

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: P332534-927

Luminaire Tested: **S124DIP-S350D1205U927-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

**Test Information**

Test Method: LM-79-08  
Report Number: P332534-927  
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-18,  
Test Lab: INNOVATION CENTER  
Issue Date: 3/3/2020  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: NEO-RAY  
Catalog Number: S124DIP-S350D1205U927-4F0-1E-UDD-F4  
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 350 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER  
UPLIGHT 1205 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4611.1 lumens  
Efficiency: N/A  
Efficacy: 109.3 lumens/watt  
Spacing Criteria (0/90/45): 1.2 / 1.17 / 1.3  
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')  
CIE Type: Semi-Indirect

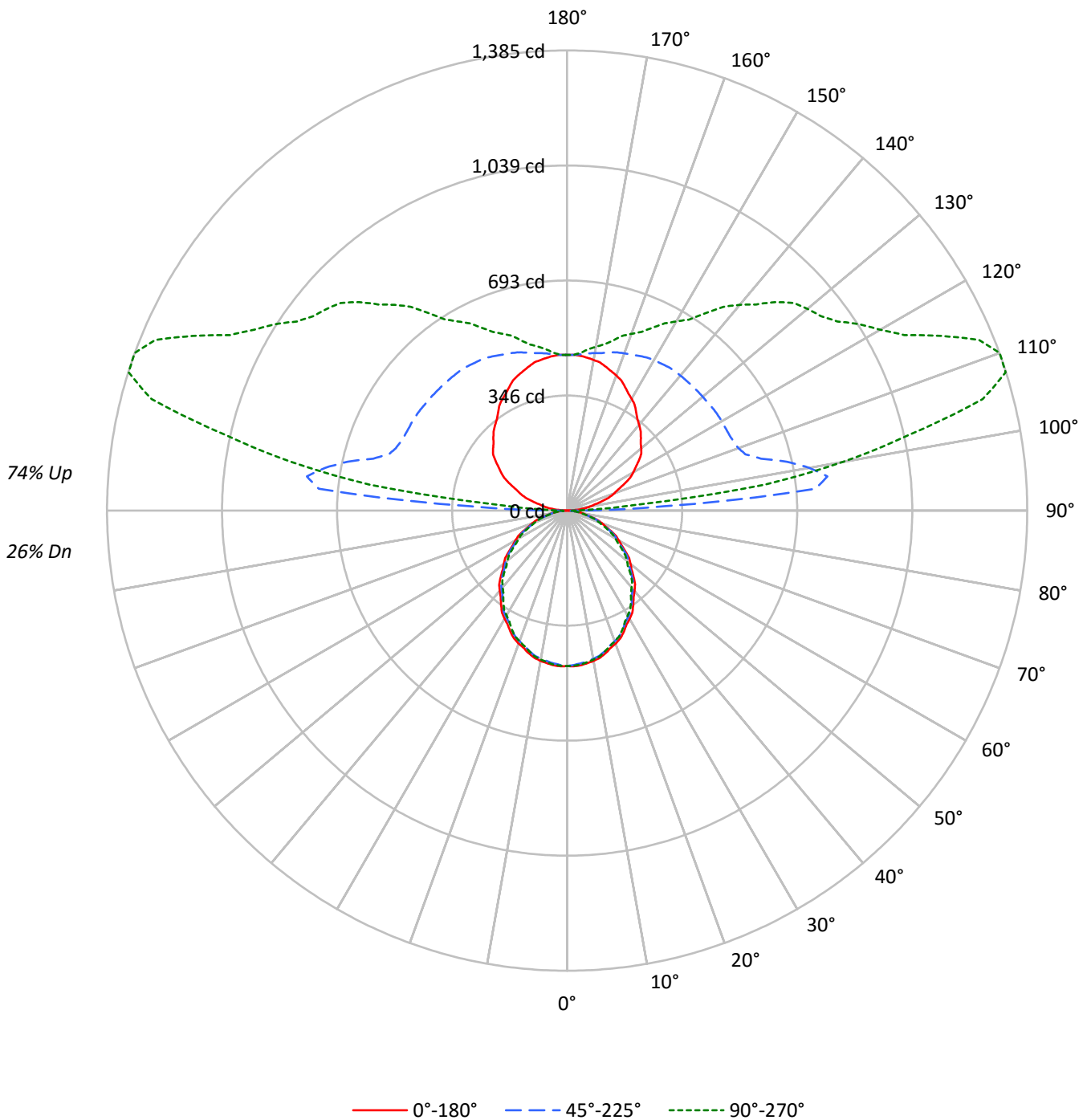
Input Watts (W): 42.2  
Input Voltage (V): 120  
Input Current (Ain): NR  
Voltage Rise (V): NR  
Power Factor: NR  
Total Harmonic Distortion (THDi): NR  
Frequency (hertz): 60  
Stabilization Time: NR  
Operation Time: NR  
Ambient Temperature (°C): NR  
Test Distance: 25 FT



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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	101	101	101	101	90	90	90	90	70	70	70	51	51	51	34	34	34	26
1	92	88	84	81	82	79	76	73	61	59	57	45	44	43	30	29	29	22
2	84	77	71	66	75	69	64	60	54	50	47	39	37	35	26	25	24	18
3	77	68	61	55	68	61	55	50	47	43	40	35	32	30	23	22	21	16
4	70	60	52	46	62	54	47	42	42	37	34	31	28	26	21	19	18	13
5	64	53	45	39	57	48	41	36	37	33	29	28	25	22	19	17	15	12
6	59	47	40	34	52	43	36	31	33	29	25	25	22	19	17	15	13	10
7	54	43	35	30	48	38	32	27	30	25	22	23	19	17	16	13	12	9
8	50	39	31	26	45	35	28	24	27	23	19	21	17	15	14	12	11	8
9	47	35	28	23	42	32	25	21	25	20	17	19	16	13	13	11	10	7
10	44	32	25	20	39	29	23	19	23	18	15	17	14	12	12	10	9	7

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

	0°	45°	90°
0°	3777	3777	3777
5°	3789	3743	3771
10°	3765	3713	3731
15°	3719	3661	3670
20°	3660	3594	3598
25°	3591	3520	3510
30°	3506	3432	3402
35°	3418	3341	3297
40°	3327	3236	3177
45°	3232	3134	3075
50°	3127	3042	2948
55°	3013	2923	2829
60°	2900	2792	2706
65°	2772	2665	2558
70°	2629	2497	2398
75°	2408	2293	2233
80°	2143	2060	2004
85°	1880	1806	1769



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	44.1	1.0
10°-20°	124.2	2.7
20°-30°	182.8	4.0
30°-40°	212.5	4.6
40°-50°	212.5	4.6
50°-60°	185.9	4.0
60°-70°	138.0	3.0
70°-80°	78.4	1.7
80°-90°	25.2	0.5
90°-100°	338.4	7.3
100°-110°	704.3	15.3
110°-120°	630.9	13.7
120°-130°	530.7	11.5
130°-140°	442.5	9.6
140°-150°	338.0	7.3
150°-160°	237.6	5.2
160°-170°	139.8	3.0
170°-180°	45.5	1.0
0°-30°	351.0	7.6
0°-40°	563.5	12.2
0°-60°	961.8	20.9
0°-90°	1203.4	26.1
90°-120°	1673.6	36.3
90°-150°	2984.8	64.7
90°-180°	3408.0	73.9
0°-180°	4611.1	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	468	468	468	468	468	
5°	468	466	462	466	465	44
15°	445	443	438	440	439	125
25°	403	400	395	396	394	185
35°	347	344	339	336	334	217
45°	283	280	274	270	269	218
55°	214	213	208	203	201	192
65°	145	143	140	136	134	144
75°	77	75	74	72	72	82
85°	20	20	20	20	19	22
90°	1	7	17	18	19	3
95°	30	96	750	371	225	34
105°	108	156	604	1300	1295	115
115°	190	238	538	1035	1244	188
125°	264	314	536	880	992	235
135°	314	374	531	782	887	243
145°	362	414	528	659	724	227
155°	412	444	514	582	607	190
165°	448	462	492	522	529	127
175°	468	469	472	479	477	44
180°	469	469	469	469	469	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	467.9	467.9	467.9	467.9	467.9	467.9	467.9	467.9	467.9	467.9	467.9
2.5°	469.1	469.0	468.7	468.6	468.3	467.9	467.1	466.4	465.7	464.9	465.6
5°	467.5	467.2	466.9	466.6	466.3	465.6	464.7	463.8	462.9	461.9	462.9
7.5°	463.3	462.9	462.6	462.2	461.9	461.2	460.2	459.2	458.2	457.2	457.9
10°	459.3	459.0	458.7	458.4	458.0	457.3	456.2	455.1	454.1	453.0	453.6
12.5°	454.2	453.9	453.6	453.2	452.9	452.2	451.0	449.9	448.7	447.6	448.3
15°	445.0	444.7	444.4	444.1	443.8	443.0	441.7	440.5	439.2	438.0	438.5
17.5°	434.0	433.6	433.2	432.8	432.4	431.6	430.4	429.2	428.0	426.8	427.1
20°	426.0	425.6	425.2	424.7	424.3	423.5	422.2	421.0	419.7	418.4	418.7
22.5°	417.2	416.7	416.1	415.6	415.0	414.2	412.9	411.7	410.4	409.2	409.6
25°	403.1	402.5	402.0	401.3	400.8	399.9	398.7	397.5	396.4	395.2	395.3
27.5°	386.9	386.3	385.7	385.1	384.5	383.7	382.5	381.5	380.4	379.3	379.1
30°	376.1	375.4	374.8	374.1	373.4	372.6	371.5	370.3	369.3	368.2	367.9
32.5°	364.7	364.1	363.5	362.9	362.3	361.4	360.3	359.1	358.0	356.8	356.4
35°	346.8	346.3	345.7	345.1	344.5	343.6	342.5	341.3	340.2	339.0	338.4
37.5°	328.0	327.5	326.9	326.5	325.9	325.0	323.8	322.5	321.2	320.0	319.3
40°	315.7	315.1	314.4	313.7	313.1	312.1	310.9	309.6	308.3	307.1	306.3
42.5°	302.5	302.1	301.7	301.3	301.0	300.0	298.7	297.2	295.9	294.5	293.5
45°	283.1	282.5	281.9	281.4	280.7	279.8	278.5	277.1	275.8	274.5	273.5
47.5°	262.8	262.4	262.0	261.6	261.2	260.4	259.1	257.9	256.7	255.4	254.4
50°	249.0	248.7	248.3	248.0	247.6	246.9	245.7	244.5	243.4	242.2	241.1
52.5°	235.5	235.0	234.6	234.2	233.9	233.1	231.8	230.6	229.3	228.1	227.1
55°	214.1	213.9	213.6	213.3	213.1	212.4	211.2	210.1	208.9	207.7	206.8
57.5°	193.7	193.5	193.1	192.9	192.6	191.9	190.7	189.6	188.4	187.3	186.3
60°	179.6	179.2	178.8	178.3	177.9	177.2	176.1	175.0	174.0	172.9	172.1
62.5°	165.8	165.5	165.1	164.8	164.4	163.7	162.5	161.4	160.2	159.1	158.4
65°	145.1	144.7	144.3	143.9	143.5	142.8	142.0	141.2	140.3	139.5	138.6
67.5°	124.3	123.9	123.5	123.1	122.7	122.2	121.4	120.6	119.8	118.9	118.1
70°	111.4	110.7	110.2	109.6	109.0	108.4	107.7	107.1	106.4	105.8	105.0
72.5°	97.6	97.0	96.4	95.9	95.2	94.7	94.1	93.6	93.1	92.5	92.0
75°	77.2	76.8	76.4	76.0	75.6	75.2	74.8	74.3	73.9	73.5	73.2
77.5°	57.8	57.7	57.4	57.3	57.1	56.8	56.5	56.1	55.7	55.4	55.2
80°	46.1	45.9	45.6	45.4	45.2	44.9	44.8	44.6	44.4	44.3	44.0
82.5°	34.7	34.6	34.5	34.4	34.2	34.1	34.1	34.1	34.1	34.1	34.0
85°	20.3	20.3	20.3	20.3	20.3	20.2	20.0	19.8	19.6	19.5	19.5
87.5°	8.0	8.3	8.8	8.9	9.0	9.0	10.0	9.9	10.2	10.5	10.3
90°	1.0	2.8	5.5	6.4	7.4	7.4	12.9	12.9	14.7	16.6	15.7
92.5°	10.5	15.3	23.9	35.2	48.6	67.7	114.5	185.9	255.6	292.0	243.2
95°	30.3	33.1	42.4	54.3	76.4	115.1	195.1	346.1	566.1	750.2	771.4
97.5°	54.5	54.5	62.4	73.4	92.4	124.8	186.5	311.2	529.8	790.2	969.2
100°	69.9	69.9	76.4	87.5	105.0	134.4	188.7	292.7	480.5	740.1	975.7
102.5°	84.7	86.2	91.9	102.2	118.9	146.9	196.1	287.6	447.3	677.5	920.5
105°	107.7	110.4	115.1	126.1	142.7	169.4	213.6	289.9	418.8	603.9	820.1
107.5°	133.1	134.9	139.6	151.3	167.2	193.5	234.0	303.6	413.7	562.6	739.2
110°	150.0	151.9	156.5	167.5	184.1	209.0	249.5	313.9	415.2	548.7	698.7



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	166.3	168.1	173.4	183.7	200.3	225.1	264.2	325.0	419.5	542.0	675.8
115°	189.6	192.4	198.8	208.0	225.5	250.4	287.2	342.5	428.0	538.5	654.5
117.5°	213.9	216.5	222.2	232.3	248.7	274.5	309.5	360.3	437.0	537.6	644.9
120°	230.1	232.0	238.4	248.5	264.2	289.9	325.0	372.8	443.7	537.6	639.8
122.5°	244.9	246.7	253.2	262.5	279.6	304.7	339.7	384.6	450.4	536.9	633.9
125°	264.2	267.8	273.4	283.5	301.0	326.8	359.9	402.3	460.3	535.8	624.1
127.5°	281.3	284.2	290.9	302.5	320.7	346.7	378.7	417.6	468.2	533.7	611.0
130°	290.9	294.5	301.9	315.8	333.2	359.9	391.3	427.1	474.0	533.0	602.9
132.5°	300.5	303.4	313.0	326.1	345.0	370.3	401.6	436.7	479.2	532.3	595.6
135°	313.9	317.6	326.8	342.5	361.8	385.7	416.1	449.2	487.0	531.2	584.6
137.5°	327.3	330.8	341.0	355.8	376.0	398.8	427.1	458.0	491.5	530.9	575.0
140°	336.9	339.7	349.8	365.4	384.8	406.9	434.5	463.9	495.3	530.2	569.8
142.5°	347.2	350.0	359.3	374.3	392.8	414.2	441.1	468.3	498.2	530.2	565.4
145°	361.8	364.6	373.8	386.6	404.1	424.4	448.3	473.2	499.9	528.4	557.9
147.5°	378.1	379.1	387.1	400.4	414.9	433.2	455.7	477.4	500.7	525.1	551.0
150°	388.5	389.4	396.7	407.8	421.6	439.1	459.3	479.6	500.7	522.8	545.9
152.5°	398.0	398.2	405.6	415.9	428.3	444.3	462.3	481.1	499.3	519.2	540.0
155°	411.5	412.4	417.9	427.1	437.3	451.1	466.7	482.4	497.1	513.7	531.2
157.5°	424.5	424.5	429.7	436.9	445.7	456.6	469.8	482.4	494.7	507.9	522.1
160°	432.6	432.6	436.3	442.8	450.1	460.3	471.3	482.4	492.5	503.5	515.5
162.5°	440.0	439.3	442.2	447.9	454.6	462.5	472.8	482.4	490.3	499.1	509.6
165°	448.3	448.3	450.1	454.7	459.3	464.9	473.2	480.5	486.0	492.5	499.9
167.5°	456.6	455.7	456.6	460.1	462.6	466.9	472.9	478.3	481.6	485.8	491.0
170°	460.3	459.3	460.3	463.0	464.9	467.6	472.2	476.8	478.6	481.4	485.1
172.5°	463.9	463.0	463.2	465.2	466.4	468.3	471.5	475.4	475.7	477.0	480.0
175°	467.6	466.7	466.7	467.6	468.6	468.6	470.4	473.2	472.2	472.2	474.0
177.5°	469.3	468.6	467.8	468.6	468.6	468.6	469.3	470.7	469.3	469.3	470.0
180°	468.6	468.6	468.6	468.6	468.6	468.6	468.6	468.6	468.6	468.6	468.6



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	467.9	467.9	467.9	467.9	467.9	467.9	467.9	467.9
2.5°	466.3	467.0	467.6	467.9	467.9	467.8	467.7	467.6
5°	463.8	464.7	465.6	466.0	465.8	465.6	465.5	465.3
7.5°	458.6	459.4	460.1	460.4	460.3	460.2	460.1	460.0
10°	454.3	455.0	455.7	455.9	455.7	455.5	455.3	455.2
12.5°	449.0	449.7	450.5	450.8	450.5	450.3	450.0	449.8
15°	438.9	439.4	440.0	440.1	439.8	439.6	439.3	439.1
17.5°	427.5	427.8	428.1	428.2	428.0	427.9	427.7	427.5
20°	419.0	419.2	419.5	419.5	419.3	419.1	419.0	418.8
22.5°	410.0	410.5	411.0	411.1	410.7	410.4	410.1	409.9
25°	395.4	395.5	395.5	395.5	395.1	394.7	394.4	394.1
27.5°	378.9	378.7	378.5	378.2	377.8	377.4	376.9	376.5
30°	367.6	367.3	366.9	366.5	366.1	365.7	365.3	364.9
32.5°	356.0	355.6	355.2	354.8	354.4	353.9	353.6	353.2
35°	337.8	337.2	336.6	336.1	335.7	335.3	334.9	334.5
37.5°	318.7	318.1	317.4	316.9	316.3	315.8	315.2	314.7
40°	305.5	304.6	303.8	303.2	302.7	302.3	301.9	301.5
42.5°	292.6	291.6	290.7	290.0	289.7	289.5	289.1	288.9
45°	272.7	271.7	270.8	270.2	270.0	269.7	269.5	269.3
47.5°	253.3	252.3	251.3	250.5	249.9	249.2	248.6	248.0
50°	239.9	238.8	237.6	236.7	236.2	235.8	235.2	234.7
52.5°	226.1	225.1	224.0	223.2	222.5	221.9	221.3	220.6
55°	205.7	204.7	203.7	203.0	202.5	202.0	201.5	201.0
57.5°	185.4	184.4	183.5	182.8	182.3	181.8	181.3	180.8
60°	171.3	170.6	169.8	169.3	168.9	168.4	168.0	167.6
62.5°	157.7	157.0	156.3	155.7	155.3	155.0	154.6	154.1
65°	137.8	137.0	136.2	135.5	135.1	134.7	134.3	133.9
67.5°	117.3	116.5	115.7	115.3	115.2	115.0	114.9	114.8
70°	104.4	103.8	103.1	102.6	102.3	102.1	101.9	101.6
72.5°	91.5	90.9	90.4	90.0	89.8	89.5	89.3	89.0
75°	72.8	72.5	72.2	71.9	71.9	71.8	71.7	71.6
77.5°	55.1	55.1	55.0	54.8	54.6	54.3	54.1	53.9
80°	43.9	43.7	43.6	43.5	43.3	43.3	43.2	43.1
82.5°	33.8	33.7	33.7	33.6	33.5	33.4	33.3	33.2
85°	19.5	19.5	19.5	19.5	19.4	19.3	19.2	19.1
87.5°	10.5	10.7	10.9	10.9	11.1	11.2	11.1	11.1
90°	16.6	17.5	18.4	18.4	19.3	20.3	19.3	19.3
92.5°	180.8	136.0	108.3	89.8	79.0	74.0	70.9	70.9
95°	682.1	539.4	416.1	326.8	281.7	253.2	236.5	224.6
97.5°	1007.8	954.7	864.7	768.7	702.5	647.1	619.5	600.4
100°	1110.2	1128.5	1083.5	1015.3	935.3	879.1	851.5	844.1
102.5°	1105.0	1196.3	1209.3	1181.0	1131.9	1091.2	1062.1	1056.2
105°	1030.9	1190.3	1281.4	1319.1	1321.0	1313.6	1300.7	1295.1
107.5°	925.8	1095.4	1223.8	1305.8	1351.3	1372.3	1381.5	1383.9
110°	862.5	1021.8	1155.2	1256.5	1321.8	1360.5	1377.1	1385.4





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	816.1	957.0	1083.1	1184.3	1258.5	1305.3	1328.5	1342.0
115°	769.5	882.8	990.5	1078.9	1151.6	1206.8	1236.3	1243.6
117.5°	746.7	840.4	925.1	1000.1	1062.1	1108.5	1138.3	1144.0
120°	736.4	822.0	895.6	961.0	1013.5	1054.0	1077.9	1088.1
122.5°	727.5	810.2	877.3	934.5	978.9	1013.5	1033.7	1043.9
125°	712.5	791.6	855.2	905.8	942.6	969.3	986.8	992.3
127.5°	694.0	769.8	833.1	881.1	918.1	941.9	956.6	962.1
130°	679.4	752.1	814.7	863.5	901.2	924.2	938.9	944.4
132.5°	663.8	732.2	793.3	842.1	879.1	905.1	919.0	924.6
135°	642.5	702.3	758.5	804.5	841.4	867.1	881.9	887.4
137.5°	623.2	673.8	721.1	762.7	797.2	822.6	834.7	841.4
140°	612.1	655.4	696.8	735.5	767.7	788.0	800.8	808.2
142.5°	601.8	639.9	675.5	709.0	737.5	756.3	767.7	772.9
145°	587.3	618.6	646.2	672.0	695.0	710.7	719.9	724.5
147.5°	575.4	600.2	622.3	642.5	659.5	672.9	679.9	681.5
150°	568.0	589.1	607.5	624.1	638.8	650.8	656.3	657.3
152.5°	559.8	578.1	595.0	608.6	621.2	630.9	634.2	635.2
155°	547.7	562.4	576.2	587.3	596.5	603.9	606.7	606.7
157.5°	534.6	547.0	558.6	567.4	574.4	580.0	581.6	581.6
160°	526.6	536.6	546.8	554.1	559.7	565.2	566.1	566.1
162.5°	518.4	527.1	535.0	541.6	545.7	551.2	552.2	551.4
165°	507.2	512.7	519.2	523.8	527.4	531.2	530.2	529.3
167.5°	496.4	500.6	505.7	508.5	510.3	512.7	512.5	511.8
170°	489.7	492.5	496.1	498.9	500.7	501.7	500.7	500.7
172.5°	483.8	485.8	488.1	490.0	491.2	492.1	491.2	489.7
175°	475.9	476.8	478.6	478.6	478.6	480.5	478.6	476.8
177.5°	470.7	471.5	471.5	472.2	471.5	472.2	470.7	469.3
180°	468.6	468.6	468.6	468.6	468.6	468.6	468.6	468.6

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