

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: P331264-935

Luminaire Tested: **SA2XXDIP-C290D725U935-4F0-1E-UDD-F**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P331264-935  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-2,  
Test Lab: INNOVATION CENTER  
Issue Date: 10/7/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: SA2XXDIP-C290D725U935-4F0-1E-UDD-F  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 290 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 725 LUMENS PER FOOT, NO LENS  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

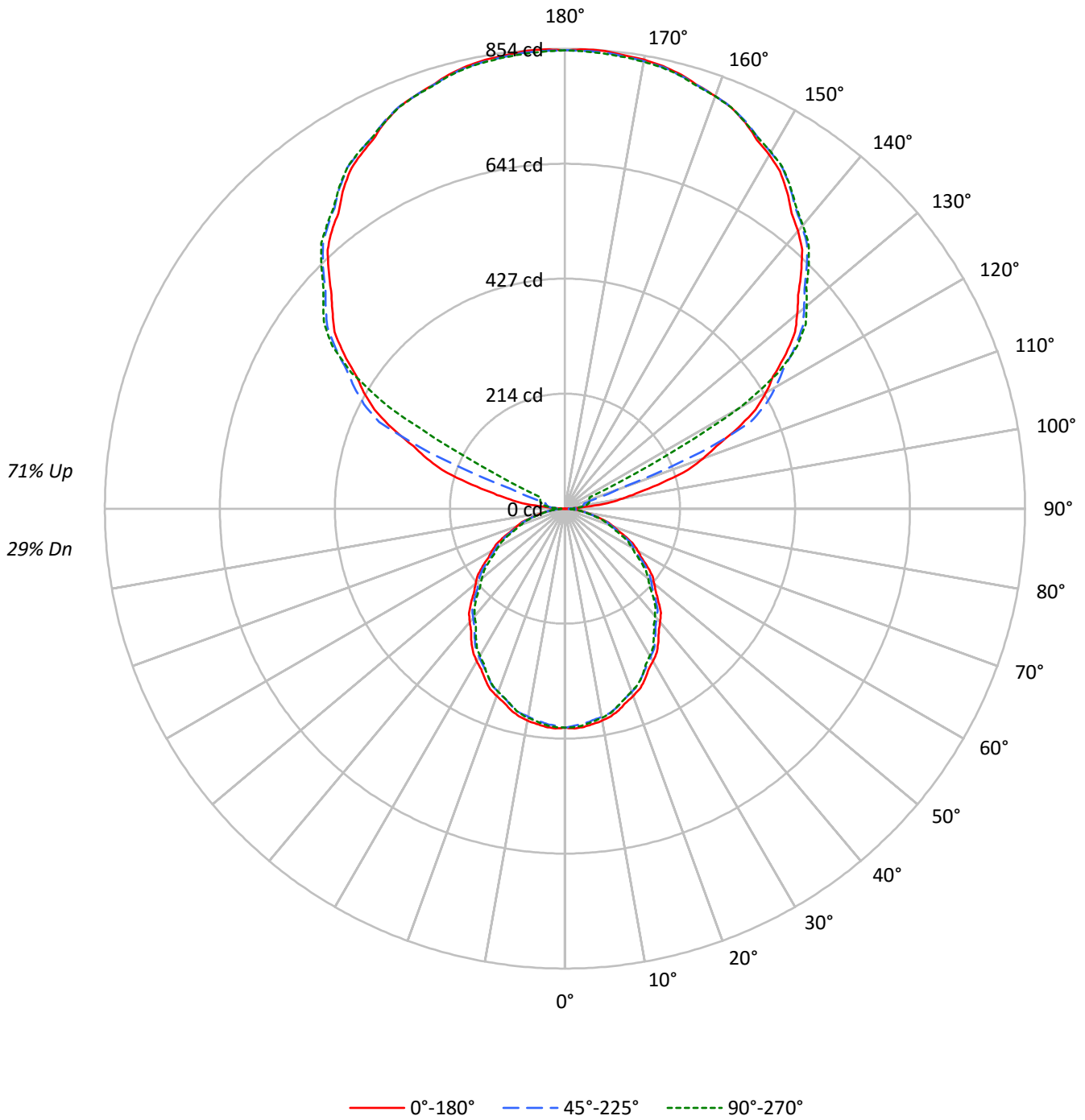
Lumens per Lamp: N/A  
Luminaire Lumens: 3531.4 lumens  
Efficiency: N/A  
Efficacy: 113.2 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.3  
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')  
CIE Type: Semi-Indirect

Input Watts (W): 31.2  
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	0
RCR																		
0	102	102	102	102	92	92	92	92	72	72	72	54	54	54	37	37	37	29
1	93	89	85	82	83	80	77	74	63	61	59	47	46	45	33	32	31	25
2	85	78	72	67	76	70	65	61	55	52	49	41	39	37	29	28	26	21
3	77	68	61	55	69	61	55	51	48	44	41	37	34	31	26	24	22	18
4	71	60	53	47	63	54	48	43	43	38	35	33	29	27	23	21	19	15
5	65	54	46	40	58	48	42	36	38	34	30	29	26	23	21	18	17	13
6	60	48	40	34	53	43	36	32	34	30	26	26	23	20	19	16	15	11
7	55	43	35	30	49	39	32	28	31	26	23	24	20	18	17	15	13	10
8	51	39	32	26	45	35	29	24	28	23	20	22	18	16	16	13	12	9
9	47	35	28	23	42	32	26	21	26	21	18	20	17	14	14	12	11	8
10	44	32	25	21	39	29	23	19	24	19	16	18	15	13	13	11	10	7

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

	0°	45°	90°
0°	6567	6567	6567
5°	6592	6498	6536
10°	6555	6432	6465
15°	6472	6349	6342
20°	6357	6223	6216
25°	6242	6070	6070
30°	6096	5929	5876
35°	5960	5757	5673
40°	5788	5590	5482
45°	5617	5421	5286
50°	5433	5247	5061
55°	5239	5044	4856
60°	5028	4799	4624
65°	4795	4558	4348
70°	4504	4263	4060
75°	4099	3924	3830
80°	3636	3533	3347
85°	2964	2816	2538



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	38.3	1.1
10°-20°	107.6	3.0
20°-30°	158.2	4.5
30°-40°	183.8	5.2
40°-50°	183.6	5.2
50°-60°	160.1	4.5
60°-70°	118.4	3.4
70°-80°	67.0	1.9
80°-90°	20.1	0.6
90°-100°	28.4	0.8
100°-110°	104.1	2.9
110°-120°	278.3	7.9
120°-130°	459.4	13.0
130°-140°	488.6	13.8
140°-150°	454.1	12.9
150°-160°	365.1	10.3
160°-170°	235.3	6.7
170°-180°	81.0	2.3
0°-30°	304.1	8.6
0°-40°	487.8	13.8
0°-60°	831.5	23.5
0°-90°	1037.0	29.4
90°-120°	410.8	11.6
90°-150°	1813.0	51.3
90°-180°	2494.0	70.6
0°-180°	3531.4	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	407	407	407	407	407	
5°	407	405	401	404	403	39
15°	387	385	380	381	379	109
25°	350	347	341	341	341	161
35°	302	298	292	290	288	189
45°	246	243	237	233	232	190
55°	186	184	179	175	172	166
65°	126	123	119	116	114	124
75°	66	65	63	61	61	70
85°	16	16	15	14	14	18
90°	1	7	12	15	17	3
95°	40	21	24	27	26	49
105°	187	195	38	44	47	200
115°	354	365	380	108	50	349
125°	501	509	520	525	527	446
135°	620	629	635	641	640	478
145°	719	719	729	732	730	449
155°	791	787	793	796	792	365
165°	834	830	832	836	832	236
175°	853	849	850	854	848	81
180°	851	851	851	851	851	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	406.7	406.7	406.7	406.7	406.7	406.7	406.7	406.7	406.7	406.7	406.7
2.5°	408.6	408.3	407.9	407.6	407.3	406.7	406.0	405.2	404.4	403.6	404.3
5°	406.7	406.4	406.0	405.7	405.4	404.8	403.8	402.9	401.8	400.9	401.6
7.5°	403.2	402.6	402.1	401.6	401.1	400.3	399.3	398.3	397.4	396.4	397.1
10°	399.8	399.2	398.6	398.0	397.3	396.5	395.5	394.4	393.4	392.3	393.0
12.5°	395.0	394.5	394.0	393.4	392.9	392.1	391.1	390.0	389.0	388.0	388.4
15°	387.2	386.7	386.2	385.6	385.1	384.4	383.1	382.0	380.9	379.8	380.1
17.5°	377.2	376.7	376.2	375.7	375.1	374.3	373.2	372.0	370.8	369.7	370.1
20°	370.0	369.5	368.9	368.4	367.9	367.0	365.8	364.6	363.4	362.2	362.5
22.5°	362.8	362.1	361.4	360.6	359.9	359.0	357.8	356.6	355.5	354.4	354.4
25°	350.4	349.7	349.0	348.4	347.7	346.6	345.1	343.6	342.2	340.7	340.9
27.5°	336.4	335.8	335.1	334.5	333.9	332.9	331.8	330.6	329.5	328.3	328.0
30°	327.0	326.3	325.6	324.9	324.2	323.2	321.9	320.6	319.3	318.0	317.7
32.5°	316.9	316.4	315.9	315.3	314.8	313.7	312.4	311.1	309.7	308.3	307.8
35°	302.4	301.4	300.6	299.7	298.9	297.7	296.4	295.0	293.6	292.1	291.6
37.5°	285.9	285.1	284.3	283.5	282.8	281.7	280.3	279.0	277.5	276.1	275.5
40°	274.6	273.9	273.2	272.5	271.8	270.8	269.3	267.9	266.6	265.2	264.4
42.5°	263.6	262.9	262.3	261.6	260.9	259.8	258.4	257.0	255.6	254.3	253.4
45°	246.0	245.4	244.8	244.2	243.6	242.6	241.3	240.0	238.8	237.4	236.4
47.5°	228.5	227.9	227.4	226.8	226.2	225.2	223.9	222.6	221.2	219.8	218.8
50°	216.3	215.9	215.4	215.0	214.6	213.7	212.5	211.3	210.1	208.9	207.7
52.5°	204.4	203.8	203.3	202.7	202.1	201.2	200.1	199.0	197.8	196.7	195.6
55°	186.1	185.6	185.1	184.6	184.1	183.3	182.3	181.2	180.2	179.2	178.1
57.5°	167.9	167.5	167.0	166.6	166.2	165.4	164.3	163.2	162.0	160.8	159.8
60°	155.7	155.3	155.0	154.6	154.3	153.5	152.3	151.1	149.8	148.6	147.7
62.5°	143.8	143.2	142.7	142.2	141.5	140.8	139.8	139.0	138.0	137.1	136.1
65°	125.5	125.0	124.5	124.0	123.5	122.8	121.9	121.1	120.2	119.3	118.5
67.5°	107.0	106.6	106.2	105.7	105.4	104.8	103.9	103.1	102.4	101.6	101.0
70°	95.4	95.1	94.7	94.4	94.0	93.5	92.7	92.0	91.1	90.3	89.7
72.5°	83.5	83.2	82.8	82.5	82.1	81.7	81.2	80.8	80.2	79.7	79.1
75°	65.7	65.5	65.3	65.2	65.0	64.7	64.3	63.8	63.4	62.9	62.4
77.5°	49.8	49.4	49.2	48.9	48.6	48.3	48.1	48.0	47.8	47.6	47.4
80°	39.1	39.0	38.9	38.8	38.7	38.7	38.5	38.3	38.1	38.0	37.7
82.5°	29.1	29.1	29.1	29.0	29.0	28.9	28.8	28.8	28.7	28.6	28.2
85°	16.0	15.9	15.8	15.8	15.7	15.6	15.5	15.4	15.3	15.2	15.0
87.5°	5.8	5.9	6.1	6.2	6.4	6.5	6.6	6.7	6.8	6.8	6.8
90°	0.6	2.2	3.6	5.2	6.6	7.9	9.0	10.2	11.2	12.3	13.0
92.5°	12.4	12.3	12.1	12.1	11.9	12.1	12.7	13.2	13.8	14.3	14.6
95°	40.0	35.6	31.0	26.5	22.0	20.1	21.2	22.1	23.1	24.0	24.7
97.5°	79.5	66.7	54.0	41.2	28.5	23.2	25.5	27.7	30.0	32.1	32.7
100°	109.0	90.2	71.5	52.8	34.0	25.8	28.2	30.5	32.8	35.1	36.2
102.5°	141.5	137.6	133.6	129.7	125.6	113.9	94.5	75.0	55.5	36.1	37.5
105°	187.3	191.3	195.4	199.6	203.6	187.0	149.6	112.3	74.9	37.5	39.1
107.5°	239.4	242.6	246.0	249.3	252.6	231.9	187.0	142.2	97.4	52.6	51.1
110°	272.9	275.7	278.6	281.5	284.3	266.0	226.4	186.9	147.3	107.8	94.1



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	304.4	306.9	309.4	312.0	314.5	310.9	301.2	291.4	281.6	271.8	222.0
115°	354.1	356.5	358.8	361.1	363.4	366.4	369.7	373.2	376.6	380.0	316.7
117.5°	398.6	401.2	403.8	406.4	409.0	411.5	413.9	416.2	418.5	420.9	405.6
120°	431.1	433.2	435.2	437.3	439.4	441.6	444.1	446.5	449.0	451.4	453.1
122.5°	458.7	460.9	463.0	465.2	467.4	469.8	472.5	475.2	477.9	480.5	481.5
125°	500.8	502.5	504.3	506.1	507.8	510.1	512.6	515.2	517.8	520.5	521.4
127.5°	538.8	540.8	542.8	544.7	546.6	548.6	550.6	552.5	554.5	556.4	557.8
130°	562.9	565.2	567.3	569.5	571.7	573.5	575.1	576.5	578.1	579.5	581.1
132.5°	587.5	589.4	591.3	593.1	595.0	596.7	598.2	599.7	601.2	602.7	604.0
135°	619.6	621.8	624.0	626.2	628.4	630.1	631.3	632.5	633.8	635.0	636.4
137.5°	652.0	653.5	655.0	656.6	658.1	659.6	661.0	662.4	663.7	665.2	666.5
140°	673.2	674.2	675.4	676.5	677.5	678.9	680.4	681.9	683.4	684.9	686.1
142.5°	691.0	691.9	692.9	693.9	694.8	696.2	697.9	699.6	701.4	703.1	704.2
145°	718.8	718.6	718.5	718.3	718.2	719.3	721.6	723.9	726.3	728.6	729.6
147.5°	743.0	742.5	742.0	741.5	741.0	741.8	744.2	746.4	748.7	751.1	751.7
150°	758.8	757.9	756.9	756.0	754.9	755.6	757.8	759.9	762.2	764.3	765.2
152.5°	772.1	771.0	770.0	768.9	767.8	768.4	770.4	772.5	774.6	776.6	777.5
155°	791.4	790.2	788.9	787.7	786.5	786.7	788.3	790.0	791.6	793.2	794.1
157.5°	806.6	805.6	804.5	803.5	802.5	802.5	803.7	804.8	805.9	807.1	808.0
160°	815.5	814.6	813.8	813.0	812.2	812.2	813.0	813.8	814.6	815.5	816.3
162.5°	823.4	822.5	821.7	820.9	820.0	820.0	820.7	821.4	822.2	822.9	823.8
165°	834.0	833.1	832.3	831.5	830.6	830.4	830.9	831.3	831.6	832.1	833.0
167.5°	841.8	841.0	840.2	839.4	838.5	838.3	838.7	839.0	839.5	839.8	840.8
170°	846.3	845.4	844.6	843.8	843.0	842.7	843.0	843.3	843.5	843.8	844.7
172.5°	849.2	848.3	847.6	846.7	845.9	845.7	845.9	846.2	846.4	846.7	847.7
175°	853.0	852.0	851.1	850.2	849.2	848.9	849.1	849.4	849.6	850.0	850.9
177.5°	853.7	852.9	852.1	851.4	850.6	850.2	850.3	850.5	850.6	850.7	851.4
180°	851.2	851.2	851.2	851.2	851.2	851.2	851.2	851.2	851.2	851.2	851.2



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	406.7	406.7	406.7	406.7	406.7	406.7	406.7	406.7
2.5°	405.0	405.7	406.4	406.7	406.6	406.4	406.3	406.1
5°	402.3	403.0	403.7	404.0	403.8	403.6	403.5	403.3
7.5°	397.8	398.5	399.2	399.4	399.2	399.0	398.8	398.6
10°	393.7	394.4	395.1	395.3	395.0	394.8	394.5	394.3
12.5°	388.9	389.3	389.9	390.0	389.9	389.6	389.4	389.3
15°	380.5	380.8	381.2	381.2	380.7	380.3	379.9	379.4
17.5°	370.5	370.9	371.3	371.3	370.8	370.5	370.1	369.6
20°	362.7	363.0	363.3	363.2	362.8	362.5	362.1	361.8
22.5°	354.5	354.6	354.6	354.5	354.3	354.0	353.9	353.7
25°	341.0	341.2	341.4	341.4	341.2	341.0	340.9	340.7
27.5°	327.8	327.5	327.3	326.9	326.5	326.1	325.7	325.3
30°	317.5	317.2	316.9	316.7	316.3	316.0	315.6	315.2
32.5°	307.4	306.9	306.4	306.0	305.7	305.3	305.0	304.6
35°	291.1	290.6	290.1	289.6	289.2	288.8	288.3	287.8
37.5°	274.8	274.2	273.5	273.0	272.6	272.2	271.8	271.4
40°	263.6	262.9	262.1	261.5	261.1	260.8	260.5	260.1
42.5°	252.5	251.7	250.8	250.1	249.7	249.2	248.7	248.2
45°	235.5	234.5	233.6	232.9	232.6	232.2	231.9	231.5
47.5°	217.8	216.8	215.8	215.0	214.6	214.0	213.5	213.0
50°	206.5	205.2	204.0	203.2	202.8	202.3	201.9	201.5
52.5°	194.7	193.6	192.6	191.8	191.2	190.7	190.1	189.5
55°	177.0	176.0	175.0	174.3	173.8	173.3	172.9	172.5
57.5°	158.8	157.7	156.7	156.0	155.8	155.4	155.1	154.7
60°	146.7	145.8	144.8	144.2	144.0	143.7	143.4	143.2
62.5°	135.3	134.4	133.5	132.9	132.6	132.2	131.9	131.6
65°	117.7	116.9	116.1	115.5	115.1	114.7	114.3	113.8
67.5°	100.4	99.8	99.2	98.7	98.3	98.0	97.6	97.3
70°	89.1	88.5	87.9	87.5	87.1	86.7	86.4	86.0
72.5°	78.5	77.9	77.3	76.8	76.5	76.3	76.0	75.7
75°	61.9	61.4	60.9	60.7	60.9	61.0	61.2	61.4
77.5°	47.1	46.8	46.6	46.3	46.1	45.9	45.6	45.4
80°	37.5	37.2	36.9	36.7	36.5	36.3	36.2	36.0
82.5°	27.9	27.6	27.2	27.0	27.0	26.9	26.9	26.9
85°	14.7	14.5	14.2	14.0	13.9	13.9	13.8	13.7
87.5°	6.7	6.6	6.5	6.5	6.5	6.5	6.5	6.5
90°	13.7	14.4	15.1	15.5	15.8	16.1	16.4	16.6
92.5°	15.0	15.3	15.7	16.0	16.1	16.3	16.4	16.6
95°	25.4	26.1	26.8	27.0	26.9	26.8	26.6	26.5
97.5°	33.2	33.8	34.4	34.7	34.9	35.0	35.2	35.4
100°	37.3	38.4	39.5	40.2	40.5	40.7	41.0	41.2
102.5°	38.9	40.4	41.8	42.7	43.0	43.5	43.8	44.3
105°	40.6	42.1	43.6	44.6	45.2	45.7	46.2	46.8
107.5°	49.5	48.0	46.5	46.0	46.5	47.1	47.6	48.1
110°	80.4	66.7	53.0	46.5	47.0	47.5	48.1	48.6





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	172.0	122.1	72.2	47.4	47.9	48.3	48.7	49.2
115°	253.3	189.9	126.6	89.9	80.1	70.2	60.4	50.5
117.5°	390.3	374.9	359.6	335.7	303.3	271.0	238.6	206.2
120°	454.8	456.4	458.1	449.6	431.1	412.7	394.2	375.7
122.5°	482.5	483.5	484.5	483.2	479.6	476.0	472.4	468.8
125°	522.4	523.3	524.3	525.0	525.4	525.8	526.2	526.6
127.5°	559.2	560.6	562.0	562.7	562.8	562.9	563.0	563.1
130°	582.6	584.1	585.6	586.3	586.2	586.0	585.8	585.7
132.5°	605.3	606.6	607.9	608.5	608.3	608.2	608.0	607.9
135°	637.7	639.1	640.5	641.0	640.8	640.5	640.2	639.9
137.5°	667.9	669.2	670.5	671.0	670.5	670.0	669.6	669.1
140°	687.3	688.5	689.8	690.1	689.4	688.7	688.0	687.3
142.5°	705.3	706.5	707.6	707.8	707.1	706.5	705.8	705.1
145°	730.6	731.5	732.5	732.5	731.9	731.2	730.6	729.9
147.5°	752.4	753.2	753.9	754.0	753.4	752.8	752.3	751.7
150°	765.9	766.8	767.6	767.7	767.0	766.3	765.6	764.9
152.5°	778.3	779.1	780.0	779.9	779.0	778.1	777.2	776.3
155°	795.0	795.7	796.6	796.4	795.3	794.3	793.2	792.0
157.5°	808.9	809.9	810.8	810.7	809.7	808.6	807.5	806.5
160°	817.1	817.9	818.7	818.6	817.7	816.7	815.8	814.9
162.5°	824.7	825.6	826.6	826.5	825.3	824.1	822.9	821.7
165°	834.0	835.0	835.9	835.9	835.0	834.0	833.0	832.1
167.5°	841.8	842.7	843.7	843.5	842.3	841.1	839.8	838.6
170°	845.7	846.6	847.7	847.5	846.3	845.0	843.8	842.6
172.5°	848.7	849.6	850.6	850.4	849.2	848.0	846.7	845.5
175°	851.9	852.8	853.8	853.6	852.2	850.8	849.5	848.1
177.5°	852.2	853.0	853.8	853.7	852.6	851.7	850.7	849.7
180°	851.2	851.2	851.2	851.2	851.2	851.2	851.2	851.2

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