2	407.8	407.3	406.9	406.4
180°	407.4	407.4	407.4	407.4	407.4	407.4	407.4	407.4

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