

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: P331272-840

Luminaire Tested: **SA2XXDIP-C290D925U840-4F0-1E-UDD-D4**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P331272-840  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-16,  
Test Lab: INNOVATION CENTER  
Issue Date: 10/7/2019  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: SA2XXDIP-C290D925U840-4F0-1E-UDD-D4  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 290 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 925 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4859.3 lumens  
Efficiency: N/A  
Efficacy: 130.3 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.31 / 1.42  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')  
CIE Type: Semi-Indirect

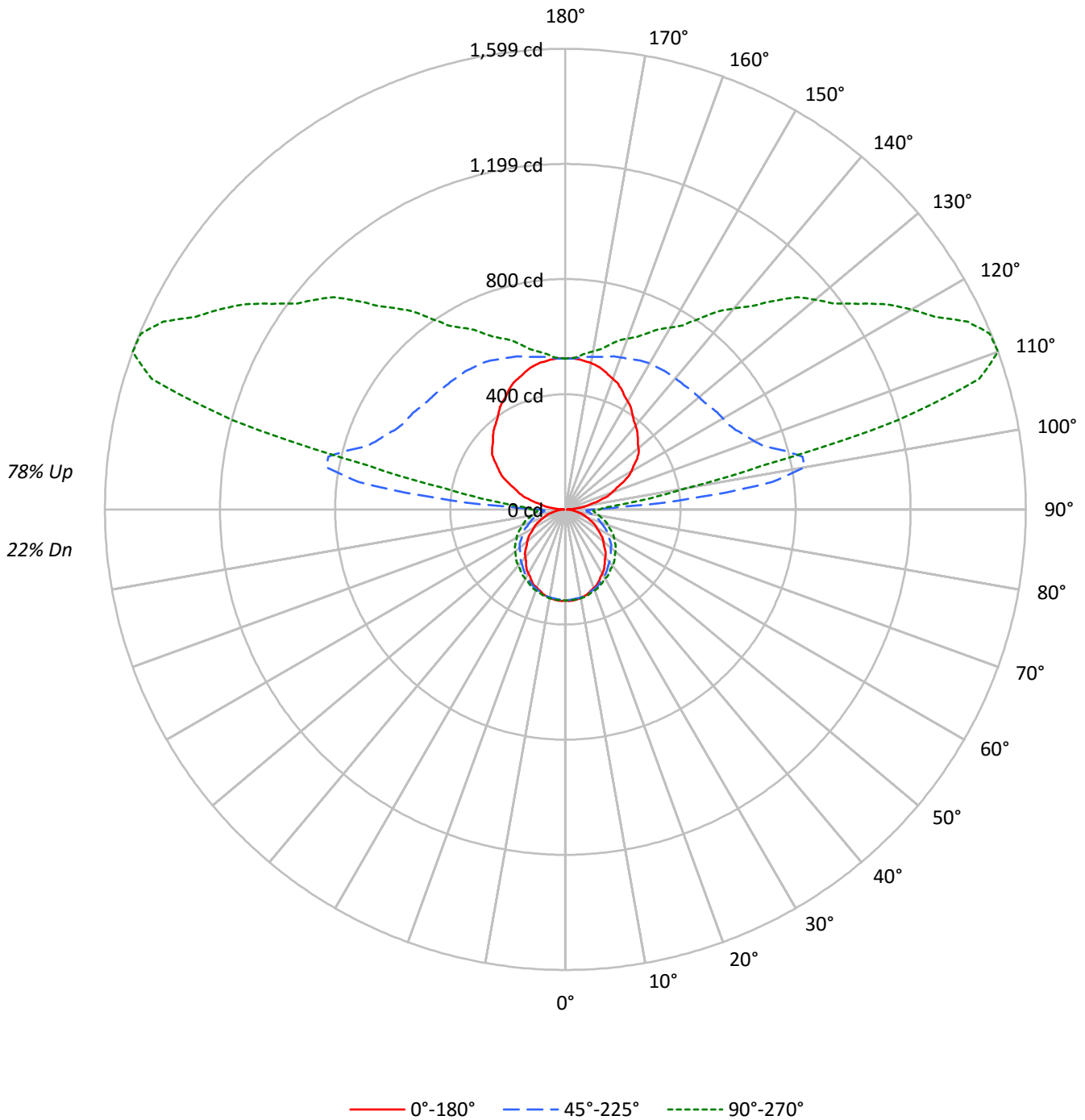
Input Watts (W): 37.3  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	50	30	10	0	
RCR																						
0	101	101	101	101	89	89	89	89	68	68	68	48	48	48	31	31	31	22				
1	91	86	82	79	80	77	73	70	58	56	54	41	40	39	26	25	24	17				
2	82	75	69	64	73	67	61	57	51	47	44	36	34	32	22	21	20	14				
3	75	66	58	53	66	58	52	47	44	40	37	32	29	27	20	18	17	11				
4	68	58	50	44	60	51	45	40	39	35	31	28	25	22	17	16	14	10				
5	63	51	43	37	55	46	39	34	35	30	26	25	22	19	16	14	12	8				
6	57	46	38	32	51	41	34	29	31	26	23	22	19	17	14	12	11	7				
7	53	41	33	28	47	37	30	25	28	23	20	20	17	15	13	11	9	6				
8	49	37	30	24	43	33	27	22	25	21	17	18	15	13	12	10	8	6				
9	45	34	26	21	40	30	24	19	23	19	15	17	14	11	11	9	7	5				
10	42	31	24	19	37	27	21	17	21	17	14	15	12	10	10	8	7	5				

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

	0°	45°	90°
0°	5112	5112	5112
5°	5137	4921	4901
10°	5105	4774	4722
15°	5033	4621	4531
20°	4944	4456	4348
25°	4857	4297	4181
30°	4733	4133	4015
35°	4608	3975	3898
40°	4476	3840	3780
45°	4351	3721	3681
50°	4218	3612	3581
55°	4076	3496	3482
60°	3902	3373	3374
65°	3723	3232	3247
70°	3523	3079	3110
75°	3270	2929	2984
80°	2861	2776	2858
85°	2484	2642	2759



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	30.0	0.6
10°-20°	86.0	1.8
20°-30°	130.3	2.7
30°-40°	158.8	3.3
40°-50°	170.8	3.5
50°-60°	165.9	3.4
60°-70°	144.8	3.0
70°-80°	111.5	2.3
80°-90°	79.5	1.6
90°-100°	261.1	5.4
100°-110°	748.8	15.4
110°-120°	780.3	16.1
120°-130°	635.8	13.1
130°-140°	505.2	10.4
140°-150°	378.4	7.8
150°-160°	265.2	5.5
160°-170°	156.1	3.2
170°-180°	50.8	1.0
0°-30°	246.3	5.1
0°-40°	405.1	8.3
0°-60°	741.7	15.3
0°-90°	1077.6	22.2
90°-120°	1790.2	36.8
90°-150°	3309.6	68.1
90°-180°	3782.0	77.8
0°-180°	4859.3	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	317	317	317	317	317	
5°	318	316	313	316	316	30
15°	303	304	304	308	307	85
25°	275	278	283	288	289	127
35°	237	245	254	263	267	148
45°	194	207	223	237	242	150
55°	149	166	190	205	212	133
65°	102	125	151	170	176	101
75°	56	82	112	130	137	60
85°	17	45	74	93	100	18
90°	6	45	95	111	118	5
95°	39	112	448	219	191	40
105°	125	202	786	1390	1196	133
115°	218	281	652	1330	1541	216
125°	303	360	616	1072	1245	269
135°	355	424	599	892	1023	275
145°	405	466	591	736	807	254
155°	461	497	574	649	674	212
165°	502	517	549	583	592	141
175°	523	524	528	535	533	50
180°	524	524	524	524	524	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	316.6	316.6	316.6	316.6	316.6	316.6	316.6	316.6	316.6	316.6	316.6
2.5°	318.4	318.1	317.9	317.6	317.4	317.0	316.4	315.9	315.3	314.7	315.1
5°	317.5	317.2	316.9	316.6	316.2	315.8	315.2	314.6	314.0	313.4	314.0
7.5°	314.6	314.4	314.2	314.0	313.8	313.5	313.0	312.6	312.0	311.5	312.4
10°	312.5	312.3	312.0	311.8	311.6	311.3	311.0	310.7	310.4	310.1	310.9
12.5°	308.7	308.8	308.8	308.9	308.9	308.8	308.6	308.4	308.1	307.9	308.7
15°	302.8	303.0	303.2	303.4	303.6	303.7	303.7	303.7	303.7	303.7	304.6
17.5°	295.1	295.5	295.9	296.4	296.8	297.2	297.5	297.8	298.1	298.5	299.4
20°	289.9	290.4	290.9	291.4	292.0	292.5	292.9	293.3	293.7	294.1	295.2
22.5°	284.5	285.0	285.6	286.2	286.8	287.4	287.9	288.5	289.1	289.6	290.7
25°	275.3	276.0	276.7	277.4	278.1	278.9	279.8	280.7	281.7	282.6	283.8
27.5°	264.3	265.4	266.6	267.7	268.9	270.0	271.0	272.2	273.3	274.4	275.9
30°	256.9	258.2	259.5	260.8	262.2	263.6	264.9	266.2	267.5	268.8	270.4
32.5°	248.8	250.3	251.8	253.3	254.8	256.3	257.9	259.4	261.1	262.6	264.5
35°	237.2	238.9	240.7	242.4	244.1	245.9	247.9	249.8	251.8	253.7	255.9
37.5°	224.5	226.5	228.5	230.6	232.5	234.8	237.3	239.7	242.3	244.8	247.3
40°	216.1	218.3	220.6	222.8	225.0	227.5	230.2	233.1	235.8	238.5	241.2
42.5°	208.0	210.3	212.5	214.7	217.0	219.6	222.9	226.0	229.1	232.3	235.2
45°	194.5	197.2	200.1	202.8	205.5	208.6	212.3	215.8	219.3	223.0	226.1
47.5°	181.2	184.2	187.2	190.2	193.2	196.8	201.0	205.1	209.3	213.5	216.8
50°	172.1	175.2	178.3	181.5	184.7	188.5	193.2	197.7	202.3	206.9	210.4
52.5°	163.2	166.5	169.9	173.2	176.5	180.6	185.4	190.3	195.1	200.0	203.5
55°	149.1	152.8	156.4	160.1	163.8	168.2	173.6	178.8	184.2	189.5	193.2
57.5°	135.1	139.3	143.4	147.5	151.7	156.4	161.9	167.2	172.7	178.1	182.1
60°	125.2	129.7	134.0	138.4	142.8	147.8	153.7	159.5	165.3	171.1	175.0
62.5°	116.4	121.0	125.5	130.1	134.6	139.8	145.6	151.4	157.2	163.1	167.1
65°	101.8	106.8	111.8	116.8	121.8	127.3	133.3	139.4	145.4	151.4	155.6
67.5°	88.5	93.7	98.9	104.1	109.4	115.0	121.2	127.3	133.5	139.7	143.9
70°	78.9	84.2	89.5	94.8	100.1	105.9	112.2	118.6	124.9	131.2	135.6
72.5°	70.1	75.5	81.0	86.4	92.0	97.9	104.3	110.7	117.1	123.5	127.8
75°	56.5	62.1	67.9	73.5	79.3	85.3	91.9	98.5	104.9	111.5	115.8
77.5°	43.2	49.2	55.1	61.1	67.2	73.4	80.1	86.6	93.3	99.9	104.3
80°	34.4	40.6	46.9	53.0	59.3	65.7	72.3	79.0	85.5	92.2	96.4
82.5°	27.1	33.2	39.4	45.4	51.6	58.1	64.7	71.5	78.2	84.8	89.2
85°	16.6	22.8	29.2	35.4	41.8	48.2	54.7	61.3	67.8	74.3	78.6
87.5°	9.2	15.9	22.7	29.2	35.7	42.6	50.2	58.1	65.8	72.5	76.5
90°	5.6	14.5	24.4	32.4	40.3	49.6	61.1	74.7	87.3	94.8	97.9
92.5°	16.6	27.5	40.2	50.2	62.5	77.9	106.9	145.3	180.2	188.2	171.9
95°	39.0	47.8	62.6	76.5	97.5	127.0	179.6	273.4	396.4	447.9	402.3
97.5°	60.7	70.4	85.3	103.3	126.1	158.5	222.7	350.7	550.9	723.3	760.1
100°	80.8	87.7	100.5	120.4	144.3	177.2	236.4	365.1	588.4	842.1	991.0
102.5°	99.0	104.6	117.1	136.7	161.2	193.9	248.8	363.7	570.7	843.5	1075.4
105°	125.2	132.3	142.3	160.4	185.4	217.8	270.4	365.5	537.0	786.3	1057.9
107.5°	154.2	159.8	169.0	185.3	209.6	241.8	292.8	376.1	518.7	725.3	965.5
110°	173.2	179.3	187.3	202.5	225.7	258.4	307.8	385.4	513.3	695.7	907.6



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	190.9	196.6	205.2	219.2	241.3	274.6	322.0	395.4	511.8	675.4	866.3
115°	218.5	224.7	231.9	245.1	266.4	296.4	344.4	410.4	512.8	652.4	814.8
117.5°	246.7	251.5	258.2	269.6	289.7	320.4	364.8	426.7	516.6	639.1	780.6
120°	264.4	268.8	275.3	284.8	305.4	335.9	379.2	437.7	519.4	631.4	762.1
122.5°	281.3	284.8	290.9	301.0	321.3	352.3	393.0	447.3	523.1	625.9	746.2
125°	303.3	306.3	312.4	324.5	344.6	374.5	414.0	462.6	528.4	616.3	722.9
127.5°	321.0	325.0	333.4	346.5	365.8	396.1	433.9	477.3	534.3	609.6	701.1
130°	331.5	335.5	345.4	359.4	379.5	408.7	446.2	486.6	539.1	605.7	686.8
132.5°	341.1	345.9	356.7	371.5	392.3	421.4	456.7	495.8	543.8	602.7	674.9
135°	355.3	359.3	371.3	386.5	409.7	438.4	471.6	508.0	549.3	598.6	658.2
137.5°	368.9	373.8	385.9	401.9	424.9	451.3	483.6	516.9	554.0	595.8	645.9
140°	379.4	383.3	395.4	411.3	433.4	459.7	490.1	521.6	556.0	593.5	638.5
142.5°	389.9	393.0	404.2	420.2	441.5	466.1	495.5	526.0	557.8	592.8	631.8
145°	405.2	409.2	419.3	434.4	454.5	476.8	503.9	532.2	560.4	590.6	623.5
147.5°	422.1	425.2	434.7	448.7	465.4	485.2	510.8	535.6	561.2	587.0	615.3
150°	433.4	436.4	444.4	457.6	472.7	490.8	514.0	537.1	560.4	584.6	608.7
152.5°	444.6	446.1	454.1	465.6	480.0	496.4	517.3	538.0	558.8	580.6	603.1
155°	460.6	461.6	467.7	478.8	489.8	504.9	522.1	539.2	556.3	573.5	592.6
157.5°	473.9	474.9	479.8	489.4	498.3	511.0	525.5	539.2	551.7	566.2	582.8
160°	482.8	483.8	487.8	495.8	503.9	515.0	527.1	539.2	549.3	561.4	575.5
162.5°	491.6	491.0	495.0	501.5	508.8	517.5	528.0	538.4	546.8	557.3	569.1
165°	501.9	500.9	502.9	509.0	514.0	520.1	529.2	536.2	542.2	549.3	558.4
167.5°	510.4	509.2	511.0	514.8	518.5	522.3	529.0	534.8	537.6	542.2	547.9
170°	516.0	514.0	515.0	518.1	520.1	523.1	528.2	533.2	535.2	538.2	542.2
172.5°	519.3	518.1	517.5	520.5	521.7	523.9	527.4	530.8	532.0	533.4	536.6
175°	523.1	522.1	521.1	523.1	523.1	524.1	526.1	528.2	527.1	528.2	529.2
177.5°	524.9	523.3	522.5	524.1	524.1	524.1	524.9	526.5	524.9	524.1	524.9
180°	524.1	524.1	524.1	524.1	524.1	524.1	524.1	524.1	524.1	524.1	524.1



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	316.6	316.6	316.6	316.6	316.6	316.6	316.6	316.6
2.5°	315.5	315.9	316.3	316.5	316.3	316.1	316.0	315.8
5°	314.6	315.2	315.8	316.0	315.9	315.8	315.7	315.6
7.5°	313.1	313.8	314.6	314.9	314.8	314.7	314.6	314.5
10°	311.7	312.6	313.4	313.8	313.7	313.6	313.5	313.4
12.5°	309.5	310.3	311.1	311.5	311.4	311.3	311.2	311.1
15°	305.5	306.5	307.4	307.8	307.7	307.6	307.5	307.4
17.5°	300.4	301.3	302.3	302.8	302.8	302.8	302.8	302.8
20°	296.3	297.4	298.5	299.1	299.1	299.1	299.1	299.1
22.5°	292.0	293.1	294.2	294.8	295.0	295.1	295.3	295.5
25°	285.1	286.3	287.5	288.2	288.5	288.8	289.1	289.4
27.5°	277.4	279.0	280.5	281.4	281.7	281.9	282.1	282.4
30°	272.1	273.8	275.4	276.3	276.6	276.9	277.2	277.5
32.5°	266.3	268.2	270.1	271.4	271.9	272.5	273.0	273.5
35°	258.2	260.4	262.7	264.2	264.9	265.6	266.3	267.0
37.5°	249.7	252.3	254.8	256.4	257.1	257.9	258.6	259.3
40°	243.9	246.5	249.1	251.0	251.9	252.8	253.7	254.6
42.5°	238.1	241.0	243.9	245.8	246.7	247.6	248.5	249.4
45°	229.2	232.5	235.6	237.7	238.7	239.7	240.8	241.8
47.5°	220.2	223.4	226.7	228.9	230.0	231.2	232.3	233.4
50°	213.8	217.3	220.8	223.1	224.2	225.3	226.4	227.5
52.5°	207.0	210.6	214.1	216.5	217.7	218.9	220.2	221.3
55°	196.8	200.5	204.2	206.6	207.9	209.3	210.7	212.0
57.5°	186.0	190.0	193.9	196.5	197.9	199.2	200.6	202.0
60°	178.8	182.8	186.6	189.2	190.7	192.1	193.6	195.0
62.5°	171.3	175.4	179.6	182.3	183.6	184.9	186.3	187.6
65°	159.8	163.9	168.1	170.9	172.2	173.5	174.8	176.1
67.5°	148.0	152.3	156.5	159.4	160.7	162.1	163.5	164.9
70°	140.0	144.3	148.8	151.6	152.8	154.0	155.2	156.4
72.5°	132.1	136.4	140.7	143.6	145.0	146.5	148.0	149.5
75°	120.3	124.6	129.1	131.9	133.2	134.5	135.8	137.1
77.5°	108.7	113.0	117.3	120.3	121.7	123.1	124.5	125.9
80°	100.8	105.0	109.4	112.2	113.6	115.0	116.4	117.9
82.5°	93.4	97.8	102.0	104.8	106.1	107.6	108.9	110.2
85°	82.9	87.2	91.5	94.3	95.7	97.1	98.6	100.0
87.5°	80.5	84.2	88.8	91.7	93.0	94.3	95.6	96.9
90°	101.0	103.0	109.2	112.8	114.0	115.2	116.4	117.6
92.5°	153.1	144.6	140.2	136.5	136.9	134.9	136.9	136.5
95°	324.6	267.0	228.5	208.8	197.0	190.2	188.3	190.6
97.5°	672.6	564.3	459.0	388.7	341.7	318.1	304.7	297.4
100°	973.6	852.4	718.1	598.5	516.0	473.8	445.8	428.7
102.5°	1170.0	1145.5	1048.2	921.4	831.6	758.7	723.4	699.9
105°	1271.1	1388.6	1405.3	1374.3	1313.0	1251.6	1209.4	1196.4
107.5°	1191.3	1366.2	1474.5	1525.6	1534.6	1532.3	1524.7	1507.1
110°	1123.5	1307.2	1439.5	1524.3	1568.7	1589.0	1599.2	1599.3





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	1061.3	1237.7	1378.8	1475.7	1537.1	1570.3	1588.5	1595.1
115°	984.1	1142.4	1277.4	1383.3	1456.0	1503.5	1530.9	1541.1
117.5°	925.0	1064.3	1187.0	1286.5	1360.4	1410.5	1439.1	1447.8
120°	895.0	1022.9	1132.6	1226.3	1298.0	1346.5	1376.7	1388.0
122.5°	870.9	988.2	1092.2	1176.9	1241.1	1288.6	1315.6	1325.0
125°	835.5	942.0	1033.5	1110.9	1170.2	1209.5	1235.6	1244.6
127.5°	800.4	897.0	983.1	1054.6	1106.5	1143.3	1165.9	1173.3
130°	777.9	867.1	949.2	1017.3	1067.5	1102.6	1123.6	1132.5
132.5°	756.2	838.8	914.3	978.5	1027.8	1062.9	1082.3	1090.4
135°	725.9	794.6	863.2	921.2	965.3	999.4	1018.3	1023.2
137.5°	701.1	758.7	813.3	863.8	904.0	933.3	950.0	956.7
140°	685.5	735.5	783.6	829.0	861.8	888.7	904.3	911.0
142.5°	672.9	715.3	756.5	794.5	825.7	850.0	864.0	865.8
145°	655.3	689.2	721.0	750.8	775.6	793.1	803.8	807.3
147.5°	642.0	668.2	692.8	714.3	734.5	748.4	755.5	757.6
150°	633.0	655.1	676.3	694.4	709.5	721.6	727.7	728.7
152.5°	624.1	644.6	662.6	678.3	690.1	700.6	705.1	705.3
155°	611.8	627.9	643.0	654.1	665.2	672.3	676.3	674.3
157.5°	597.4	611.0	623.7	632.4	640.2	646.0	647.8	647.8
160°	588.5	599.7	610.8	617.8	624.9	630.0	631.0	631.0
162.5°	579.8	589.2	598.6	604.1	611.2	614.6	615.6	614.8
165°	566.4	573.5	580.6	584.6	588.5	592.6	592.6	591.6
167.5°	553.7	559.2	564.0	567.6	569.5	571.7	571.5	570.3
170°	547.2	550.3	554.3	556.3	557.3	560.4	559.4	557.3
172.5°	540.0	542.2	545.4	546.6	547.6	549.1	548.1	546.8
175°	532.2	533.2	534.2	535.2	535.2	536.2	535.2	533.2
177.5°	526.5	526.5	527.4	527.4	527.4	527.4	526.5	524.9
180°	524.1	524.1	524.1	524.1	524.1	524.1	524.1	524.1

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