

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: P332868

Luminaire Tested: **SA4XXRDIP-C350D365U835-4F0-1E-UDD-F**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P332868
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-6,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA4XXRDIP-C350D365U835-4F0-1E-UDD-F
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 350 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 365 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

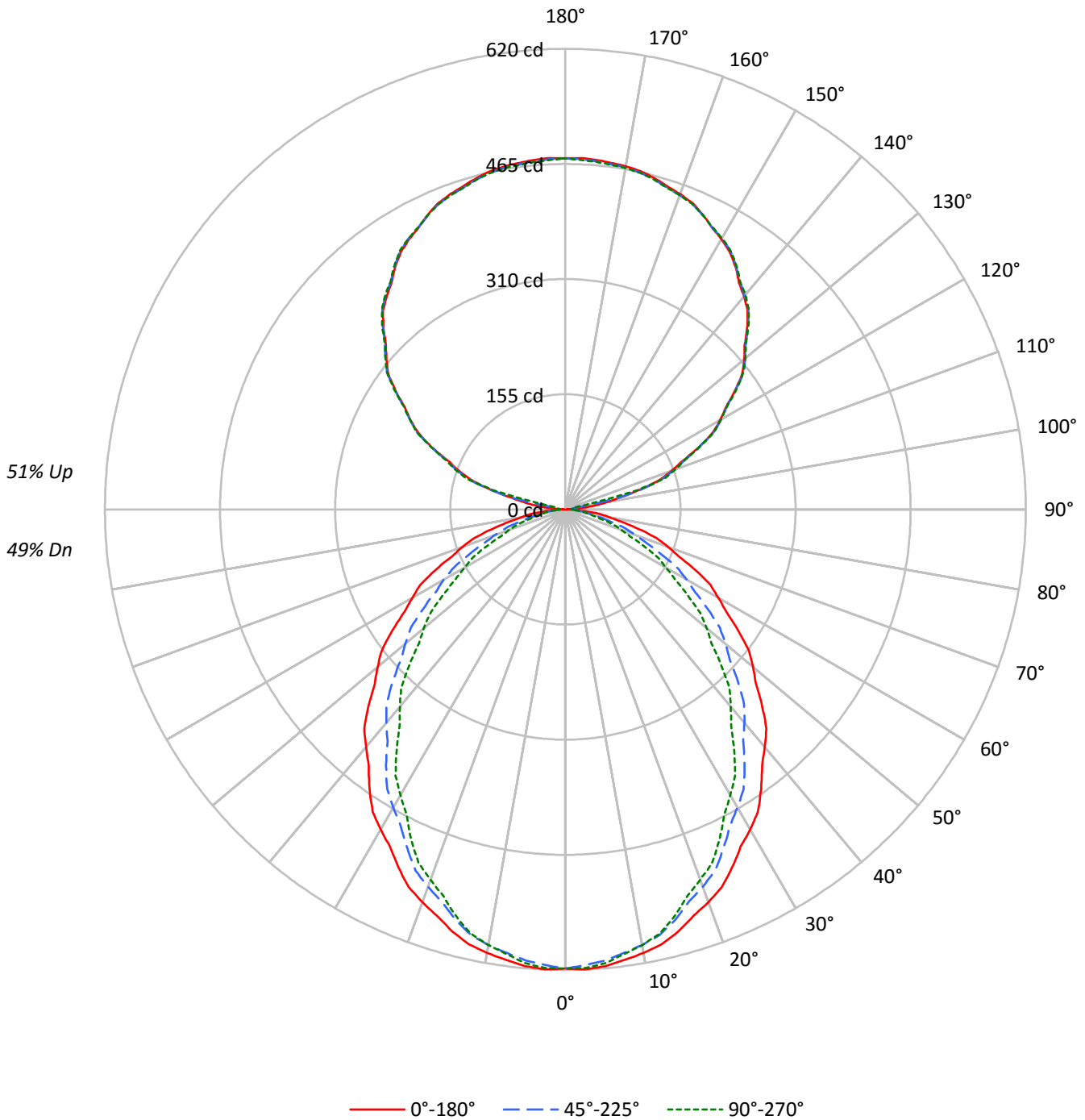
Lumens per Lamp: N/A
Luminaire Lumens: 2891.2 lumens
Efficiency: N/A
Efficacy: 142.4 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.09 / 1.24
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')
CIE Type: General Diffuse

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	107	107	107	107	99	99	99	99	83	83	83	69	69	69	56	56	56	49				49
1	98	94	90	87	90	87	83	80	73	71	69	61	59	58	50	48	47				42	
2	89	82	76	71	82	76	71	66	64	61	57	54	51	49	44	42	40				36	
3	82	72	65	59	75	67	61	56	57	52	48	48	44	41	39	37	35				31	
4	75	64	56	51	69	60	53	47	51	46	41	43	39	36	35	32	30				26	
5	69	57	49	43	63	53	46	41	46	40	36	38	34	31	32	29	26				23	
6	63	51	43	38	58	48	41	36	41	36	31	35	31	27	29	26	23				20	
7	59	47	39	33	54	43	36	31	37	32	28	32	27	24	26	23	21				18	
8	54	42	35	29	50	39	33	28	34	29	25	29	25	22	24	21	19				16	
9	51	39	31	26	47	36	29	25	31	26	22	27	23	20	22	19	17				15	
10	47	35	28	24	44	33	27	22	29	24	20	25	21	18	21	18	15				13	

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4991	4991	4991
5°	5002	4941	4971
10°	4970	4882	4882
15°	4914	4779	4743
20°	4835	4643	4558
25°	4735	4486	4372
30°	4638	4320	4139
35°	4529	4147	3905
40°	4400	3951	3652
45°	4280	3756	3394
50°	4143	3532	3121
55°	3997	3298	2825
60°	3836	3042	2522
65°	3689	2722	2223
70°	3474	2367	1888
75°	3203	1965	1535
80°	2794	1497	1409
85°	2371	1362	1269



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	58.1	2.0
10°-20°	161.9	5.6
20°-30°	233.8	8.1
30°-40°	265.1	9.2
40°-50°	255.9	8.9
50°-60°	212.8	7.4
60°-70°	147.0	5.1
70°-80°	74.5	2.6
80°-90°	20.5	0.7
90°-100°	16.2	0.6
100°-110°	103.0	3.6
110°-120°	197.1	6.8
120°-130°	250.2	8.7
130°-140°	267.7	9.3
140°-150°	250.4	8.7
150°-160°	201.9	7.0
160°-170°	130.2	4.5
170°-180°	44.9	1.6
0°-30°	453.8	15.7
0°-40°	718.9	24.9
0°-60°	1187.7	41.1
0°-90°	1429.6	49.4
90°-120°	316.3	10.9
90°-150°	1084.6	37.5
90°-180°	1462.0	50.6
0°-180°	2891.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	618	618	618	618	618	
5°	617	615	610	614	613	59
15°	588	583	572	571	568	166
25°	532	522	504	496	491	245
35°	460	444	421	405	396	287
45°	375	357	329	307	297	289
55°	284	264	234	211	201	254
65°	193	172	142	123	116	191
75°	103	85	63	53	49	108
85°	26	16	15	14	14	29
90°	1	5	8	10	11	2
95°	19	8	8	10	10	25
105°	106	108	110	113	101	111
115°	199	200	199	200	200	195
125°	279	280	280	281	281	249
135°	346	346	347	348	349	267
145°	399	400	400	401	402	249
155°	438	438	437	438	438	202
165°	462	460	460	463	460	130
175°	472	470	471	474	470	45
180°	472	472	472	472	472	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	618.2	618.2	618.2	618.2	618.2	618.2	618.2	618.2	618.2	618.2	618.2
2.5°	619.7	619.3	619.0	618.7	618.3	617.7	616.8	615.9	614.9	614.0	614.9
5°	617.2	616.8	616.4	616.0	615.5	614.7	613.4	612.2	610.9	609.7	610.7
7.5°	611.6	611.2	610.8	610.3	609.9	608.8	607.2	605.5	603.9	602.3	602.9
10°	606.3	605.8	605.3	604.8	604.2	603.0	601.1	599.2	597.3	595.5	595.9
12.5°	599.5	598.9	598.3	597.7	597.1	595.7	593.4	591.2	589.0	586.7	587.0
15°	587.9	586.9	586.0	585.0	584.1	582.3	579.7	577.0	574.4	571.8	571.6
17.5°	573.8	572.4	571.0	569.7	568.3	566.0	562.9	559.7	556.6	553.4	552.8
20°	562.8	561.4	560.1	558.7	557.3	554.9	551.3	547.7	544.1	540.5	539.7
22.5°	550.7	549.1	547.6	546.1	544.5	541.8	538.0	534.2	530.4	526.5	525.3
25°	531.6	529.7	527.8	525.9	524.0	520.9	516.6	512.3	507.9	503.6	501.8
27.5°	511.5	509.1	506.7	504.4	502.0	498.5	493.9	489.3	484.7	480.1	477.8
30°	497.5	494.8	492.2	489.6	487.0	483.2	478.2	473.3	468.3	463.4	460.8
32.5°	482.7	479.7	476.8	473.8	470.8	466.8	461.7	456.6	451.5	446.4	443.3
35°	459.6	456.2	452.9	449.5	446.1	441.8	436.6	431.3	426.1	420.8	417.2
37.5°	434.9	431.4	428.0	424.5	421.0	416.4	410.5	404.7	398.9	393.1	389.1
40°	417.5	414.0	410.5	407.1	403.6	398.9	392.9	386.9	380.9	374.9	370.5
42.5°	400.8	397.2	393.5	389.9	386.3	381.3	375.1	368.8	362.6	356.3	351.8
45°	374.9	371.0	367.1	363.2	359.3	354.2	347.9	341.6	335.3	329.0	323.8
47.5°	348.1	344.1	340.1	336.0	332.0	326.7	320.2	313.6	307.0	300.5	295.1
50°	329.9	325.8	321.7	317.6	313.5	308.1	301.4	294.6	287.9	281.2	275.9
52.5°	311.4	307.3	303.3	299.3	295.3	289.8	282.9	276.0	269.1	262.2	256.9
55°	284.0	279.8	275.6	271.4	267.2	261.6	254.8	248.0	241.1	234.3	228.8
57.5°	256.9	252.5	248.2	243.8	239.4	233.9	227.1	220.4	213.7	206.9	201.4
60°	237.6	233.4	229.2	225.0	220.8	215.3	208.6	201.8	195.1	188.4	182.9
62.5°	220.2	215.8	211.4	207.1	202.7	197.1	190.2	183.3	176.4	169.5	164.4
65°	193.1	188.6	184.1	179.6	175.0	169.4	162.7	155.9	149.2	142.5	138.0
67.5°	165.0	160.7	156.3	152.0	147.7	142.4	136.1	129.9	123.6	117.4	113.5
70°	147.2	142.8	138.4	134.0	129.5	124.3	118.3	112.3	106.3	100.3	96.9
72.5°	128.3	124.3	120.3	116.3	112.3	107.5	101.8	96.1	90.5	84.8	81.9
75°	102.7	98.8	94.9	91.0	87.1	82.7	77.8	72.8	67.9	63.0	60.5
77.5°	76.8	73.5	70.2	66.9	63.6	59.9	55.9	51.9	47.9	43.9	42.5
80°	60.1	57.1	54.0	51.0	47.9	44.8	41.7	38.5	35.3	32.2	31.9
82.5°	45.7	42.9	40.1	37.3	34.5	32.2	30.4	28.6	26.8	25.0	24.8
85°	25.6	23.5	21.4	19.2	17.1	15.9	15.6	15.3	15.0	14.7	14.5
87.5°	8.9	8.4	7.9	7.4	6.9	6.7	6.7	6.8	6.8	6.9	6.9
90°	1.1	1.9	2.8	3.7	4.5	5.3	5.9	6.5	7.1	7.8	8.2
92.5°	4.5	4.5	4.5	4.6	4.6	5.0	5.6	6.2	6.9	7.5	8.0
95°	19.4	16.8	14.1	11.4	8.8	7.5	7.5	7.6	7.7	7.8	8.2
97.5°	41.3	42.9	44.6	46.3	47.9	44.4	35.6	26.9	18.1	9.3	9.4
100°	58.0	59.4	60.8	62.2	63.6	58.9	48.1	37.2	26.4	15.6	14.2
102.5°	76.6	77.7	78.7	79.7	80.8	80.6	79.2	77.8	76.3	74.9	60.5
105°	106.4	106.8	107.3	107.8	108.3	108.7	109.1	109.5	109.9	110.3	111.0
107.5°	134.0	134.2	134.5	134.7	135.0	135.3	135.9	136.4	136.9	137.5	137.8
110°	152.7	152.9	153.1	153.4	153.6	154.0	154.4	154.9	155.4	155.9	156.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	170.8	171.2	171.6	172.0	172.5	172.8	173.0	173.2	173.4	173.7	173.6
115°	198.6	198.9	199.1	199.3	199.6	199.6	199.6	199.5	199.4	199.3	199.5
117.5°	223.7	224.0	224.3	224.7	225.0	225.2	225.4	225.6	225.7	225.9	225.9
120°	240.7	241.0	241.3	241.6	241.9	242.0	242.0	241.9	241.8	241.7	241.9
122.5°	256.5	256.7	256.9	257.1	257.3	257.4	257.5	257.6	257.7	257.9	257.9
125°	279.2	279.5	279.8	280.1	280.5	280.5	280.4	280.2	280.1	279.9	280.1
127.5°	300.7	300.8	300.8	300.9	301.0	301.2	301.6	301.9	302.3	302.7	302.6
130°	314.5	314.6	314.7	314.8	314.9	315.0	315.2	315.5	315.7	316.0	316.0
132.5°	327.3	327.4	327.5	327.7	327.8	328.0	328.3	328.6	328.9	329.2	329.3
135°	346.3	346.3	346.2	346.1	346.0	346.1	346.5	346.8	347.1	347.4	347.6
137.5°	363.2	363.3	363.3	363.3	363.4	363.6	363.9	364.2	364.6	364.9	365.1
140°	374.3	374.4	374.6	374.7	374.9	375.0	375.2	375.4	375.5	375.7	375.9
142.5°	384.2	384.4	384.7	385.0	385.3	385.5	385.6	385.7	385.8	385.9	386.0
145°	399.4	399.6	399.8	400.1	400.3	400.4	400.4	400.4	400.4	400.4	400.5
147.5°	411.4	411.9	412.3	412.8	413.2	413.4	413.3	413.2	413.1	413.1	413.1
150°	420.2	420.5	420.8	421.2	421.5	421.6	421.5	421.4	421.3	421.3	421.3
152.5°	427.6	427.8	428.1	428.3	428.6	428.6	428.5	428.3	428.2	428.1	428.2
155°	437.9	438.0	438.0	438.1	438.2	438.1	437.9	437.6	437.4	437.2	437.5
157.5°	446.6	446.5	446.5	446.4	446.4	446.2	446.0	445.7	445.4	445.2	445.6
160°	451.7	451.4	451.2	451.0	450.7	450.6	450.5	450.4	450.3	450.2	450.7
162.5°	456.2	455.9	455.6	455.3	455.0	454.8	454.7	454.6	454.6	454.5	455.0
165°	461.9	461.5	461.1	460.7	460.3	460.1	460.1	460.1	460.1	460.1	460.8
167.5°	466.4	466.0	465.6	465.2	464.8	464.6	464.5	464.5	464.4	464.4	465.1
170°	469.0	468.5	468.0	467.6	467.1	466.9	467.0	467.1	467.1	467.2	467.8
172.5°	470.7	470.2	469.7	469.3	468.8	468.6	468.7	468.8	468.8	468.9	469.5
175°	472.5	472.0	471.6	471.1	470.6	470.4	470.5	470.6	470.7	470.7	471.5
177.5°	473.4	472.9	472.5	472.0	471.6	471.4	471.6	471.7	471.8	471.9	472.5
180°	472.5	472.5	472.5	472.5	472.5	472.5	472.5	472.5	472.5	472.5	472.5



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	618.2	618.2	618.2	618.2	618.2	618.2	618.2	618.2
2.5°	615.9	616.8	617.7	618.1	618.0	618.0	617.9	617.8
5°	611.8	612.8	613.9	614.3	614.1	613.9	613.6	613.4
7.5°	603.6	604.3	605.0	605.1	604.8	604.5	604.1	603.8
10°	596.3	596.7	597.1	597.1	596.7	596.3	595.9	595.5
12.5°	587.2	587.5	587.8	587.6	587.0	586.4	585.8	585.2
15°	571.4	571.2	570.9	570.5	569.7	569.0	568.3	567.5
17.5°	552.2	551.7	551.1	550.2	549.1	548.0	546.9	545.8
20°	538.9	538.0	537.2	536.1	534.7	533.3	532.0	530.6
22.5°	524.0	522.7	521.5	520.3	519.2	518.1	517.0	515.8
25°	500.0	498.3	496.5	495.1	494.0	492.9	491.9	490.8
27.5°	475.6	473.4	471.2	469.4	467.8	466.3	464.8	463.3
30°	458.1	455.5	452.9	450.7	449.0	447.4	445.7	444.0
32.5°	440.3	437.2	434.2	431.8	430.2	428.6	427.0	425.4
35°	413.6	410.1	406.5	403.8	401.9	400.0	398.1	396.2
37.5°	385.1	381.1	377.1	374.1	372.2	370.3	368.4	366.5
40°	366.0	361.6	357.2	354.1	352.2	350.3	348.4	346.5
42.5°	347.3	342.8	338.3	335.1	333.1	331.1	329.1	327.2
45°	318.7	313.5	308.3	304.8	302.9	301.0	299.1	297.3
47.5°	289.8	284.4	279.1	275.4	273.3	271.2	269.1	267.1
50°	270.6	265.4	260.1	256.5	254.5	252.5	250.5	248.5
52.5°	251.5	246.2	240.9	237.1	235.1	233.0	230.9	228.8
55°	223.4	217.9	212.4	208.7	206.7	204.7	202.7	200.7
57.5°	195.8	190.3	184.7	181.2	179.7	178.2	176.6	175.1
60°	177.4	172.0	166.5	162.9	161.2	159.6	157.9	156.2
62.5°	159.4	154.3	149.3	146.1	144.7	143.4	142.0	140.7
65°	133.4	128.9	124.4	121.5	120.2	119.0	117.7	116.4
67.5°	109.6	105.7	101.8	99.2	97.8	96.4	95.0	93.6
70°	93.4	89.9	86.5	84.2	83.1	82.1	81.0	80.0
72.5°	78.9	75.9	73.0	71.0	70.0	69.1	68.1	67.1
75°	58.1	55.7	53.3	51.8	51.1	50.5	49.9	49.2
77.5°	41.1	39.7	38.3	37.5	37.3	37.1	36.9	36.7
80°	31.6	31.2	30.9	30.7	30.6	30.5	30.4	30.3
82.5°	24.5	24.3	24.1	23.9	23.8	23.7	23.6	23.5
85°	14.3	14.0	13.8	13.7	13.7	13.7	13.7	13.7
87.5°	6.9	6.9	6.9	7.0	7.1	7.2	7.3	7.4
90°	8.7	9.2	9.7	10.0	10.1	10.3	10.4	10.6
92.5°	8.4	8.9	9.4	9.6	9.7	9.7	9.7	9.8
95°	8.7	9.2	9.7	9.9	10.0	10.1	10.2	10.2
97.5°	9.4	9.5	9.5	9.6	9.7	9.7	9.8	9.9
100°	12.9	11.5	10.2	9.6	9.7	9.7	9.8	9.9
102.5°	46.1	31.7	17.3	10.1	10.1	10.1	10.2	10.2
105°	111.7	112.4	113.1	112.0	109.2	106.4	103.5	100.7
107.5°	138.2	138.5	138.9	139.2	139.5	139.8	140.1	140.4
110°	156.2	156.3	156.5	156.7	156.9	157.2	157.4	157.6



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	173.6	173.6	173.5	173.7	174.0	174.3	174.6	174.9
115°	199.6	199.8	200.0	200.0	200.0	200.0	200.0	200.0
117.5°	225.8	225.8	225.8	225.7	225.7	225.7	225.7	225.6
120°	242.0	242.2	242.4	242.4	242.2	242.0	241.9	241.7
122.5°	258.0	258.1	258.2	258.2	258.0	257.9	257.7	257.6
125°	280.4	280.6	280.8	281.0	281.1	281.2	281.2	281.3
127.5°	302.6	302.5	302.5	302.4	302.4	302.3	302.2	302.2
130°	316.1	316.2	316.3	316.3	316.3	316.3	316.3	316.3
132.5°	329.4	329.5	329.6	329.6	329.5	329.4	329.4	329.3
135°	347.7	347.9	348.0	348.2	348.3	348.5	348.7	348.8
137.5°	365.3	365.5	365.6	365.7	365.6	365.6	365.5	365.5
140°	376.1	376.4	376.6	376.8	376.9	376.9	377.0	377.1
142.5°	386.2	386.4	386.5	386.6	386.7	386.7	386.7	386.7
145°	400.6	400.7	400.7	400.8	401.0	401.2	401.3	401.5
147.5°	413.2	413.3	413.3	413.4	413.5	413.5	413.6	413.7
150°	421.3	421.3	421.3	421.3	421.4	421.5	421.5	421.6
152.5°	428.3	428.4	428.6	428.6	428.5	428.5	428.5	428.4
155°	437.8	438.1	438.4	438.5	438.2	438.0	437.8	437.5
157.5°	446.0	446.4	446.8	446.8	446.4	446.0	445.6	445.2
160°	451.2	451.7	452.1	452.1	451.7	451.2	450.7	450.2
162.5°	455.4	455.9	456.4	456.3	455.8	455.3	454.7	454.2
165°	461.4	462.0	462.7	462.6	461.9	461.2	460.5	459.8
167.5°	465.8	466.5	467.1	467.1	466.3	465.5	464.7	464.0
170°	468.5	469.1	469.7	469.6	468.9	468.1	467.3	466.5
172.5°	470.2	470.8	471.4	471.3	470.5	469.6	468.8	467.9
175°	472.2	472.9	473.6	473.5	472.5	471.6	470.6	469.7
177.5°	473.0	473.5	474.0	473.8	473.1	472.3	471.6	470.8
180°	472.5	472.5	472.5	472.5	472.5	472.5	472.5	472.5

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