

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: P331638-840

Luminaire Tested: **SA2XXRDIP-C290D925U840-4F0-1E-UDD-F4**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331638-840
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: SA2XXRDIP-C290D925U840-4F0-1E-UDD-F4
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 290 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 925 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

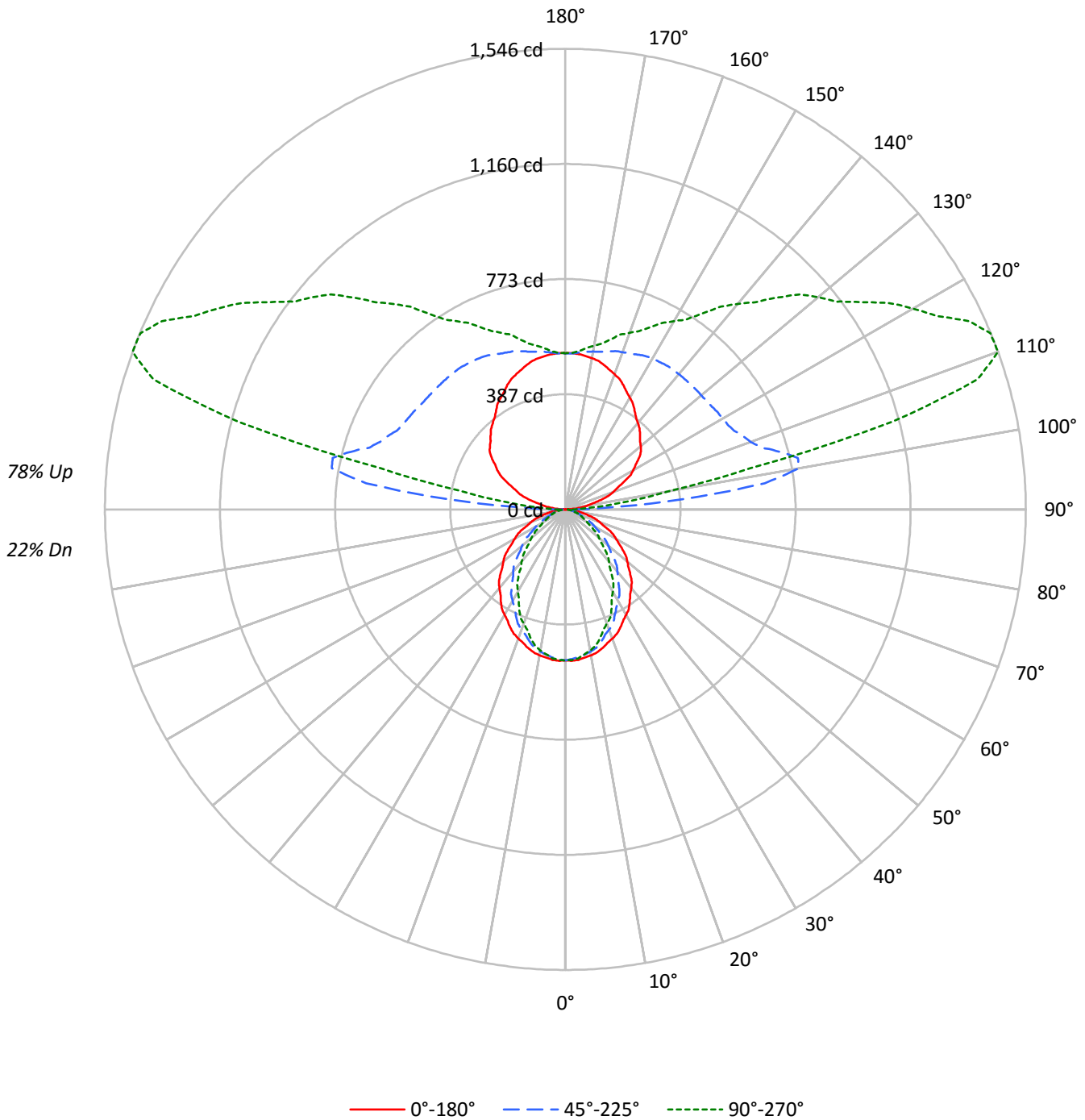
Lumens per Lamp: N/A
Luminaire Lumens: 4694.3 lumens
Efficiency: N/A
Efficacy: 125.9 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 0.99 / 1.16
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: Semi-Indirect

Input Watts (W): 37.3
Input Voltage (V): 120
Input Current (A_{in}): 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	49	49	49	31	31	31	22				
1	92	88	84	81	81	78	75	72	60	58	56	43	42	41	27	27	26	19				
2	84	77	71	66	74	68	64	59	52	49	47	38	36	34	24	23	22	16				
3	76	68	61	55	68	60	54	50	46	42	39	34	31	29	22	20	19	14				
4	70	60	52	47	62	53	47	42	41	37	34	30	27	25	20	18	17	12				
5	64	53	46	40	57	48	41	36	37	32	29	27	24	22	18	16	15	11				
6	59	48	40	35	52	43	36	31	33	29	25	24	21	19	16	14	13	10				
7	54	43	35	30	48	38	32	27	30	25	22	22	19	17	15	13	12	9				
8	50	39	31	26	45	35	29	24	27	23	19	20	17	15	13	12	10	8				
9	47	35	28	23	42	32	26	21	25	20	17	19	16	13	12	11	9	7				
10	44	32	25	21	39	29	23	19	23	19	16	17	14	12	12	10	9	6				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	8186	8186	8186
5°	8217	8083	8126
10°	8153	7950	7883
15°	8058	7714	7492
20°	7930	7378	7009
25°	7798	6996	6538
30°	7612	6604	5936
35°	7433	6177	5409
40°	7253	5735	4795
45°	7040	5236	4242
50°	6822	4735	3697
55°	6598	4197	3178
60°	6339	3630	2638
65°	6044	3049	2399
70°	5698	2511	2209
75°	5265	2289	2059
80°	4649	2046	1878
85°	3649	1612	1612



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	47.4	1.0
10°-20°	130.3	2.8
20°-30°	183.0	3.9
30°-40°	199.5	4.2
40°-50°	183.4	3.9
50°-60°	144.1	3.1
60°-70°	93.9	2.0
70°-80°	48.4	1.0
80°-90°	17.3	0.4
90°-100°	209.6	4.5
100°-110°	711.1	15.1
110°-120°	755.5	16.1
120°-130°	621.9	13.2
130°-140°	499.4	10.6
140°-150°	377.4	8.0
150°-160°	265.2	5.6
160°-170°	156.1	3.3
170°-180°	50.8	1.1
0°-30°	360.7	7.7
0°-40°	560.2	11.9
0°-60°	887.7	18.9
0°-90°	1047.3	22.3
90°-120°	1676.1	35.7
90°-150°	3174.8	67.6
90°-180°	3647.0	77.7
0°-180°	4694.3	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	507	507	507	507	507	
5°	507	504	499	502	501	48
15°	482	476	462	453	448	136
25°	438	422	393	375	367	201
35°	377	353	313	285	274	236
45°	308	277	229	198	186	238
55°	234	198	149	123	113	209
65°	158	121	80	65	63	157
75°	84	53	37	34	33	89
85°	20	11	9	9	9	23
90°	1	14	34	33	33	3
95°	35	87	395	149	115	37
105°	123	185	747	1335	1136	131
115°	217	274	625	1290	1495	215
125°	302	358	601	1045	1212	268
135°	355	423	594	878	1005	274
145°	405	466	591	733	802	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°	507.0	507.0	507.0	507.0	507.0	507.0	507.0	507.0	507.0	507.0	507.0
2.5°	508.8	508.4	508.0	507.6	507.2	506.4	505.5	504.7	503.8	502.9	503.7
5°	507.0	506.4	505.9	505.4	504.9	503.9	502.6	501.3	500.0	498.7	499.6
7.5°	501.7	501.1	500.4	499.8	499.2	498.1	496.6	494.9	493.4	491.9	492.1
10°	497.3	496.6	495.8	495.1	494.4	493.0	491.0	489.0	487.0	484.9	484.6
12.5°	491.8	490.9	490.0	489.2	488.3	486.6	483.9	481.3	478.7	476.1	475.5
15°	482.1	481.0	479.9	478.8	477.7	475.3	471.9	468.5	464.9	461.5	459.6
17.5°	470.3	468.6	466.9	465.1	463.4	460.4	456.0	451.5	447.1	442.6	440.3
20°	461.5	459.5	457.5	455.3	453.3	449.8	444.6	439.6	434.5	429.4	426.9
22.5°	452.0	449.7	447.4	445.1	442.8	438.8	433.0	427.3	421.6	415.9	412.5
25°	437.7	434.3	431.1	427.9	424.6	419.6	412.8	406.2	399.4	392.7	388.5
27.5°	420.4	416.9	413.3	409.8	406.2	400.6	393.0	385.5	377.9	370.3	365.5
30°	408.3	404.5	400.5	396.7	392.8	386.8	378.6	370.5	362.3	354.2	349.0
32.5°	396.6	392.0	387.5	382.9	378.4	372.0	363.8	355.4	347.1	338.7	332.9
35°	377.1	371.9	366.7	361.5	356.3	349.2	340.2	331.2	322.3	313.4	306.9
37.5°	357.7	351.9	346.2	340.5	334.8	327.2	317.6	308.0	298.5	288.9	281.9
40°	344.1	338.0	331.8	325.7	319.6	311.6	301.7	291.9	282.0	272.1	264.8
42.5°	330.1	323.7	317.2	310.8	304.4	296.0	285.8	275.6	265.4	255.2	247.7
45°	308.3	301.4	294.6	287.8	280.9	272.2	261.5	250.7	240.0	229.3	222.2
47.5°	287.0	279.7	272.6	265.3	258.0	248.9	237.8	226.8	215.7	204.7	197.5
50°	271.6	264.4	257.1	249.8	242.7	233.4	222.2	211.0	199.8	188.5	181.5
52.5°	256.5	248.9	241.5	233.9	226.3	217.0	206.0	195.1	184.1	173.1	166.3
55°	234.4	226.5	218.5	210.6	202.6	193.2	182.1	171.1	160.1	149.1	143.0
57.5°	211.8	203.6	195.4	187.3	179.2	169.8	159.2	148.7	138.0	127.4	121.8
60°	196.3	188.2	180.1	171.9	163.7	154.4	143.9	133.4	122.9	112.4	107.1
62.5°	181.3	173.2	165.0	156.8	148.7	139.6	129.6	119.6	109.6	99.6	94.6
65°	158.2	150.0	141.8	133.5	125.2	116.5	107.3	98.2	89.0	79.8	76.3
67.5°	136.0	127.8	119.7	111.5	103.3	95.0	86.7	78.6	70.3	62.0	60.4
70°	120.7	112.7	104.7	96.8	88.9	81.4	74.3	67.3	60.3	53.2	52.2
72.5°	105.9	98.4	90.7	83.1	75.4	68.9	63.2	57.6	51.9	46.3	45.3
75°	84.4	77.3	70.2	63.0	55.8	50.6	47.1	43.6	40.2	36.7	36.0
77.5°	63.2	57.0	50.7	44.4	38.2	34.2	32.5	30.9	29.2	27.6	27.2
80°	50.0	44.8	39.6	34.4	29.2	26.1	25.0	24.0	23.0	22.0	21.6
82.5°	37.9	33.8	29.8	25.8	21.7	19.3	18.6	17.9	17.2	16.6	16.3
85°	19.7	17.6	15.5	13.3	11.2	9.9	9.6	9.3	9.0	8.7	8.7
87.5°	6.1	6.1	6.2	6.0	5.7	6.0	7.0	8.4	9.6	9.8	9.5
90°	1.0	4.0	8.1	10.1	12.1	15.1	20.2	27.2	33.2	34.2	33.2
92.5°	12.3	17.8	25.0	29.4	36.3	45.7	68.6	100.6	129.2	131.0	110.7
95°	35.2	39.3	49.4	58.5	74.6	98.8	145.1	232.8	349.7	395.1	345.7
97.5°	57.5	62.9	73.6	87.3	105.8	133.2	191.5	313.7	508.0	674.5	707.5
100°	77.6	80.6	89.7	105.8	126.0	154.2	207.6	330.6	548.3	796.2	941.4
102.5°	96.1	98.4	107.4	123.6	144.5	172.8	222.2	331.4	533.0	800.2	1028.4
105°	123.0	127.0	134.0	149.2	171.4	199.5	246.9	336.6	502.9	746.8	1014.9
107.5°	152.0	155.2	162.1	176.0	197.9	226.4	272.4	350.5	488.0	689.6	926.5
110°	171.4	175.4	181.4	194.5	215.7	244.9	289.2	361.8	484.8	662.2	870.8



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	189.0	193.1	200.0	212.3	232.6	262.7	305.4	374.0	485.5	644.4	832.1
115°	216.7	221.8	227.8	239.8	260.0	287.2	330.6	392.0	489.8	624.9	784.2
117.5°	245.3	249.3	255.4	266.1	285.4	313.7	353.8	411.4	497.1	615.4	753.9
120°	263.1	267.1	273.2	282.2	302.4	330.6	369.9	424.3	501.9	609.8	737.8
122.5°	280.0	283.2	289.2	299.1	319.3	348.3	385.2	435.6	507.6	606.5	724.1
125°	302.4	305.4	311.4	323.6	343.7	371.9	408.2	453.5	516.0	600.7	704.5
127.5°	320.1	324.2	332.5	345.9	365.3	394.3	429.6	470.3	524.7	597.2	686.4
130°	330.6	334.6	344.7	358.8	379.0	407.2	442.4	480.8	531.2	595.6	674.3
132.5°	340.2	345.1	356.0	370.9	391.8	420.1	453.7	491.2	537.6	594.8	664.6
135°	354.8	358.8	370.9	386.0	409.2	437.4	469.7	504.9	545.2	593.6	651.1
137.5°	368.5	373.3	385.4	401.5	424.5	450.7	482.6	515.4	552.1	593.4	641.6
140°	379.0	383.0	395.1	411.2	433.4	459.6	489.8	521.1	555.3	592.6	636.0
142.5°	389.4	392.6	403.9	420.1	441.4	466.1	495.4	525.9	557.7	592.6	630.4
145°	405.2	409.2	419.3	434.4	454.5	476.8	503.9	532.2	560.4	590.6	622.9
147.5°	422.1	425.2	434.7	448.7	465.4	485.2	510.8	535.6	561.2	587.0	615.2
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°	507.0	507.0	507.0	507.0	507.0	507.0	507.0	507.0
2.5°	504.5	505.3	506.1	506.4	506.3	506.1	505.9	505.8
5°	500.5	501.4	502.3	502.6	502.3	502.0	501.7	501.4
7.5°	492.4	492.7	492.9	492.8	492.3	491.7	491.2	490.7
10°	484.3	484.0	483.7	483.2	482.6	482.0	481.4	480.8
12.5°	475.0	474.4	473.9	473.1	472.1	471.1	470.1	469.1
15°	457.7	455.7	453.7	452.3	451.3	450.2	449.2	448.2
17.5°	438.0	435.7	433.4	431.4	429.6	427.9	426.1	424.3
20°	424.3	421.7	419.2	416.8	414.5	412.3	410.1	407.9
22.5°	409.3	406.0	402.7	400.2	398.5	396.9	395.2	393.5
25°	384.4	380.1	376.0	373.1	371.6	370.0	368.5	367.0
27.5°	360.5	355.7	350.8	347.2	344.8	342.3	339.9	337.5
30°	343.8	338.6	333.4	329.4	326.6	323.9	321.1	318.4
32.5°	326.9	320.9	315.0	310.7	308.2	305.6	303.0	300.4
35°	300.5	294.1	287.6	283.3	281.0	278.8	276.6	274.4
37.5°	274.8	267.7	260.6	255.8	253.3	250.6	248.1	245.5
40°	257.6	250.3	243.1	238.1	235.5	232.9	230.1	227.5
42.5°	240.1	232.7	225.2	220.3	217.6	215.1	212.5	210.0
45°	214.9	207.6	200.5	195.6	193.2	190.7	188.2	185.8
47.5°	190.3	183.1	175.9	171.2	169.0	166.7	164.5	162.3
50°	174.5	167.4	160.4	155.8	153.7	151.6	149.4	147.2
52.5°	159.6	152.8	146.0	141.6	139.7	137.6	135.6	133.7
55°	136.8	130.8	124.6	120.6	118.7	116.7	114.8	112.9
57.5°	116.2	110.6	105.0	101.4	99.8	98.2	96.5	94.8
60°	102.0	96.8	91.6	88.2	86.5	84.9	83.3	81.7
62.5°	89.7	84.7	79.8	76.7	75.7	74.8	73.8	72.8
65°	72.9	69.4	65.9	64.0	63.7	63.4	63.1	62.8
67.5°	58.9	57.3	55.6	54.7	54.3	54.0	53.7	53.4
70°	51.2	50.2	49.2	48.5	48.0	47.6	47.2	46.8
72.5°	44.5	43.6	42.8	42.3	42.0	41.8	41.5	41.3
75°	35.2	34.5	33.8	33.4	33.3	33.2	33.1	33.0
77.5°	26.7	26.3	25.9	25.7	25.4	25.2	25.1	24.9
80°	21.2	20.8	20.4	20.2	20.2	20.2	20.2	20.2
82.5°	16.1	15.8	15.6	15.5	15.5	15.5	15.5	15.5
85°	8.7	8.7	8.7	8.7	8.7	8.7	8.7	8.7
87.5°	9.2	8.8	9.1	9.2	9.2	9.2	9.2	9.2
90°	32.2	30.2	32.2	33.2	33.2	33.2	33.2	33.2
92.5°	87.9	75.4	67.0	60.7	59.9	56.7	57.5	55.8
95°	264.1	202.6	160.3	138.0	125.0	116.9	113.9	114.9
97.5°	616.2	504.1	395.1	322.3	274.2	249.3	234.6	226.2
100°	920.2	795.2	657.1	535.2	451.5	408.2	379.0	360.8
102.5°	1119.3	1091.2	990.2	860.9	770.0	696.0	659.5	635.0
105°	1224.6	1338.5	1351.6	1318.3	1255.8	1193.4	1149.9	1135.9
107.5°	1148.8	1320.3	1425.1	1473.9	1481.8	1478.3	1469.7	1451.0
110°	1083.5	1263.8	1392.9	1475.5	1518.8	1538.0	1547.1	1546.1



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	1023.8	1197.0	1334.8	1429.6	1489.9	1521.9	1539.0	1544.5
115°	950.4	1105.6	1237.7	1341.5	1413.0	1459.4	1485.6	1494.7
117.5°	895.1	1031.5	1151.1	1248.6	1321.5	1370.5	1398.2	1405.7
120°	867.8	992.8	1099.5	1191.3	1261.8	1309.2	1338.5	1348.6
122.5°	846.0	960.5	1061.7	1144.6	1207.8	1254.4	1280.4	1288.9
125°	814.4	918.2	1006.8	1082.5	1140.9	1179.2	1204.4	1212.4
127.5°	783.2	877.1	960.7	1030.5	1081.5	1117.3	1139.1	1145.6
130°	763.0	849.6	929.3	995.8	1045.2	1079.4	1099.5	1107.6
132.5°	743.6	823.8	897.0	959.5	1008.0	1042.4	1060.9	1068.1
135°	716.6	783.2	849.6	906.1	949.4	982.7	1000.8	1004.8
137.5°	695.0	750.6	803.4	852.6	892.2	920.8	936.8	942.8
140°	681.4	729.7	776.1	820.4	852.6	878.9	894.0	900.0
142.5°	670.0	711.1	751.0	788.2	818.8	842.6	856.1	857.3
145°	654.1	687.4	718.6	747.8	772.0	789.2	799.2	802.2
147.5°	641.8	668.0	692.4	713.8	733.8	747.4	754.3	756.1
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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