

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: P331281-840

Luminaire Tested: **SA2XXDIP-C290D1080U840-4F0-1E-UDD-D4**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331281-840
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-C290D1080U840-4F0-1E-UDD-D4
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 290 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1080 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

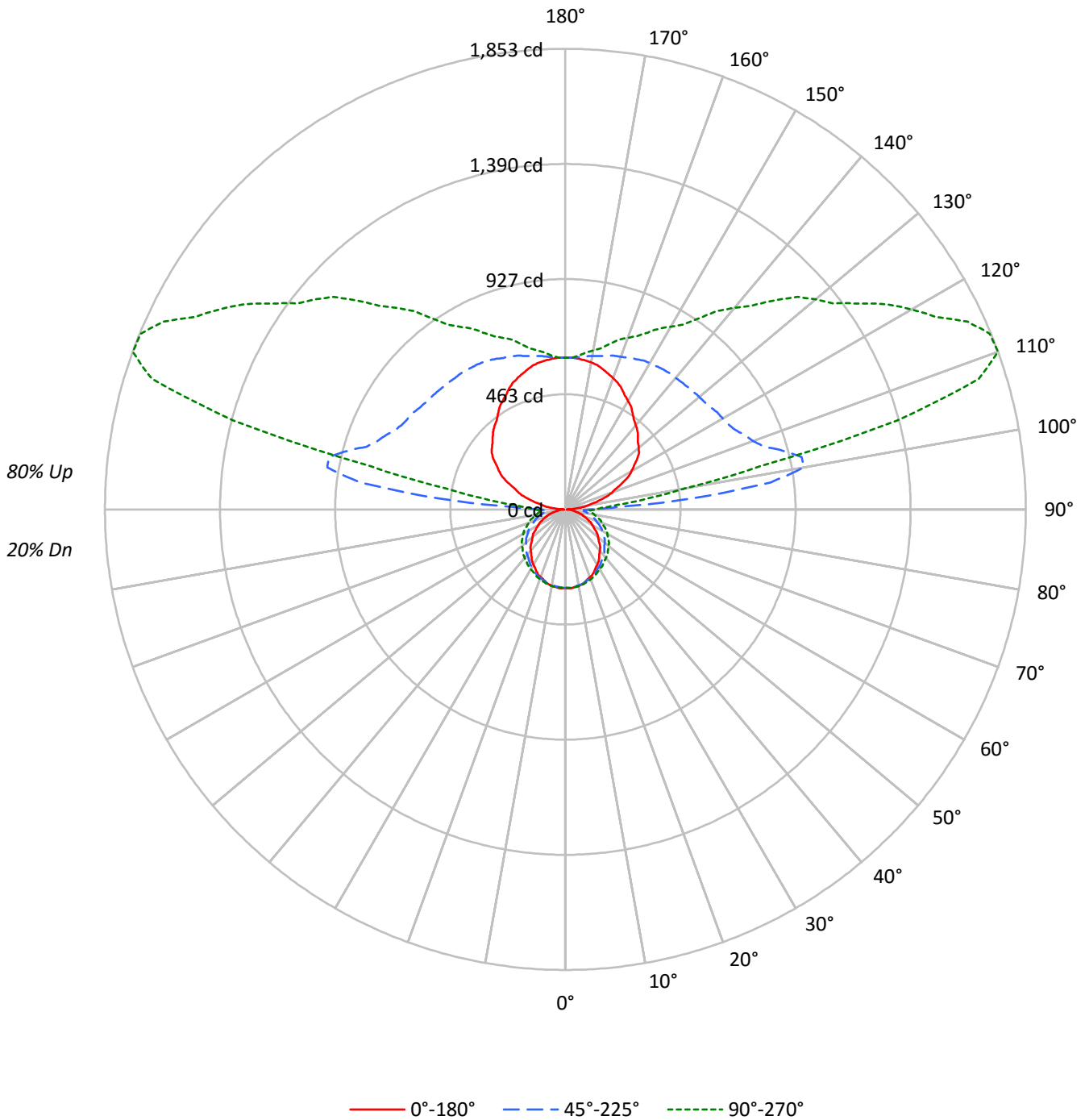
Lumens per Lamp: N/A
Luminaire Lumens: 5458.1 lumens
Efficiency: N/A
Efficacy: 129.3 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.31 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')
CIE Type: Semi-Indirect

Input Watts (W): 42.2
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	100	100	100	100	88	88	88	88	67	67	67	47	47	47	28	28	28	20
1	90	86	82	79	80	76	73	70	57	55	53	40	39	37	24	23	23	15
2	82	75	69	64	72	66	61	57	50	46	43	35	33	31	21	20	19	12
3	75	65	58	53	65	58	52	47	44	39	36	30	28	26	18	17	16	10
4	68	58	50	44	60	51	44	39	38	34	30	27	24	22	16	15	13	9
5	62	51	43	37	55	45	38	33	34	30	26	24	21	19	14	13	11	7
6	57	45	38	32	50	40	34	29	31	26	22	21	18	16	13	11	10	6
7	53	41	33	28	46	36	30	25	28	23	19	19	16	14	12	10	9	6
8	49	37	29	24	43	33	26	22	25	20	17	18	15	12	11	9	8	5
9	45	33	26	21	40	30	23	19	23	18	15	16	13	11	10	8	7	4
10	42	30	23	19	37	27	21	17	21	16	13	15	12	10	9	7	6	4

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	0.5
10°-20°	86.0	1.6
20°-30°	130.3	2.4
30°-40°	158.8	2.9
40°-50°	170.8	3.1
50°-60°	165.9	3.0
60°-70°	144.8	2.7
70°-80°	111.5	2.0
80°-90°	80.3	1.5
90°-100°	295.5	5.4
100°-110°	865.4	15.9
110°-120°	904.2	16.6
120°-130°	737.7	13.5
130°-140°	587.1	10.8
140°-150°	440.3	8.1
150°-160°	308.7	5.7
160°-170°	181.7	3.3
170°-180°	59.1	1.1
0°-30°	246.3	4.5
0°-40°	405.1	7.4
0°-60°	741.7	13.6
0°-90°	1078.4	19.8
90°-120°	2065.0	37.8
90°-150°	3830.2	70.2
90°-180°	4380.0	80.2
0°-180°	5458.1	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	47	100	116	123	5
95°	45	126	513	243	209	46
105°	145	232	909	1609	1383	155
115°	254	326	755	1542	1786	252
125°	353	418	715	1244	1443	313
135°	413	493	696	1036	1188	319
145°	472	542	687	856	939	296
155°	536	579	668	755	785	247
165°	584	602	639	678	689	165
175°	609	609	615	622	621	58
180°	610	610	610	610	610	



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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	16.0	23.0	29.6	36.2	43.1	50.8	59.0	67.0	73.7	77.6
90°	5.8	15.1	25.8	34.0	42.3	52.0	64.4	79.2	92.7	100.5	103.3
92.5°	18.6	30.4	44.3	55.0	68.5	85.4	118.2	161.8	201.4	209.7	190.1
95°	44.7	54.2	70.7	86.0	109.7	143.3	203.4	311.5	453.7	512.6	459.0
97.5°	70.1	80.7	97.4	117.5	143.4	180.4	254.1	402.1	634.2	833.8	876.2
100°	93.5	100.8	115.1	137.7	164.9	202.6	270.4	419.2	678.3	972.6	1145.4
102.5°	114.7	120.8	134.8	157.0	184.8	222.2	285.2	418.0	658.1	974.8	1244.1
105°	145.4	153.1	164.2	184.8	213.6	250.5	310.9	420.7	619.6	908.8	1224.4
107.5°	179.2	185.2	195.6	214.1	242.1	278.8	337.4	433.5	598.6	838.4	1117.4
110°	201.3	208.0	217.1	234.4	261.1	298.6	355.2	444.6	592.8	804.3	1050.4



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	221.9	228.3	238.0	254.1	279.4	317.6	372.1	456.7	591.4	781.0	1002.7
115°	254.1	261.1	269.2	284.4	309.0	343.6	398.6	474.7	593.1	754.9	943.3
117.5°	286.9	292.4	300.1	313.3	336.6	371.8	422.8	494.1	598.1	740.0	904.3
120°	307.6	312.7	320.1	331.0	355.0	390.0	439.9	507.3	601.7	731.3	883.1
122.5°	327.3	331.2	338.4	350.0	373.7	409.5	456.3	518.8	606.3	725.4	864.9
125°	352.8	356.4	363.5	377.5	400.9	435.5	480.9	536.9	613.0	714.8	838.4
127.5°	373.5	378.1	387.9	403.2	425.7	460.7	504.4	554.4	620.4	707.5	813.7
130°	385.7	390.3	401.9	418.3	441.6	475.4	518.7	565.4	626.2	703.4	797.4
132.5°	397.0	402.5	415.1	432.3	456.7	490.3	531.1	576.3	632.0	700.2	783.9
135°	413.4	418.1	432.1	449.8	476.8	510.1	548.7	590.8	638.7	696.0	765.1
137.5°	429.4	434.9	449.0	467.8	494.5	525.2	562.7	601.5	644.6	693.2	751.0
140°	441.5	446.2	460.1	478.8	504.5	535.0	570.5	607.0	647.1	690.7	742.8
142.5°	453.7	457.4	470.5	489.1	513.9	542.5	576.7	612.3	649.3	689.9	735.2
145°	471.6	476.3	488.1	505.6	529.1	554.9	586.5	619.5	652.3	687.4	725.6
147.5°	491.3	494.8	506.0	522.3	541.8	564.7	594.5	623.4	653.2	683.3	716.2
150°	504.4	508.0	517.4	532.6	550.2	571.3	598.3	625.3	652.3	680.4	708.5
152.5°	517.6	519.3	528.6	542.0	558.7	577.8	602.1	626.2	650.4	675.7	702.0
155°	536.1	537.2	544.3	557.2	570.2	587.7	607.6	627.6	647.5	667.5	689.8
157.5°	551.6	552.8	558.5	569.7	580.0	594.8	611.7	627.6	642.2	659.0	678.3
160°	561.9	563.1	567.7	577.1	586.5	599.5	613.6	627.6	639.3	653.5	669.8
162.5°	572.3	571.6	576.2	583.7	592.2	602.3	614.5	626.7	636.5	648.7	662.4
165°	584.2	583.1	585.4	592.4	598.3	605.3	615.9	624.1	631.2	639.3	649.9
167.5°	594.1	592.7	594.8	599.3	603.5	607.9	615.6	622.5	625.7	631.2	637.7
170°	600.7	598.3	599.5	603.0	605.3	608.8	614.7	620.6	622.9	626.4	631.2
172.5°	604.4	603.0	602.3	605.8	607.2	609.8	613.8	617.7	619.1	620.9	624.6
175°	608.8	607.6	606.5	608.8	608.8	610.1	612.4	614.7	613.6	614.7	615.9
177.5°	611.0	609.0	608.1	610.1	610.1	610.1	611.0	612.9	611.0	610.1	611.0
180°	610.1	610.1	610.1	610.1	610.1	610.1	610.1	610.1	610.1	610.1	610.1



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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°	81.5	85.2	89.9	92.8	94.1	95.4	96.7	98.1
90°	106.2	108.0	114.4	118.3	119.5	120.7	121.9	123.1
92.5°	167.5	157.0	151.2	146.4	146.7	144.2	146.4	145.7
95°	367.9	300.1	254.8	231.6	217.5	209.3	207.0	209.4
97.5°	773.7	646.9	523.8	441.5	386.7	359.0	343.1	334.5
100°	1124.5	982.8	825.9	686.3	590.1	540.8	507.9	487.9
102.5°	1353.5	1324.4	1210.5	1062.6	957.9	872.9	831.5	804.1
105°	1472.0	1608.1	1626.9	1590.5	1518.9	1447.3	1398.0	1382.7
107.5°	1379.7	1582.8	1708.2	1767.3	1777.6	1774.6	1765.6	1744.9
110°	1301.1	1514.4	1667.8	1766.2	1817.8	1841.2	1852.9	1852.8



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	1229.1	1433.9	1597.7	1710.1	1781.4	1819.9	1840.9	1848.4
115°	1139.9	1323.6	1480.4	1603.3	1687.7	1742.8	1774.4	1786.0
117.5°	1071.8	1233.4	1375.7	1491.2	1577.1	1635.2	1668.4	1678.3
120°	1037.3	1185.7	1312.8	1421.6	1504.8	1561.2	1596.3	1609.1
122.5°	1009.7	1145.7	1266.3	1364.5	1439.2	1494.3	1525.5	1536.3
125°	969.0	1092.6	1198.6	1288.4	1357.4	1402.8	1433.1	1443.4
127.5°	928.9	1040.8	1140.6	1223.6	1283.7	1326.5	1352.7	1361.1
130°	903.0	1006.4	1101.5	1180.5	1238.9	1279.6	1303.8	1314.0
132.5°	878.2	973.9	1061.5	1135.8	1193.2	1233.9	1256.3	1265.5
135°	843.4	923.0	1002.6	1069.8	1121.0	1160.5	1182.5	1188.0
137.5°	815.2	881.7	945.1	1003.6	1050.4	1084.3	1103.6	1111.3
140°	797.2	855.2	910.8	963.5	1001.7	1032.8	1051.0	1058.6
142.5°	782.6	831.8	879.6	923.7	959.9	988.2	1004.4	1006.3
145°	762.5	801.9	838.9	873.4	902.1	922.6	934.8	938.9
147.5°	747.2	777.8	806.3	831.3	854.7	871.0	879.2	881.5
150°	736.7	762.5	787.2	808.3	825.9	840.0	847.0	848.2
152.5°	726.4	750.3	771.2	789.5	803.3	815.6	820.7	820.9
155°	712.1	730.8	748.4	761.3	774.3	782.4	787.2	784.9
157.5°	695.4	711.1	725.9	736.0	745.2	751.9	754.1	754.1
160°	685.1	698.0	710.9	719.1	727.3	733.2	734.4	734.4
162.5°	674.8	685.8	696.8	703.2	711.3	715.4	716.5	715.6
165°	659.3	667.5	675.7	680.4	685.1	689.8	689.8	688.6
167.5°	644.5	650.9	656.5	660.8	662.8	665.4	665.2	663.8
170°	637.0	640.6	645.2	647.5	648.7	652.3	651.1	648.7
172.5°	628.5	631.2	634.9	636.3	637.5	639.1	637.9	636.5
175°	619.5	620.6	621.8	622.9	622.9	624.1	622.9	620.6
177.5°	612.9	612.9	613.8	613.8	613.8	613.8	612.9	611.0
180°	610.1	610.1	610.1	610.1	610.1	610.1	610.1	610.1

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