

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: P331771

Luminaire Tested: **S122RDIW-S290D710U835-4F0-1E-UDD-F**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P331771  
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-S290D710U835-4F0-1E-UDD-F  
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE  
DOWNLIGHT 290 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED  
HOUSING  
UPLIGHT 710 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3870.0 lumens  
Efficiency: N/A  
Efficacy: 127.3 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

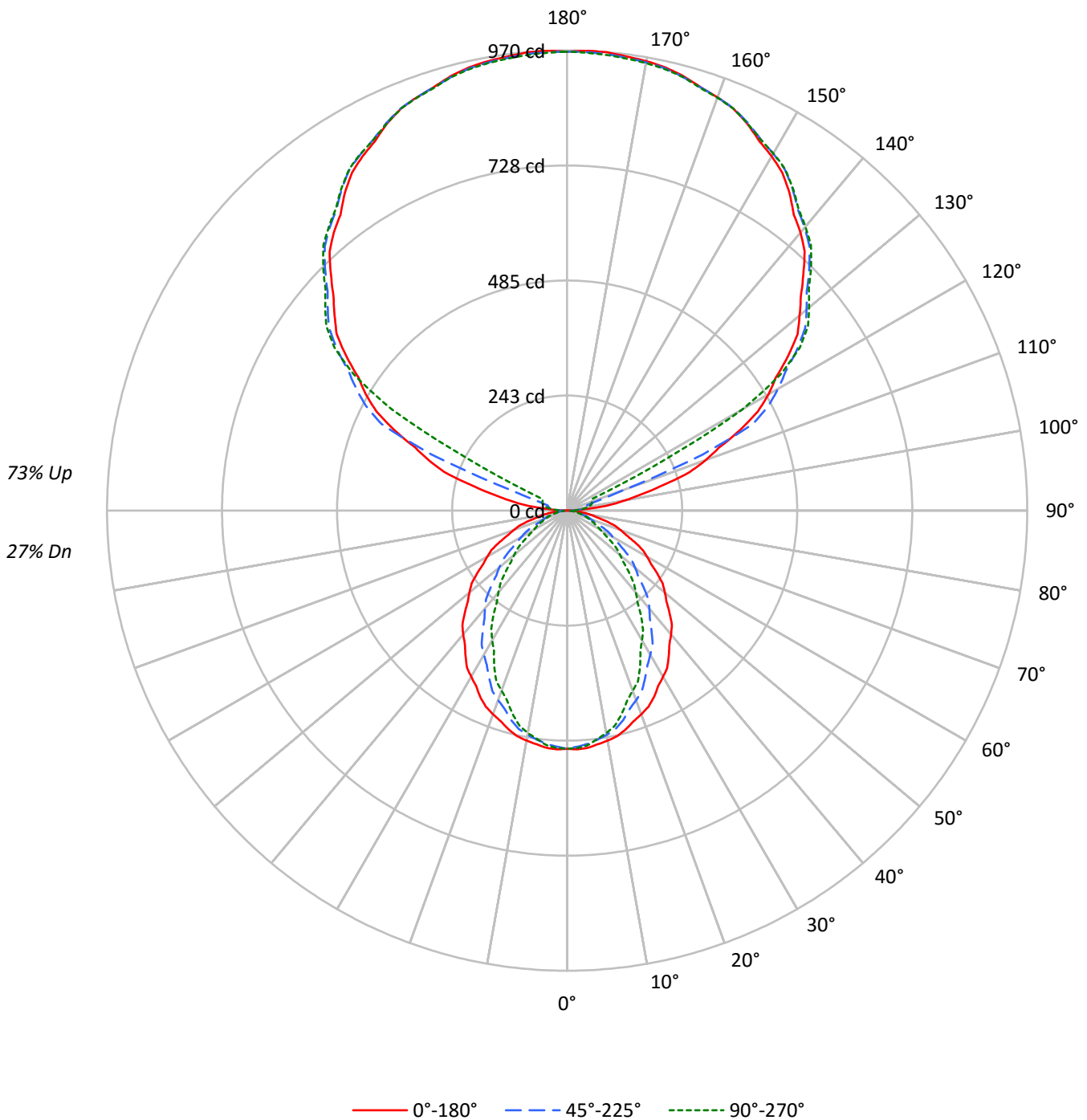
Input Watts (W): 30.4  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	102	102	102	102	91	91	91	91	70	70	70	52	52	52	35	35	35	27
1	93	89	85	82	83	79	76	74	62	60	58	46	45	43	31	30	30	23
2	85	78	72	67	75	70	65	61	55	51	48	41	38	37	28	26	25	20
3	77	68	62	56	69	61	56	51	48	44	41	36	33	31	25	23	22	17
4	71	61	53	48	63	55	48	43	43	39	35	32	29	27	22	20	19	15
5	65	54	46	41	58	49	42	37	38	34	30	29	26	23	20	18	17	13
6	60	48	41	35	53	44	37	32	35	30	26	26	23	21	18	16	15	12
7	55	44	36	31	49	39	33	28	31	27	23	24	21	18	17	15	13	10
8	51	40	32	27	46	36	29	25	29	24	21	22	19	16	15	13	12	9
9	48	36	29	24	43	33	26	22	26	22	18	20	17	15	14	12	11	8
10	44	33	26	21	40	30	24	20	24	20	16	18	15	13	13	11	10	8

**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	1.2
10°-20°	129.0	3.3
20°-30°	181.2	4.7
30°-40°	197.6	5.1
40°-50°	181.6	4.7
50°-60°	142.7	3.7
60°-70°	93.0	2.4
70°-80°	48.0	1.2
80°-90°	14.8	0.4
90°-100°	32.3	0.8
100°-110°	118.3	3.1
110°-120°	316.3	8.2
120°-130°	522.2	13.5
130°-140°	555.4	14.4
140°-150°	516.2	13.3
150°-160°	415.0	10.7
160°-170°	267.4	6.9
170°-180°	92.1	2.4
0°-30°	357.2	9.2
0°-40°	554.7	14.3
0°-60°	879.0	22.7
0°-90°	1034.8	26.7
90°-120°	467.0	12.1
90°-150°	2060.7	53.2
90°-180°	2835.0	73.3
0°-180°	3870.0	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°	1	8	14	17	19	3
95°	46	24	27	31	30	56
105°	213	222	43	50	53	227
115°	402	415	432	123	57	396
125°	569	578	592	596	598	507
135°	704	715	722	728	727	544
145°	817	817	828	833	830	511
155°	900	894	902	905	900	414
165°	948	944	946	950	946	268
175°	970	965	966	970	964	92
180°	968	968	968	968	968	



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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°	6.0	5.7	5.3	5.0	4.7	4.7	5.0	5.2	5.5	5.7	5.8
90°	0.7	2.4	4.1	5.8	7.5	9.0	10.3	11.5	12.8	14.0	14.8
92.5°	14.1	14.0	13.8	13.7	13.5	13.8	14.4	15.0	15.6	16.2	16.6
95°	45.5	40.4	35.2	30.1	25.0	22.9	24.0	25.1	26.2	27.3	28.1
97.5°	90.3	75.8	61.4	46.9	32.4	26.5	29.0	31.5	34.0	36.5	37.2
100°	123.9	102.6	81.3	60.0	38.7	29.3	32.0	34.6	37.3	39.9	41.1
102.5°	160.9	156.4	151.8	147.3	142.8	129.5	107.4	85.3	63.1	41.0	42.6
105°	212.8	217.5	222.2	226.8	231.5	212.6	170.1	127.6	85.2	42.7	44.4
107.5°	272.0	275.8	279.6	283.3	287.1	263.5	212.6	161.7	110.7	59.8	58.0
110°	310.1	313.4	316.7	319.9	323.2	302.3	257.4	212.4	167.5	122.5	107.0



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	346.0	348.9	351.8	354.6	357.5	353.4	342.3	331.2	320.1	309.0	252.3
115°	402.5	405.2	407.8	410.5	413.1	416.4	420.3	424.2	428.0	431.9	359.9
117.5°	453.1	456.0	459.0	461.9	464.9	467.7	470.4	473.1	475.7	478.4	461.0
120°	490.0	492.4	494.7	497.0	499.4	501.9	504.7	507.5	510.3	513.1	515.0
122.5°	521.4	523.9	526.3	528.8	531.2	534.0	537.0	540.1	543.1	546.2	547.3
125°	569.1	571.2	573.2	575.2	577.2	579.7	582.7	585.6	588.6	591.5	592.6
127.5°	612.4	614.6	616.9	619.1	621.4	623.6	625.8	628.0	630.2	632.4	634.0
130°	639.8	642.3	644.8	647.3	649.8	651.9	653.6	655.3	657.0	658.8	660.5
132.5°	667.9	670.0	672.1	674.2	676.3	678.2	679.9	681.6	683.4	685.1	686.5
135°	704.3	706.7	709.2	711.7	714.2	716.2	717.6	719.0	720.4	721.8	723.3
137.5°	741.1	742.8	744.6	746.3	748.0	749.7	751.3	752.9	754.5	756.1	757.6
140°	765.2	766.4	767.6	768.9	770.1	771.6	773.3	775.0	776.7	778.5	779.9
142.5°	785.3	786.4	787.6	788.7	789.8	791.3	793.3	795.3	797.2	799.2	800.5
145°	817.0	816.8	816.7	816.5	816.3	817.6	820.2	822.9	825.5	828.2	829.3
147.5°	844.5	844.0	843.4	842.8	842.2	843.2	845.8	848.4	851.0	853.6	854.5
150°	862.5	861.4	860.3	859.2	858.1	858.8	861.3	863.8	866.3	868.8	869.7
152.5°	877.6	876.4	875.2	873.9	872.7	873.3	875.7	878.0	880.4	882.8	883.7
155°	899.6	898.2	896.8	895.4	894.0	894.2	896.1	897.9	899.8	901.7	902.6
157.5°	916.8	915.6	914.4	913.2	912.1	912.1	913.4	914.7	916.0	917.3	918.4
160°	926.9	925.9	925.0	924.1	923.1	923.1	924.1	925.0	925.9	926.9	927.8
162.5°	935.8	934.9	934.0	933.0	932.1	932.0	932.8	933.7	934.5	935.3	936.3
165°	947.9	946.9	946.0	945.1	944.1	943.9	944.4	944.8	945.3	945.8	946.9
167.5°	956.8	955.9	955.0	954.0	953.1	952.9	953.3	953.7	954.2	954.6	955.7
170°	961.9	960.9	960.0	959.1	958.1	957.8	958.1	958.5	958.8	959.1	960.2
172.5°	965.2	964.3	963.4	962.4	961.5	961.2	961.5	961.8	962.1	962.4	963.5
175°	969.6	968.5	967.4	966.3	965.2	964.8	965.1	965.5	965.8	966.1	967.2
177.5°	970.3	969.4	968.5	967.7	966.8	966.4	966.5	966.7	966.8	966.9	967.8
180°	967.5	967.5	967.5	967.5	967.5	967.5	967.5	967.5	967.5	967.5	967.5



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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°	5.9	5.9	6.0	6.1	6.1	6.2	6.3	6.3
90°	15.6	16.3	17.1	17.7	18.0	18.3	18.6	18.9
92.5°	17.1	17.5	17.9	18.2	18.3	18.5	18.7	18.9
95°	28.9	29.6	30.4	30.7	30.6	30.4	30.3	30.1
97.5°	37.8	38.4	39.0	39.4	39.6	39.8	40.0	40.2
100°	42.4	43.6	44.9	45.7	46.0	46.3	46.6	46.9
102.5°	44.3	45.9	47.5	48.5	49.0	49.4	49.8	50.3
105°	46.1	47.8	49.5	50.7	51.3	52.0	52.6	53.2
107.5°	56.3	54.6	52.8	52.3	52.9	53.5	54.1	54.7
110°	91.4	75.8	60.3	52.8	53.4	54.1	54.7	55.3





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	195.5	138.8	82.0	53.9	54.4	54.9	55.4	55.9
115°	287.9	215.8	143.8	102.2	91.0	79.8	68.6	57.4
117.5°	443.6	426.1	408.7	381.6	344.8	308.0	271.2	234.4
120°	516.9	518.7	520.6	511.0	490.0	469.0	448.0	427.0
122.5°	548.4	549.5	550.7	549.2	545.1	541.0	537.0	532.9
125°	593.7	594.8	595.9	596.7	597.1	597.6	598.1	598.5
127.5°	635.6	637.2	638.8	639.6	639.7	639.8	639.9	640.0
130°	662.2	663.9	665.6	666.4	666.2	666.1	665.9	665.8
132.5°	688.0	689.5	690.9	691.6	691.4	691.3	691.1	691.0
135°	724.9	726.4	728.0	728.6	728.3	728.0	727.7	727.4
137.5°	759.1	760.6	762.2	762.7	762.1	761.6	761.1	760.5
140°	781.3	782.7	784.1	784.4	783.6	782.8	782.0	781.3
142.5°	801.7	803.0	804.3	804.5	803.8	803.0	802.2	801.4
145°	830.3	831.4	832.5	832.7	831.9	831.1	830.3	829.6
147.5°	855.3	856.1	856.9	857.0	856.3	855.7	855.0	854.3
150°	870.6	871.6	872.5	872.6	871.8	871.0	870.2	869.5
152.5°	884.6	885.6	886.5	886.5	885.4	884.4	883.4	882.3
155°	903.5	904.5	905.4	905.2	904.0	902.8	901.5	900.3
157.5°	919.5	920.5	921.6	921.5	920.3	919.1	917.9	916.6
160°	928.7	929.7	930.6	930.5	929.4	928.3	927.3	926.2
162.5°	937.4	938.4	939.5	939.4	938.0	936.7	935.3	934.0
165°	948.0	949.0	950.1	950.1	949.0	948.0	946.9	945.8
167.5°	956.8	957.9	958.9	958.8	957.4	956.0	954.6	953.2
170°	961.3	962.3	963.4	963.3	961.9	960.5	959.1	957.7
172.5°	964.6	965.7	966.8	966.6	965.2	963.8	962.4	961.0
175°	968.3	969.3	970.4	970.2	968.6	967.1	965.5	964.0
177.5°	968.7	969.5	970.4	970.3	969.2	968.0	966.9	965.8
180°	967.5	967.5	967.5	967.5	967.5	967.5	967.5	967.5

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