

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: P331767-830

Luminaire Tested: **S122RDIW-S290D435U830-4F0-1E-UDD-F**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331767-830  
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-S290D435U830-4F0-1E-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: 2606.0 lumens  
Efficiency: N/A  
Efficacy: 113.3 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

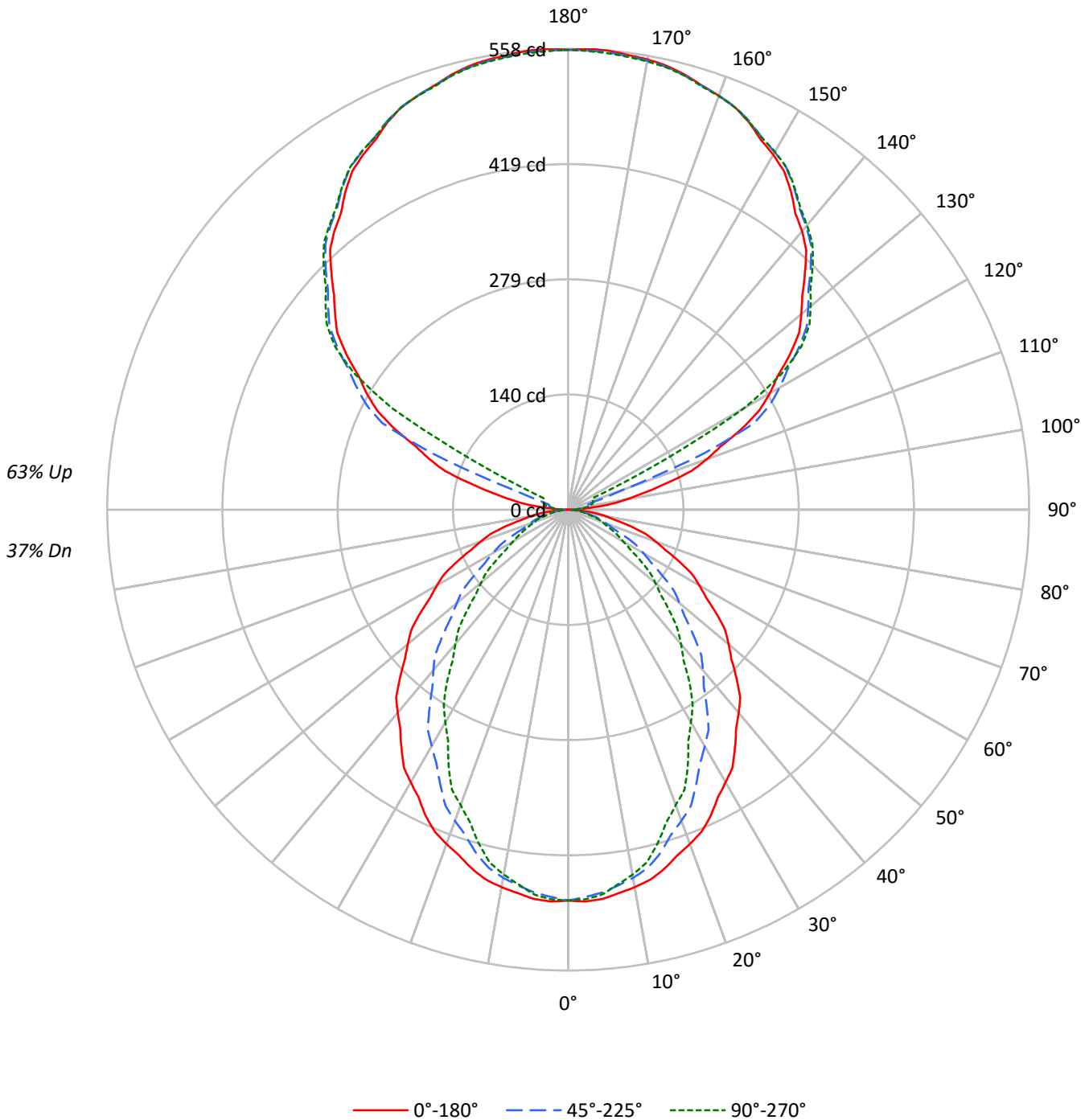
Input Watts (W): 23  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	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°	7640	7640	7640
5°	7669	7543	7585
10°	7609	7420	7356
15°	7522	7199	6992
20°	7400	6887	6541
25°	7277	6531	6102
30°	7105	6162	5541
35°	6936	5765	5048
40°	6768	5351	4477
45°	6572	4889	3959
50°	6365	4421	3451
55°	6159	3916	2967
60°	5916	3387	2464
65°	5643	2846	2239
70°	5316	2346	2058
75°	4916	2133	1921
80°	4342	1906	1757
85°	3409	1501	1501



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	44.3	1.7
10°-20°	121.6	4.7
20°-30°	170.8	6.6
30°-40°	186.2	7.1
40°-50°	171.2	6.6
50°-60°	134.5	5.2
60°-70°	87.7	3.4
70°-80°	45.2	1.7
80°-90°	13.1	0.5
90°-100°	18.6	0.7
100°-110°	68.1	2.6
110°-120°	182.0	7.0
120°-130°	300.5	11.5
130°-140°	319.6	12.3
140°-150°	297.0	11.4
150°-160°	238.8	9.2
160°-170°	153.9	5.9
170°-180°	53.0	2.0
0°-30°	336.6	12.9
0°-40°	522.8	20.1
0°-60°	828.5	31.8
0°-90°	974.5	37.4
90°-120°	268.7	10.3
90°-150°	1185.9	45.5
90°-180°	1632.0	62.6
0°-180°	2606.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	473	473	473	473	473	
5°	473	471	465	469	468	45
15°	450	445	431	423	418	127
25°	408	394	367	350	342	188
35°	352	329	292	266	256	220
45°	288	258	214	185	173	222
55°	219	185	139	114	105	195
65°	148	113	74	61	59	146
75°	79	50	34	31	31	83
85°	18	10	8	8	8	22
90°	0	5	8	10	11	2
95°	26	14	16	18	17	32
105°	122	128	25	29	31	131
115°	232	239	248	71	33	228
125°	328	333	340	343	344	292
135°	405	412	415	419	419	313
145°	470	470	476	479	477	294
155°	518	514	519	521	518	238
165°	545	543	544	547	544	154
175°	558	555	556	558	555	53
180°	557	557	557	557	557	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	473.2	473.2	473.2	473.2	473.2	473.2	473.2	473.2	473.2	473.2	473.2
2.5°	474.9	474.5	474.1	473.7	473.3	472.7	471.8	471.1	470.2	469.4	470.1
5°	473.2	472.7	472.2	471.7	471.3	470.3	469.1	467.9	466.7	465.4	466.3
7.5°	468.3	467.7	467.0	466.5	465.9	464.9	463.4	461.9	460.5	459.1	459.3
10°	464.1	463.4	462.8	462.1	461.5	460.1	458.3	456.4	454.5	452.6	452.3
12.5°	459.0	458.2	457.3	456.6	455.7	454.1	451.7	449.2	446.8	444.3	443.8
15°	450.0	448.9	447.9	446.9	445.8	443.7	440.5	437.2	433.9	430.7	429.0
17.5°	438.9	437.3	435.7	434.1	432.5	429.7	425.6	421.4	417.3	413.1	410.9
20°	430.7	428.9	427.0	425.0	423.1	419.8	415.0	410.3	405.6	400.8	398.4
22.5°	421.9	419.7	417.5	415.5	413.3	409.5	404.2	398.8	393.5	388.1	385.0
25°	408.5	405.4	402.4	399.4	396.3	391.6	385.3	379.1	372.8	366.6	362.6
27.5°	392.4	389.1	385.8	382.5	379.1	373.9	366.8	359.8	352.7	345.6	341.1
30°	381.1	377.5	373.8	370.2	366.6	361.0	353.4	345.8	338.2	330.5	325.7
32.5°	370.1	365.9	361.7	357.4	353.2	347.2	339.5	331.7	324.0	316.1	310.7
35°	351.9	347.1	342.2	337.4	332.5	325.9	317.5	309.2	300.9	292.5	286.4
37.5°	333.8	328.5	323.1	317.8	312.5	305.4	296.4	287.5	278.6	269.7	263.1
40°	321.1	315.5	309.7	304.0	298.3	290.9	281.6	272.4	263.2	253.9	247.1
42.5°	308.1	302.1	296.1	290.1	284.1	276.3	266.7	257.2	247.7	238.2	231.2
45°	287.8	281.3	274.9	268.6	262.2	254.0	244.0	234.0	224.0	214.1	207.4
47.5°	267.9	261.1	254.4	247.6	240.8	232.3	222.0	211.7	201.3	191.1	184.4
50°	253.4	246.8	240.0	233.2	226.5	217.8	207.4	196.9	186.4	176.0	169.4
52.5°	239.4	232.3	225.4	218.3	211.2	202.6	192.3	182.1	171.8	161.6	155.2
55°	218.8	211.4	204.0	196.5	189.1	180.3	169.9	159.7	149.4	139.1	133.5
57.5°	197.7	190.0	182.4	174.8	167.2	158.4	148.5	138.7	128.8	118.9	113.7
60°	183.2	175.7	168.1	160.4	152.8	144.1	134.3	124.5	114.7	104.9	100.0
62.5°	169.2	161.6	154.0	146.4	138.7	130.3	120.9	111.6	102.3	92.9	88.3
65°	147.7	140.0	132.3	124.6	116.9	108.8	100.2	91.6	83.0	74.5	71.3
67.5°	127.0	119.3	111.7	104.1	96.4	88.7	81.0	73.3	65.6	57.9	56.4
70°	112.6	105.2	97.7	90.4	82.9	76.0	69.4	62.8	56.3	49.7	48.7
72.5°	98.9	91.8	84.6	77.6	70.4	64.3	59.0	53.7	48.4	43.2	42.3
75°	78.8	72.1	65.5	58.8	52.1	47.2	43.9	40.7	37.5	34.2	33.6
77.5°	59.0	53.2	47.3	41.5	35.6	32.0	30.3	28.8	27.2	25.7	25.4
80°	46.7	41.8	36.9	32.1	27.2	24.3	23.4	22.4	21.5	20.5	20.2
82.5°	35.3	31.6	27.8	24.0	20.3	18.0	17.3	16.7	16.0	15.5	15.2
85°	18.4	16.4	14.4	12.4	10.5	9.2	9.0	8.7	8.4	8.1	8.1
87.5°	5.6	5.2	4.7	4.3	4.0	3.8	4.0	4.1	4.2	4.3	4.3
90°	0.4	1.4	2.4	3.4	4.3	5.2	5.9	6.6	7.4	8.0	8.5
92.5°	8.1	8.0	7.9	7.8	7.8	7.9	8.3	8.7	9.0	9.3	9.6
95°	26.2	23.2	20.3	17.3	14.3	13.2	13.9	14.4	15.1	15.7	16.1
97.5°	51.9	43.6	35.3	27.0	18.7	15.3	16.7	18.1	19.6	21.0	21.4
100°	71.4	59.0	46.8	34.5	22.2	16.9	18.4	19.9	21.4	23.0	23.7
102.5°	92.6	90.0	87.4	84.8	82.2	74.6	61.8	49.1	36.4	23.6	24.5
105°	122.4	125.2	127.8	130.5	133.2	122.3	97.9	73.4	49.0	24.6	25.5
107.5°	156.6	158.7	160.9	163.1	165.2	151.7	122.3	93.0	63.7	34.4	33.4
110°	178.4	180.3	182.2	184.1	186.0	174.0	148.1	122.2	96.3	70.5	61.5



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	199.1	200.8	202.5	204.1	205.8	203.4	197.0	190.6	184.2	177.9	145.2
115°	231.7	233.2	234.7	236.2	237.7	239.6	241.9	244.1	246.3	248.5	207.1
117.5°	260.7	262.4	264.1	265.8	267.5	269.2	270.7	272.2	273.8	275.3	265.3
120°	282.0	283.3	284.6	286.1	287.4	288.9	290.5	292.1	293.7	295.3	296.3
122.5°	300.0	301.4	302.8	304.3	305.7	307.3	309.1	310.8	312.5	314.3	315.0
125°	327.5	328.7	329.9	331.0	332.2	333.6	335.4	337.1	338.7	340.4	341.0
127.5°	352.4	353.7	355.0	356.3	357.6	358.8	360.1	361.4	362.7	363.9	364.9
130°	368.3	369.7	371.1	372.5	373.9	375.1	376.2	377.1	378.1	379.1	380.0
132.5°	384.4	385.5	386.7	388.0	389.2	390.3	391.2	392.3	393.2	394.3	395.1
135°	405.3	406.7	408.1	409.5	411.0	412.1	412.9	413.8	414.5	415.4	416.2
137.5°	426.5	427.4	428.5	429.5	430.5	431.4	432.3	433.3	434.1	435.1	435.9
140°	440.4	441.0	441.8	442.4	443.2	444.0	445.1	446.0	447.0	448.0	448.7
142.5°	451.9	452.6	453.2	453.8	454.5	455.4	456.5	457.6	458.7	459.9	460.6
145°	470.1	470.0	470.0	469.9	469.8	470.5	472.0	473.5	475.0	476.5	477.2
147.5°	486.0	485.7	485.3	485.0	484.7	485.2	486.7	488.2	489.7	491.3	491.7
150°	496.3	495.7	495.0	494.5	493.8	494.2	495.7	497.1	498.5	499.9	500.5
152.5°	505.0	504.4	503.6	502.9	502.2	502.6	503.9	505.3	506.6	508.0	508.5
155°	517.6	516.9	516.0	515.3	514.4	514.6	515.7	516.7	517.8	518.9	519.4
157.5°	527.5	526.9	526.2	525.6	524.9	524.9	525.7	526.4	527.2	527.9	528.5
160°	533.4	532.8	532.3	531.8	531.2	531.2	531.8	532.3	532.8	533.4	534.0
162.5°	538.6	538.0	537.4	537.0	536.4	536.4	536.8	537.2	537.7	538.2	538.9
165°	545.4	545.0	544.4	543.8	543.3	543.2	543.5	543.8	544.0	544.2	544.9
167.5°	550.6	550.1	549.6	549.0	548.5	548.4	548.6	548.8	549.1	549.3	550.0
170°	553.6	553.0	552.4	552.0	551.4	551.2	551.4	551.6	551.8	552.0	552.5
172.5°	555.4	555.0	554.4	553.8	553.3	553.2	553.3	553.5	553.6	553.8	554.5
175°	558.0	557.3	556.7	556.1	555.4	555.3	555.4	555.6	555.7	555.9	556.6
177.5°	558.4	557.9	557.3	556.9	556.4	556.1	556.2	556.3	556.4	556.4	556.9
180°	556.8	556.8	556.8	556.8	556.8	556.8	556.8	556.8	556.8	556.8	556.8



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	473.2	473.2	473.2	473.2	473.2	473.2	473.2	473.2
2.5°	470.9	471.6	472.4	472.7	472.6	472.4	472.2	472.1
5°	467.1	468.0	468.8	469.1	468.8	468.5	468.3	468.0
7.5°	459.6	459.9	460.1	460.0	459.5	458.9	458.5	458.0
10°	452.0	451.8	451.5	451.0	450.4	449.9	449.3	448.7
12.5°	443.4	442.8	442.3	441.6	440.6	439.7	438.8	437.8
15°	427.2	425.3	423.5	422.2	421.2	420.2	419.2	418.3
17.5°	408.8	406.6	404.5	402.7	401.0	399.4	397.7	396.1
20°	396.1	393.6	391.2	389.0	386.9	384.8	382.8	380.7
22.5°	382.0	378.9	375.9	373.5	371.9	370.4	368.8	367.3
25°	358.7	354.8	350.9	348.3	346.9	345.3	343.9	342.5
27.5°	336.5	332.0	327.4	324.0	321.8	319.5	317.3	315.0
30°	320.8	316.0	311.1	307.5	304.8	302.3	299.7	297.2
32.5°	305.1	299.5	294.0	290.0	287.7	285.2	282.8	280.4
35°	280.5	274.5	268.4	264.4	262.3	260.2	258.2	256.1
37.5°	256.5	249.9	243.3	238.7	236.4	233.9	231.6	229.1
40°	240.4	233.7	226.9	222.3	219.8	217.4	214.8	212.4
42.5°	224.1	217.2	210.2	205.6	203.1	200.8	198.3	196.0
45°	200.6	193.8	187.1	182.6	180.3	178.0	175.7	173.4
47.5°	177.6	170.9	164.2	159.8	157.7	155.6	153.5	151.5
50°	162.9	156.3	149.7	145.4	143.5	141.5	139.4	137.4
52.5°	148.9	142.6	136.3	132.1	130.4	128.5	126.6	124.8
55°	127.7	122.1	116.3	112.5	110.7	109.0	107.2	105.4
57.5°	108.5	103.2	98.0	94.6	93.1	91.6	90.1	88.5
60°	95.2	90.4	85.5	82.3	80.8	79.3	77.8	76.3
62.5°	83.7	79.1	74.5	71.6	70.7	69.8	68.9	68.0
65°	68.1	64.8	61.5	59.8	59.5	59.2	58.9	58.6
67.5°	55.0	53.4	51.9	51.1	50.7	50.4	50.1	49.9
70°	47.8	46.8	45.9	45.2	44.8	44.4	44.0	43.6
72.5°	41.6	40.7	40.0	39.5	39.2	39.0	38.7	38.5
75°	32.9	32.2	31.6	31.2	31.1	31.0	30.9	30.8
77.5°	24.9	24.5	24.1	23.9	23.8	23.6	23.5	23.3
80°	19.8	19.4	19.0	18.9	18.9	18.9	18.9	18.9
82.5°	15.0	14.7	14.5	14.4	14.4	14.4	14.4	14.4
85°	8.1	8.1	8.1	8.1	8.1	8.1	8.1	8.1
87.5°	4.3	4.4	4.4	4.4	4.4	4.5	4.5	4.6
90°	9.0	9.4	9.8	10.2	10.4	10.6	10.7	10.8
92.5°	9.8	10.1	10.3	10.5	10.6	10.7	10.7	10.8
95°	16.6	17.1	17.5	17.7	17.6	17.5	17.4	17.3
97.5°	21.8	22.1	22.4	22.7	22.8	22.9	23.0	23.1
100°	24.4	25.1	25.8	26.3	26.5	26.7	26.8	27.0
102.5°	25.4	26.4	27.3	27.9	28.2	28.5	28.7	28.9
105°	26.6	27.5	28.6	29.2	29.5	29.9	30.3	30.6
107.5°	32.4	31.4	30.3	30.1	30.4	30.8	31.1	31.5
110°	52.6	43.6	34.7	30.3	30.7	31.1	31.5	31.9





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	112.5	79.8	47.2	31.0	31.3	31.6	31.9	32.1
115°	165.7	124.2	82.8	58.8	52.4	45.9	39.5	33.0
117.5°	255.2	245.2	235.2	219.6	198.4	177.2	156.1	134.9
120°	297.5	298.5	299.6	294.1	282.0	269.9	257.8	245.7
122.5°	315.6	316.2	316.9	316.0	313.7	311.3	309.0	306.6
125°	341.7	342.3	342.9	343.4	343.7	343.9	344.2	344.4
127.5°	365.8	366.6	367.6	368.1	368.2	368.2	368.3	368.3
130°	381.1	382.0	383.0	383.5	383.4	383.3	383.2	383.1
132.5°	396.0	396.7	397.6	397.9	397.8	397.8	397.8	397.7
135°	417.2	418.0	419.0	419.2	419.1	419.0	418.8	418.6
137.5°	436.9	437.7	438.6	438.8	438.6	438.3	438.0	437.6
140°	449.6	450.4	451.2	451.4	450.9	450.4	450.1	449.6
142.5°	461.4	462.1	462.9	463.0	462.5	462.1	461.7	461.2
145°	477.9	478.4	479.1	479.2	478.7	478.2	477.9	477.4
147.5°	492.2	492.7	493.1	493.1	492.8	492.4	492.0	491.6
150°	501.1	501.5	502.1	502.2	501.7	501.2	500.8	500.4
152.5°	509.1	509.6	510.2	510.1	509.5	509.0	508.3	507.7
155°	520.0	520.5	521.0	520.9	520.2	519.5	518.8	518.1
157.5°	529.1	529.7	530.4	530.3	529.6	528.9	528.2	527.5
160°	534.4	535.0	535.6	535.5	534.9	534.2	533.6	533.0
162.5°	539.4	540.1	540.6	540.5	539.8	539.0	538.3	537.5
165°	545.5	546.1	546.8	546.8	546.1	545.5	544.9	544.2
167.5°	550.6	551.2	551.9	551.8	550.9	550.2	549.3	548.6
170°	553.2	553.8	554.4	554.3	553.6	552.7	552.0	551.1
172.5°	555.1	555.7	556.4	556.3	555.4	554.7	553.8	553.1
175°	557.2	557.8	558.5	558.4	557.4	556.6	555.6	554.8
177.5°	557.4	557.9	558.5	558.4	557.7	557.0	556.4	555.8
180°	556.8	556.8	556.8	556.8	556.8	556.8	556.8	556.8

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