

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: P331767

Luminaire Tested: **S122RDIW-S290D435U835-4F0-1E-UDD-F**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331767  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-2,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S122RDIW-S290D435U835-4F0-1E-UDD-F  
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 290 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 435 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2764.9 lumens  
Efficiency: N/A  
Efficacy: 120.2 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16  
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')  
CIE Type: Semi-Indirect

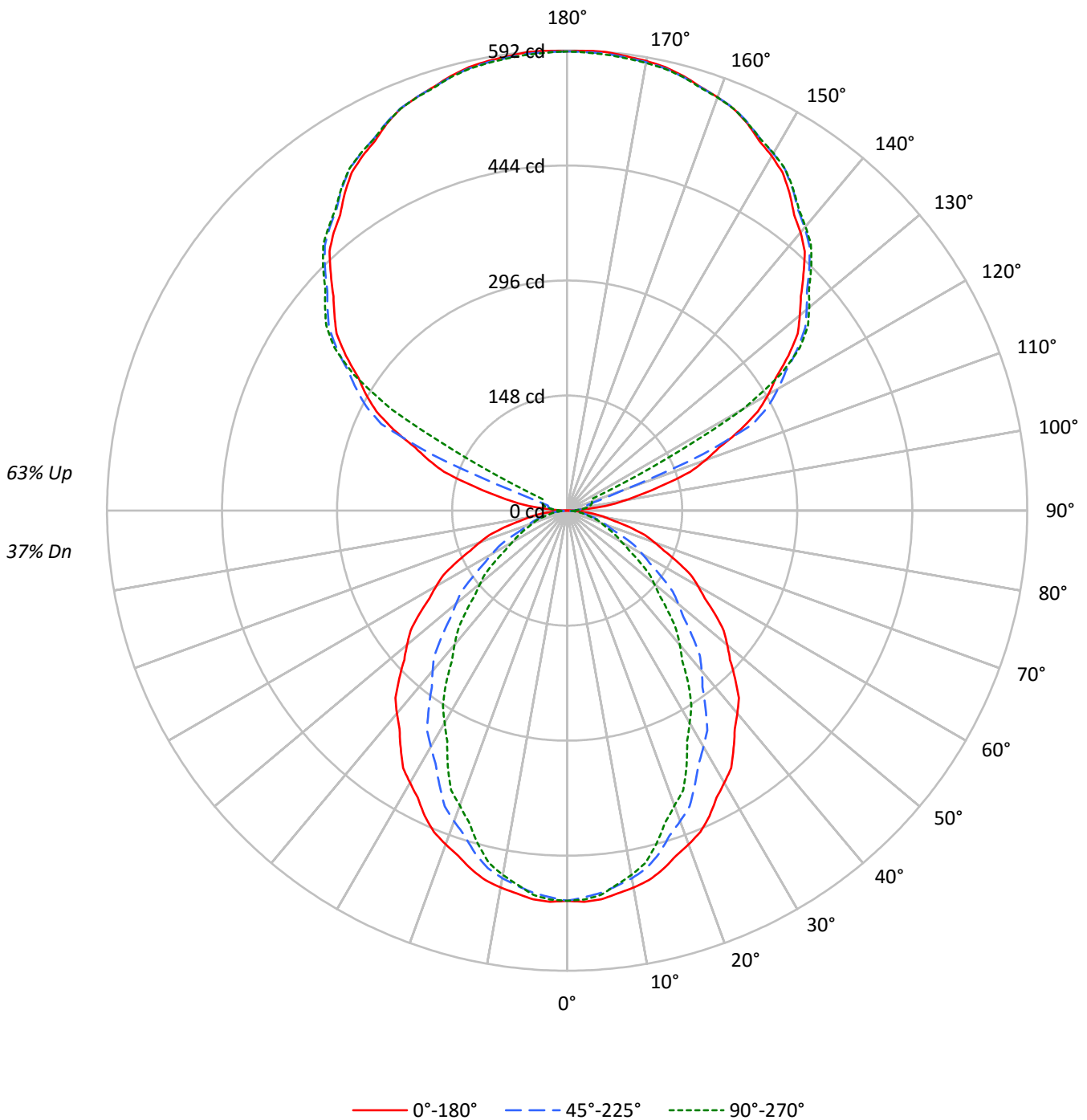
Input Watts (W): 23  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	0	
RCR																						
0	104	104	104	104	94	94	94	94	76	76	76	60	60	60	45	45	45	37				
1	95	91	88	84	86	83	80	77	67	65	63	53	52	50	40	39	38	32				
2	87	80	74	69	79	73	68	64	59	56	53	47	45	43	36	34	33	28				
3	80	71	64	58	72	64	58	54	53	48	45	42	39	36	32	30	28	24				
4	73	63	55	49	66	57	51	46	47	42	38	37	34	31	29	26	25	21				
5	67	56	48	42	61	51	44	39	42	37	33	34	30	27	26	24	22	18				
6	62	50	42	37	56	46	39	34	38	33	29	31	27	24	24	21	19	16				
7	57	45	38	32	52	42	35	30	35	29	26	28	24	21	22	19	17	14				
8	53	41	34	29	48	38	31	27	32	27	23	26	22	19	20	17	16	13				
9	49	38	30	26	45	35	28	24	29	24	21	24	20	17	18	16	14	12				
10	46	34	28	23	42	32	26	21	27	22	19	22	18	16	17	15	13	11				

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	8105	8105	8105
5°	8136	8003	8047
10°	8073	7873	7806
15°	7980	7639	7418
20°	7852	7306	6940
25°	7721	6928	6474
30°	7538	6538	5878
35°	7360	6116	5355
40°	7181	5678	4749
45°	6971	5186	4201
50°	6754	4690	3662
55°	6533	4155	3147
60°	6278	3594	2612
65°	5987	3018	2376
70°	5641	2488	2186
75°	5215	2264	2040
80°	4603	2027	1860
85°	3612	1593	1593



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	47.0	1.7
10°-20°	129.0	4.7
20°-30°	181.2	6.6
30°-40°	197.6	7.1
40°-50°	181.6	6.6
50°-60°	142.7	5.2
60°-70°	93.0	3.4
70°-80°	48.0	1.7
80°-90°	13.9	0.5
90°-100°	19.7	0.7
100°-110°	72.3	2.6
110°-120°	193.1	7.0
120°-130°	318.8	11.5
130°-140°	339.1	12.3
140°-150°	315.2	11.4
150°-160°	253.4	9.2
160°-170°	163.3	5.9
170°-180°	56.2	2.0
0°-30°	357.2	12.9
0°-40°	554.7	20.1
0°-60°	879.0	31.8
0°-90°	1033.9	37.4
90°-120°	285.1	10.3
90°-150°	1258.2	45.5
90°-180°	1731.0	62.6
0°-180°	2764.9	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	502	502	502	502	502	
5°	502	500	494	498	496	48
15°	477	472	457	449	444	134
25°	433	418	389	371	363	199
35°	373	349	310	283	272	234
45°	305	274	227	196	184	236
55°	232	196	148	121	112	207
65°	157	120	79	64	62	155
75°	84	53	36	33	33	88
85°	20	10	9	9	9	23
90°	0	5	8	11	12	2
95°	28	15	17	19	18	34
105°	130	136	26	31	32	139
115°	246	253	264	75	35	242
125°	348	353	361	364	365	310
135°	430	437	441	445	444	332
145°	499	499	506	508	506	312
155°	549	546	550	553	550	253
165°	579	576	577	580	577	163
175°	592	589	590	592	589	56
180°	591	591	591	591	591	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	502.0	502.0	502.0	502.0	502.0	502.0	502.0	502.0	502.0	502.0	502.0
2.5°	503.8	503.4	503.0	502.6	502.2	501.5	500.6	499.8	498.9	498.0	498.8
5°	502.0	501.5	501.0	500.5	500.0	499.0	497.7	496.4	495.1	493.8	494.7
7.5°	496.8	496.2	495.5	494.9	494.3	493.2	491.7	490.1	488.6	487.1	487.3
10°	492.4	491.7	491.0	490.3	489.6	488.2	486.2	484.2	482.2	480.2	479.9
12.5°	487.0	486.1	485.2	484.4	483.5	481.8	479.2	476.6	474.0	471.4	470.9
15°	477.4	476.3	475.2	474.1	473.0	470.7	467.3	463.9	460.4	457.0	455.1
17.5°	465.7	464.0	462.3	460.6	458.9	455.9	451.5	447.1	442.7	438.3	436.0
20°	457.0	455.0	453.0	450.9	448.9	445.4	440.3	435.3	430.3	425.2	422.7
22.5°	447.6	445.3	443.0	440.8	438.5	434.5	428.8	423.1	417.5	411.8	408.5
25°	433.4	430.1	426.9	423.7	420.5	415.5	408.8	402.2	395.5	388.9	384.7
27.5°	416.3	412.8	409.3	405.8	402.2	396.7	389.2	381.7	374.2	366.7	361.9
30°	404.3	400.5	396.6	392.8	389.0	383.0	374.9	366.9	358.8	350.7	345.6
32.5°	392.7	388.2	383.7	379.2	374.7	368.4	360.2	351.9	343.7	335.4	329.6
35°	373.4	368.3	363.1	358.0	352.8	345.8	336.9	328.0	319.2	310.3	303.9
37.5°	354.2	348.5	342.8	337.2	331.5	324.0	314.5	305.0	295.6	286.1	279.1
40°	340.7	334.7	328.6	322.5	316.5	308.6	298.8	289.0	279.2	269.4	262.2
42.5°	326.9	320.5	314.1	307.8	301.4	293.1	283.0	272.9	262.8	252.7	245.3
45°	305.3	298.5	291.7	285.0	278.2	269.5	258.9	248.3	237.7	227.1	220.0
47.5°	284.2	277.0	269.9	262.7	255.5	246.5	235.5	224.6	213.6	202.7	195.6
50°	268.9	261.8	254.6	247.4	240.3	231.1	220.0	208.9	197.8	186.7	179.7
52.5°	254.0	246.5	239.1	231.6	224.1	214.9	204.0	193.2	182.3	171.4	164.7
55°	232.1	224.3	216.4	208.5	200.6	191.3	180.3	169.4	158.5	147.6	141.6
57.5°	209.7	201.6	193.5	185.5	177.4	168.1	157.6	147.2	136.7	126.2	120.6
60°	194.4	186.4	178.3	170.2	162.1	152.9	142.5	132.1	121.7	111.3	106.1
62.5°	179.5	171.5	163.4	155.3	147.2	138.2	128.3	118.4	108.5	98.6	93.7
65°	156.7	148.5	140.4	132.2	124.0	115.4	106.3	97.2	88.1	79.0	75.6
67.5°	134.7	126.6	118.5	110.4	102.3	94.1	85.9	77.8	69.6	61.4	59.8
70°	119.5	111.6	103.7	95.9	88.0	80.6	73.6	66.6	59.7	52.7	51.7
72.5°	104.9	97.4	89.8	82.3	74.7	68.2	62.6	57.0	51.4	45.8	44.9
75°	83.6	76.5	69.5	62.4	55.3	50.1	46.6	43.2	39.8	36.3	35.6
77.5°	62.6	56.4	50.2	44.0	37.8	33.9	32.2	30.6	28.9	27.3	26.9
80°	49.5	44.4	39.2	34.1	28.9	25.8	24.8	23.8	22.8	21.8	21.4
82.5°	37.5	33.5	29.5	25.5	21.5	19.1	18.4	17.7	17.0	16.4	16.1
85°	19.5	17.4	15.3	13.2	11.1	9.8	9.5	9.2	8.9	8.6	8.6
87.5°	5.9	5.5	5.0	4.6	4.2	4.0	4.2	4.3	4.5	4.6	4.6
90°	0.4	1.5	2.5	3.6	4.6	5.5	6.3	7.0	7.8	8.5	9.0
92.5°	8.6	8.5	8.4	8.3	8.3	8.4	8.8	9.2	9.5	9.9	10.2
95°	27.8	24.6	21.5	18.4	15.2	14.0	14.7	15.3	16.0	16.7	17.1
97.5°	55.1	46.3	37.5	28.6	19.8	16.2	17.7	19.2	20.8	22.3	22.7
100°	75.7	62.6	49.6	36.6	23.6	17.9	19.5	21.1	22.7	24.4	25.1
102.5°	98.2	95.5	92.7	90.0	87.2	79.1	65.6	52.1	38.6	25.0	26.0
105°	129.9	132.8	135.6	138.5	141.3	129.8	103.9	77.9	52.0	26.1	27.1
107.5°	166.1	168.4	170.7	173.0	175.3	160.9	129.8	98.7	67.6	36.5	35.4
110°	189.3	191.3	193.3	195.3	197.3	184.6	157.1	129.7	102.2	74.8	65.3



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	211.2	213.0	214.8	216.5	218.3	215.8	209.0	202.2	195.4	188.7	154.0
115°	245.8	247.4	249.0	250.6	252.2	254.2	256.6	259.0	261.3	263.7	219.7
117.5°	276.6	278.4	280.2	282.0	283.8	285.6	287.2	288.8	290.5	292.1	281.5
120°	299.2	300.6	302.0	303.5	304.9	306.5	308.2	309.9	311.6	313.3	314.4
122.5°	318.3	319.8	321.3	322.8	324.3	326.0	327.9	329.7	331.6	333.5	334.2
125°	347.5	348.7	350.0	351.2	352.4	353.9	355.8	357.6	359.4	361.2	361.8
127.5°	373.9	375.3	376.6	378.0	379.4	380.7	382.1	383.4	384.8	386.1	387.1
130°	390.7	392.2	393.7	395.2	396.7	398.0	399.1	400.1	401.2	402.2	403.2
132.5°	407.8	409.0	410.3	411.6	412.9	414.1	415.1	416.2	417.2	418.3	419.2
135°	430.0	431.5	433.0	434.5	436.1	437.2	438.1	439.0	439.8	440.7	441.6
137.5°	452.5	453.5	454.6	455.7	456.7	457.7	458.7	459.7	460.6	461.6	462.5
140°	467.2	467.9	468.7	469.4	470.2	471.1	472.2	473.2	474.2	475.3	476.1
142.5°	479.5	480.2	480.8	481.5	482.2	483.2	484.3	485.5	486.7	487.9	488.7
145°	498.8	498.7	498.6	498.5	498.4	499.2	500.8	502.4	504.0	505.6	506.3
147.5°	515.6	515.3	514.9	514.6	514.2	514.8	516.4	518.0	519.6	521.2	521.7
150°	526.6	525.9	525.2	524.6	523.9	524.3	525.9	527.4	528.9	530.4	531.0
152.5°	535.8	535.1	534.3	533.6	532.8	533.2	534.6	536.1	537.5	539.0	539.5
155°	549.2	548.4	547.5	546.7	545.8	546.0	547.1	548.2	549.4	550.5	551.1
157.5°	559.7	559.0	558.3	557.6	556.9	556.9	557.7	558.5	559.3	560.1	560.7
160°	565.9	565.3	564.8	564.2	563.6	563.6	564.2	564.8	565.3	565.9	566.5
162.5°	571.4	570.8	570.2	569.7	569.1	569.1	569.5	570.0	570.5	571.0	571.7
165°	578.7	578.2	577.6	577.0	576.4	576.3	576.6	576.9	577.2	577.4	578.1
167.5°	584.2	583.6	583.1	582.5	581.9	581.8	582.0	582.3	582.6	582.8	583.5
170°	587.3	586.7	586.1	585.6	585.0	584.8	585.0	585.2	585.4	585.6	586.2
172.5°	589.3	588.8	588.2	587.6	587.0	586.9	587.0	587.2	587.4	587.6	588.3
175°	592.0	591.3	590.6	590.0	589.3	589.1	589.3	589.5	589.6	589.8	590.5
177.5°	592.4	591.9	591.3	590.8	590.3	590.0	590.1	590.2	590.3	590.3	590.9
180°	590.7	590.7	590.7	590.7	590.7	590.7	590.7	590.7	590.7	590.7	590.7



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	502.0	502.0	502.0	502.0	502.0	502.0	502.0	502.0
2.5°	499.6	500.4	501.2	501.5	501.4	501.2	501.0	500.9
5°	495.6	496.5	497.4	497.7	497.4	497.1	496.8	496.5
7.5°	487.6	487.9	488.1	488.0	487.5	486.9	486.4	485.9
10°	479.6	479.3	479.0	478.5	477.9	477.3	476.7	476.1
12.5°	470.4	469.8	469.3	468.5	467.5	466.5	465.5	464.5
15°	453.2	451.2	449.3	447.9	446.9	445.8	444.8	443.8
17.5°	433.7	431.4	429.2	427.2	425.4	423.7	421.9	420.2
20°	420.2	417.6	415.1	412.7	410.5	408.3	406.1	403.9
22.5°	405.3	402.0	398.8	396.3	394.6	393.0	391.3	389.7
25°	380.6	376.4	372.3	369.5	368.0	366.4	364.9	363.4
27.5°	357.0	352.2	347.4	343.8	341.4	339.0	336.6	334.2
30°	340.4	335.3	330.1	326.2	323.4	320.7	318.0	315.3
32.5°	323.7	317.8	311.9	307.7	305.2	302.6	300.0	297.5
35°	297.6	291.2	284.8	280.5	278.3	276.1	273.9	271.7
37.5°	272.1	265.1	258.1	253.3	250.8	248.2	245.7	243.1
40°	255.1	247.9	240.7	235.8	233.2	230.6	227.9	225.3
42.5°	237.8	230.4	223.0	218.1	215.5	213.0	210.4	207.9
45°	212.8	205.6	198.5	193.7	191.3	188.8	186.4	184.0
47.5°	188.4	181.3	174.2	169.5	167.3	165.1	162.9	160.7
50°	172.8	165.8	158.8	154.3	152.2	150.1	147.9	145.8
52.5°	158.0	151.3	144.6	140.2	138.3	136.3	134.3	132.4
55°	135.5	129.5	123.4	119.4	117.5	115.6	113.7	111.8
57.5°	115.1	109.5	104.0	100.4	98.8	97.2	95.6	93.9
60°	101.0	95.9	90.7	87.3	85.7	84.1	82.5	80.9
62.5°	88.8	83.9	79.0	76.0	75.0	74.1	73.1	72.1
65°	72.2	68.7	65.3	63.4	63.1	62.8	62.5	62.2
67.5°	58.3	56.7	55.1	54.2	53.8	53.5	53.2	52.9
70°	50.7	49.7	48.7	48.0	47.5	47.1	46.7	46.3
72.5°	44.1	43.2	42.4	41.9	41.6	41.4	41.1	40.9
75°	34.9	34.2	33.5	33.1	33.0	32.9	32.8	32.7
77.5°	26.4	26.0	25.6	25.4	25.2	25.0	24.9	24.7
80°	21.0	20.6	20.2	20.0	20.0	20.0	20.0	20.0
82.5°	15.9	15.6	15.4	15.3	15.3	15.3	15.3	15.3
85°	8.6	8.6	8.6	8.6	8.6	8.6	8.6	8.6
87.5°	4.6	4.7	4.7	4.7	4.7	4.8	4.8	4.9
90°	9.5	10.0	10.4	10.8	11.0	11.2	11.4	11.5
92.5°	10.4	10.7	10.9	11.1	11.2	11.3	11.4	11.5
95°	17.6	18.1	18.6	18.8	18.7	18.6	18.5	18.4
97.5°	23.1	23.5	23.8	24.1	24.2	24.3	24.4	24.5
100°	25.9	26.6	27.4	27.9	28.1	28.3	28.4	28.6
102.5°	27.0	28.0	29.0	29.6	29.9	30.2	30.4	30.7
105°	28.2	29.2	30.3	31.0	31.3	31.7	32.1	32.5
107.5°	34.4	33.3	32.2	31.9	32.3	32.7	33.0	33.4
110°	55.8	46.3	36.8	32.2	32.6	33.0	33.4	33.8





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	119.4	84.7	50.1	32.9	33.2	33.5	33.8	34.1
115°	175.8	131.8	87.8	62.4	55.6	48.7	41.9	35.0
117.5°	270.8	260.2	249.5	233.0	210.5	188.0	165.6	143.1
120°	315.6	316.7	317.9	312.0	299.2	286.4	273.5	260.7
122.5°	334.8	335.5	336.2	335.3	332.8	330.3	327.8	325.3
125°	362.5	363.2	363.8	364.3	364.6	364.9	365.2	365.4
127.5°	388.1	389.0	390.0	390.5	390.6	390.6	390.7	390.7
130°	404.3	405.3	406.4	406.9	406.8	406.7	406.6	406.5
132.5°	420.1	420.9	421.8	422.2	422.1	422.0	422.0	421.9
135°	442.6	443.5	444.5	444.8	444.7	444.5	444.3	444.1
137.5°	463.5	464.4	465.3	465.6	465.3	465.0	464.7	464.3
140°	477.0	477.9	478.7	478.9	478.4	477.9	477.5	477.0
142.5°	489.5	490.3	491.1	491.2	490.7	490.3	489.8	489.3
145°	507.0	507.6	508.3	508.4	507.9	507.4	507.0	506.5
147.5°	522.2	522.7	523.2	523.2	522.8	522.4	522.0	521.6
150°	531.6	532.1	532.7	532.8	532.3	531.8	531.3	530.9
152.5°	540.1	540.7	541.3	541.2	540.6	540.0	539.3	538.7
155°	551.7	552.2	552.8	552.7	551.9	551.2	550.4	549.7
157.5°	561.4	562.0	562.7	562.6	561.9	561.1	560.4	559.7
160°	567.0	567.6	568.2	568.1	567.5	566.8	566.1	565.5
162.5°	572.3	573.0	573.6	573.5	572.7	571.9	571.1	570.3
165°	578.8	579.4	580.1	580.1	579.4	578.8	578.1	577.4
167.5°	584.2	584.8	585.5	585.4	584.5	583.7	582.8	582.0
170°	586.9	587.6	588.2	588.1	587.3	586.4	585.6	584.7
172.5°	588.9	589.6	590.3	590.2	589.3	588.5	587.6	586.8
175°	591.2	591.8	592.5	592.4	591.4	590.5	589.5	588.6
177.5°	591.4	591.9	592.5	592.4	591.7	591.0	590.3	589.7
180°	590.7	590.7	590.7	590.7	590.7	590.7	590.7	590.7

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