

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: P332243-830

Luminaire Tested: **S123RDIP-S340D365U830-4F0-1E-UDD-F**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332243-830  
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-S340D365U830-4F0-1E-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: 2591.7 lumens  
Efficiency: N/A  
Efficacy: 127.7 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

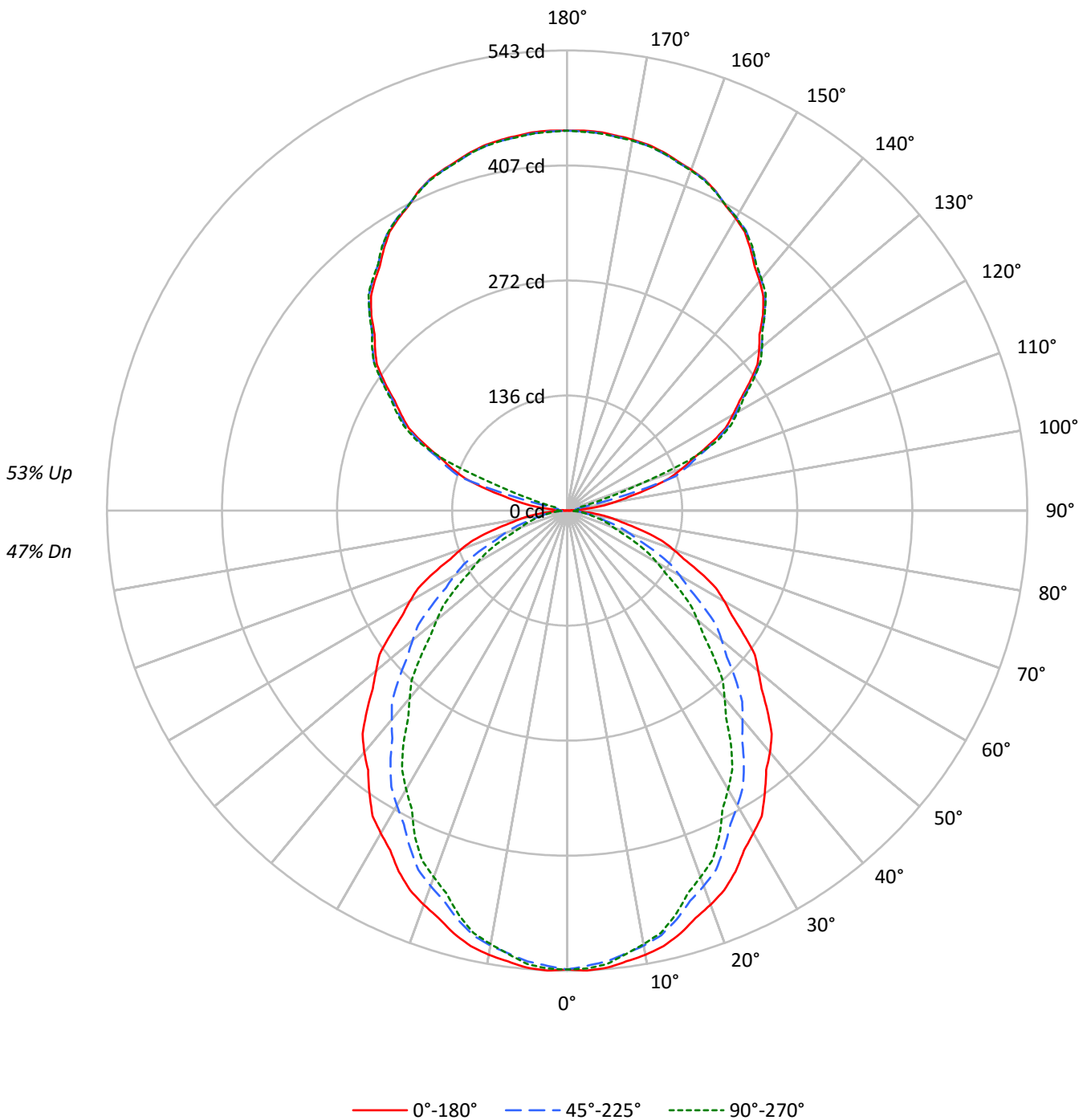
Input Watts (W): 20.3  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	50	30	10	0		
RCR																										
0	106	106	106	106	98	98	98	98	82	82	82	67	67	67	54	54	54	47					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°	5829	5829	5829
5°	5851	5770	5804
10°	5818	5698	5678
15°	5756	5565	5506
20°	5669	5399	5271
25°	5582	5211	5044
30°	5464	4994	4721
35°	5344	4778	4427
40°	5233	4523	4061
45°	5087	4271	3731
50°	4928	3985	3361
55°	4763	3659	3016
60°	4613	3309	2637
65°	4419	2932	2259
70°	4173	2458	1825
75°	3818	1938	1718
80°	3403	1717	1574
85°	2878	1519	1408



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	50.9	2.0
10°-20°	141.5	5.5
20°-30°	203.7	7.9
30°-40°	229.5	8.9
40°-50°	219.5	8.5
50°-60°	179.8	6.9
60°-70°	121.3	4.7
70°-80°	61.0	2.4
80°-90°	17.4	0.7
90°-100°	16.3	0.6
100°-110°	77.7	3.0
110°-120°	186.6	7.2
120°-130°	237.6	9.2
130°-140°	253.9	9.8
140°-150°	237.4	9.2
150°-160°	191.5	7.4
160°-170°	123.6	4.8
170°-180°	42.6	1.6
0°-30°	396.1	15.3
0°-40°	625.5	24.1
0°-60°	1024.8	39.5
0°-90°	1224.5	47.2
90°-120°	280.6	10.8
90°-150°	1009.4	38.9
90°-180°	1367.0	52.7
0°-180°	2591.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	542	542	542	542	542	
5°	542	539	534	538	537	51
15°	516	511	499	497	494	145
25°	470	458	439	430	425	216
35°	407	390	364	345	337	254
45°	334	314	281	256	245	258
55°	254	231	195	170	161	228
65°	174	149	115	94	89	172
75°	92	71	47	42	41	98
85°	23	14	12	11	11	26
90°	0	4	8	9	10	2
95°	20	8	10	12	13	25
105°	99	101	73	17	15	105
115°	186	188	191	194	196	184
125°	262	265	266	267	268	234
135°	327	329	330	331	330	251
145°	377	379	380	381	381	236
155°	415	415	415	416	415	191
165°	438	437	437	439	437	124
175°	448	447	447	449	447	43
180°	448	448	448	448	448	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	541.5	541.5	541.5	541.5	541.5	541.5	541.5	541.5	541.5	541.5	541.5
2.5°	543.3	542.9	542.6	542.3	542.1	541.4	540.5	539.5	538.6	537.6	538.5
5°	541.5	541.0	540.5	540.1	539.5	538.8	537.5	536.4	535.2	534.0	534.9
7.5°	536.5	535.9	535.5	534.9	534.4	533.4	531.9	530.4	528.8	527.3	527.7
10°	532.3	531.6	530.9	530.3	529.5	528.3	526.6	524.8	523.0	521.3	521.4
12.5°	526.3	525.6	524.8	524.1	523.3	521.8	519.6	517.6	515.4	513.2	513.1
15°	516.5	515.4	514.3	513.2	512.2	510.3	507.6	504.8	502.1	499.4	498.9
17.5°	504.1	502.8	501.6	500.3	499.1	496.7	493.2	489.7	486.4	482.9	481.8
20°	494.9	493.4	491.8	490.3	488.7	486.1	482.4	478.6	474.9	471.3	470.0
22.5°	484.7	483.0	481.2	479.4	477.6	474.8	470.8	466.8	462.9	458.9	457.3
25°	470.0	467.5	465.1	462.6	460.1	456.7	452.2	447.7	443.2	438.8	436.7
27.5°	451.9	449.2	446.5	443.8	441.1	437.3	432.3	427.3	422.3	417.3	414.4
30°	439.6	436.7	433.8	430.8	427.9	423.7	418.2	412.7	407.3	401.8	398.5
32.5°	427.3	424.0	420.7	417.4	414.1	409.5	403.7	397.9	392.2	386.3	382.8
35°	406.7	403.1	399.6	396.2	392.7	387.9	381.8	375.7	369.7	363.6	359.5
37.5°	385.8	381.8	378.0	374.1	370.1	365.0	358.5	352.0	345.6	339.1	334.4
40°	372.4	368.2	363.8	359.6	355.2	349.6	342.7	335.7	328.9	321.9	316.9
42.5°	357.3	353.0	348.7	344.4	340.2	334.4	327.3	320.1	312.9	305.8	300.2
45°	334.2	329.8	325.5	321.0	316.6	310.7	303.2	295.7	288.1	280.6	275.0
47.5°	311.1	306.3	301.4	296.6	291.8	285.7	278.1	270.6	263.2	255.6	249.6
50°	294.3	289.6	285.1	280.5	275.9	269.7	261.7	253.8	245.9	238.0	232.0
52.5°	279.2	274.2	269.2	264.2	259.2	252.8	245.0	237.1	229.3	221.5	215.3
55°	253.8	249.0	244.3	239.5	234.7	228.2	219.9	211.6	203.3	195.0	189.4
57.5°	230.5	225.3	220.1	214.8	209.6	202.8	194.5	186.2	177.9	169.6	164.2
60°	214.3	209.0	203.6	198.2	192.8	186.2	178.0	169.9	161.8	153.7	148.5
62.5°	198.1	192.7	187.4	182.1	176.7	169.9	161.8	153.7	145.6	137.5	132.6
65°	173.5	168.1	162.8	157.4	152.0	145.5	137.9	130.3	122.7	115.1	110.3
67.5°	148.8	143.4	137.9	132.5	127.1	120.7	113.4	106.1	98.8	91.5	87.9
70°	132.6	127.3	122.1	116.8	111.6	105.5	98.7	91.8	85.0	78.1	74.7
72.5°	116.5	111.3	106.1	100.9	95.7	90.0	83.8	77.6	71.4	65.1	62.4
75°	91.8	87.1	82.4	77.8	73.0	68.1	62.7	57.3	51.9	46.6	45.6
77.5°	69.3	65.0	60.8	56.6	52.4	48.5	45.1	41.6	38.2	34.7	34.2
80°	54.9	50.9	46.9	42.9	38.9	35.9	33.8	31.8	29.7	27.7	27.3
82.5°	41.2	37.7	34.3	30.8	27.3	25.2	24.2	23.3	22.3	21.3	21.0
85°	23.3	21.1	18.9	16.9	14.7	13.5	13.2	12.9	12.6	12.3	12.1
87.5°	8.5	7.8	7.1	6.4	5.7	5.4	5.6	5.7	5.9	6.1	6.1
90°	0.4	1.0	1.8	2.5	3.3	4.1	5.1	6.0	7.1	8.0	8.3
92.5°	6.2	6.0	5.7	5.6	5.4	5.7	6.3	7.1	7.8	8.5	9.0
95°	20.4	17.2	14.2	11.2	8.2	7.1	7.9	8.7	9.5	10.4	10.8
97.5°	40.8	39.5	38.1	36.8	35.3	32.0	26.7	21.4	16.0	10.7	11.3
100°	56.3	57.8	59.3	60.7	62.2	57.2	45.6	34.1	22.5	11.0	11.6
102.5°	73.9	74.9	76.0	77.1	78.1	72.4	59.8	47.1	34.5	22.0	20.1
105°	99.2	100.1	100.9	101.7	102.5	99.6	92.9	86.2	79.6	73.0	59.9
107.5°	126.0	126.7	127.3	128.0	128.7	129.5	130.5	131.6	132.6	133.7	124.0
110°	143.9	144.5	145.1	145.6	146.3	146.9	147.8	148.5	149.4	150.2	147.8



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	160.9	161.5	162.0	162.5	163.1	163.7	164.6	165.4	166.2	167.0	167.0
115°	186.2	186.6	187.1	187.5	187.9	188.5	189.2	189.8	190.5	191.1	191.9
117.5°	210.7	211.2	211.7	212.3	212.8	213.3	213.6	214.0	214.3	214.6	215.2
120°	225.8	226.5	227.2	227.8	228.5	228.9	229.1	229.4	229.6	229.8	230.5
122.5°	241.3	241.9	242.3	242.9	243.5	243.8	244.1	244.4	244.7	245.0	245.4
125°	262.5	263.1	263.6	264.2	264.9	265.2	265.6	265.9	266.2	266.5	266.6
127.5°	283.0	283.6	284.2	284.7	285.3	285.8	286.2	286.5	286.9	287.2	287.5
130°	295.8	296.3	296.9	297.6	298.1	298.6	298.9	299.2	299.4	299.7	300.0
132.5°	308.0	308.6	309.2	309.8	310.4	310.8	311.0	311.3	311.5	311.8	312.1
135°	326.8	327.2	327.6	328.1	328.5	328.9	329.1	329.5	329.8	330.1	330.3
137.5°	342.7	343.3	343.8	344.4	345.0	345.3	345.5	345.6	345.8	346.0	346.4
140°	353.4	353.8	354.3	354.7	355.2	355.5	355.7	355.9	356.2	356.4	356.7
142.5°	363.3	363.7	364.1	364.6	365.0	365.3	365.6	365.8	366.0	366.3	366.5
145°	377.0	377.6	378.1	378.6	379.1	379.5	379.6	379.8	379.8	380.0	380.2
147.5°	390.0	390.4	390.7	391.1	391.3	391.6	391.8	391.9	392.1	392.2	392.4
150°	398.0	398.2	398.4	398.7	398.9	399.1	399.3	399.4	399.5	399.6	399.8
152.5°	405.2	405.3	405.4	405.5	405.6	405.8	405.8	405.9	406.0	406.0	406.3
155°	415.4	415.2	415.0	414.9	414.7	414.7	414.8	414.8	414.9	415.0	415.4
157.5°	423.2	423.2	423.2	423.1	423.1	423.1	423.0	422.9	422.8	422.8	423.2
160°	428.0	427.9	427.8	427.7	427.7	427.6	427.5	427.4	427.4	427.3	427.7
162.5°	432.5	432.3	432.2	432.0	431.8	431.6	431.5	431.5	431.4	431.3	431.8
165°	438.0	437.7	437.5	437.3	437.1	437.0	436.9	436.8	436.7	436.7	437.2
167.5°	442.2	442.0	441.7	441.4	441.0	440.9	440.9	440.9	440.9	440.9	441.5
170°	444.6	444.3	444.0	443.7	443.5	443.3	443.3	443.3	443.3	443.3	443.9
172.5°	446.2	445.9	445.5	445.2	444.8	444.7	444.7	444.8	444.9	444.9	445.5
175°	448.3	447.9	447.5	447.2	446.9	446.7	446.8	446.9	446.9	447.0	447.5
177.5°	448.8	448.6	448.3	448.0	447.6	447.5	447.6	447.6	447.7	447.8	448.3
180°	448.3	448.3	448.3	448.3	448.3	448.3	448.3	448.3	448.3	448.3	448.3



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	541.5	541.5	541.5	541.5	541.5	541.5	541.5	541.5
2.5°	539.3	540.2	541.1	541.4	541.3	541.1	540.9	540.8
5°	535.8	536.7	537.5	537.9	537.7	537.5	537.3	537.2
7.5°	528.3	528.8	529.2	529.3	529.0	528.7	528.3	528.0
10°	521.5	521.6	521.7	521.5	521.0	520.6	520.0	519.5
12.5°	513.1	513.0	513.0	512.6	512.1	511.5	511.0	510.4
15°	498.3	497.9	497.4	496.8	496.2	495.4	494.7	494.1
17.5°	480.8	479.8	478.7	477.7	476.6	475.6	474.7	473.6
20°	468.7	467.4	466.2	465.0	463.7	462.6	461.5	460.2
22.5°	455.8	454.2	452.6	451.3	450.2	449.1	448.0	447.0
25°	434.6	432.6	430.6	429.0	427.9	426.9	425.7	424.7
27.5°	411.6	408.8	406.0	403.7	402.0	400.4	398.8	397.1
30°	395.2	391.9	388.6	386.2	384.6	383.0	381.4	379.8
32.5°	379.1	375.5	371.8	369.2	367.6	366.0	364.3	362.7
35°	355.2	351.0	346.9	343.8	342.1	340.4	338.6	336.9
37.5°	329.6	324.8	320.1	316.6	314.4	312.3	310.1	307.9
40°	311.8	306.7	301.6	297.9	295.7	293.5	291.2	289.0
42.5°	294.6	289.2	283.6	279.8	277.8	275.8	273.8	271.7
45°	269.5	263.9	258.4	254.4	252.1	249.8	247.4	245.1
47.5°	243.5	237.4	231.4	227.3	225.3	223.2	221.0	219.0
50°	225.9	219.9	213.9	209.7	207.5	205.2	202.9	200.7
52.5°	209.0	202.6	196.4	192.3	190.2	188.2	186.2	184.2
55°	183.7	178.0	172.4	168.5	166.6	164.7	162.7	160.7
57.5°	158.8	153.4	148.2	144.6	143.0	141.3	139.7	138.0
60°	143.2	137.9	132.6	129.1	127.5	125.8	124.2	122.5
62.5°	127.6	122.7	117.7	114.3	112.6	110.9	109.1	107.4
65°	105.5	100.8	96.0	93.0	91.9	90.9	89.8	88.7
67.5°	84.4	80.8	77.2	74.8	73.7	72.6	71.4	70.3
70°	71.4	68.0	64.5	62.3	61.2	60.1	59.0	58.0
72.5°	59.6	56.8	54.0	52.4	51.9	51.5	51.1	50.6
75°	44.6	43.6	42.6	42.0	41.8	41.7	41.5	41.3
77.5°	33.6	33.1	32.6	32.2	32.0	31.9	31.7	31.5
80°	27.1	26.8	26.5	26.3	26.0	25.8	25.6	25.4
82.5°	20.7	20.5	20.2	20.0	20.0	19.9	19.9	19.9
85°	11.9	11.7	11.5	11.4	11.4	11.4	11.4	11.4
87.5°	6.1	6.1	6.1	6.0	6.0	5.9	5.9	5.8
90°	8.6	8.9	9.1	9.4	9.5	9.7	9.8	10.0
92.5°	9.5	10.0	10.5	10.7	10.7	10.8	10.9	11.0
95°	11.4	11.9	12.4	12.6	12.6	12.6	12.6	12.6
97.5°	11.9	12.5	13.1	13.4	13.5	13.6	13.7	13.8
100°	12.2	12.7	13.4	13.7	13.8	13.9	13.9	13.9
102.5°	18.3	16.4	14.6	13.8	13.9	13.9	14.1	14.2
105°	46.8	33.6	20.5	14.0	14.2	14.3	14.5	14.6
107.5°	114.5	104.9	95.3	85.5	75.7	65.8	55.9	46.0
110°	145.3	142.9	140.4	133.9	123.4	112.7	102.2	91.6





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	167.1	167.1	167.2	166.1	163.8	161.6	159.4	157.1
115°	192.7	193.4	194.2	194.6	194.9	195.3	195.6	195.9
117.5°	215.8	216.4	217.0	217.4	217.4	217.4	217.5	217.5
120°	231.0	231.6	232.1	232.5	232.5	232.5	232.5	232.5
122.5°	245.8	246.3	246.7	246.9	246.9	247.0	247.0	247.1
125°	266.7	266.9	267.0	267.2	267.3	267.5	267.7	267.8
127.5°	287.7	287.9	288.2	288.2	288.0	287.9	287.8	287.7
130°	300.4	300.7	301.0	301.0	300.9	300.8	300.6	300.4
132.5°	312.4	312.6	312.9	313.0	312.7	312.5	312.4	312.2
135°	330.5	330.7	330.9	330.9	330.7	330.5	330.3	330.1
137.5°	346.7	347.0	347.4	347.5	347.3	347.2	347.0	346.9
140°	356.9	357.2	357.6	357.6	357.5	357.3	357.2	357.0
142.5°	366.7	366.9	367.2	367.2	367.0	366.7	366.6	366.4
145°	380.3	380.5	380.6	380.7	380.7	380.7	380.7	380.7
147.5°	392.5	392.7	392.9	392.8	392.4	392.0	391.7	391.3
150°	400.0	400.1	400.3	400.2	400.0	399.8	399.5	399.4
152.5°	406.6	406.9	407.2	407.1	406.8	406.4	406.0	405.8
155°	415.8	416.1	416.5	416.4	416.0	415.6	415.1	414.6
157.5°	423.7	424.1	424.6	424.5	424.0	423.4	422.7	422.2
160°	428.2	428.7	429.1	429.0	428.6	428.0	427.5	427.0
162.5°	432.3	432.8	433.3	433.4	432.9	432.4	432.0	431.5
165°	437.8	438.5	439.0	439.0	438.6	438.0	437.5	437.0
167.5°	442.1	442.7	443.3	443.3	442.7	442.1	441.5	440.9
170°	444.5	445.1	445.6	445.6	445.1	444.5	443.9	443.3
172.5°	446.1	446.7	447.2	447.2	446.6	445.9	445.3	444.6
175°	448.0	448.6	449.0	449.0	448.5	447.8	447.2	446.7
177.5°	448.7	449.2	449.7	449.6	449.0	448.5	447.8	447.2
180°	448.3	448.3	448.3	448.3	448.3	448.3	448.3	448.3

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