

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: P331371-935

Luminaire Tested: **SA2XXDIP-C675D1080U935-4F0-1E-UDD-D4**

Issue Date: 10/7/2019

**Test Information**

Test Method: LM-79-08  
Report Number: P331371-935  
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-C675D1080U935-4F0-1E-UDD-D4  
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE  
DOWNLIGHT 675 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER  
UPLIGHT 1080 LUMENS PER FOOT, BATWING OPTIC  
Light Source: -  
Ballast/Driver: ELECTRONIC DRIVER

**Summary**

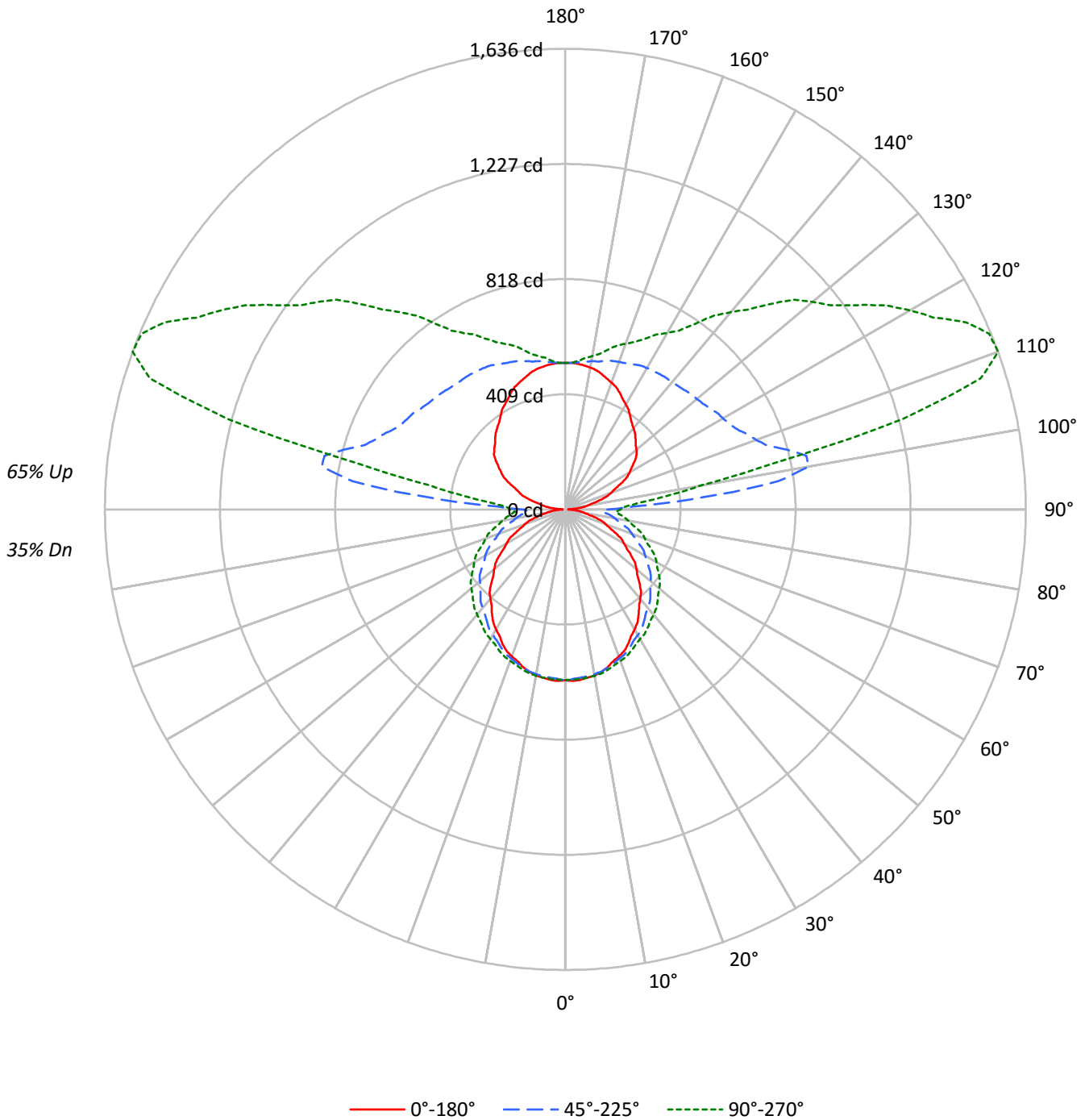
Lumens per Lamp: N/A  
Luminaire Lumens: 5937.7 lumens  
Efficiency: N/A  
Efficacy: 104.4 lumens/watt  
Spacing Criteria (0/90/45): 1.21 / 1.32 / 1.42  
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')  
CIE Type: Semi-Indirect

Input Watts (W): 56.9  
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	103	103	103	103	93	93	93	93	75	75	75	58	58	58	42	42	42	35
1	93	89	84	81	84	80	76	73	64	61	59	49	47	46	35	34	33	27
2	84	77	70	65	76	69	64	59	55	51	48	42	40	37	31	29	27	22
3	77	67	60	54	69	61	54	49	48	44	40	37	34	31	27	25	23	18
4	70	59	51	45	63	53	46	41	43	38	34	33	29	26	24	21	19	15
5	64	52	44	38	57	47	40	35	38	33	29	29	26	23	21	19	17	13
6	59	47	39	33	53	42	35	30	34	29	25	26	23	20	19	17	14	11
7	54	42	34	28	49	38	31	26	31	25	22	24	20	17	17	15	13	10
8	50	38	30	25	45	35	28	23	28	23	19	22	18	15	16	13	11	9
9	47	35	27	22	42	31	25	20	26	20	17	20	16	14	15	12	10	8
10	44	32	24	20	39	29	22	18	23	18	15	18	15	12	14	11	9	7

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

	0°	45°	90°
0°	9792	9792	9792
5°	9839	9426	9390
10°	9778	9148	9044
15°	9643	8853	8681
20°	9473	8536	8331
25°	9305	8231	8014
30°	9067	7919	7694
35°	8828	7615	7468
40°	8576	7358	7243
45°	8334	7127	7051
50°	8078	6920	6861
55°	7810	6696	6668
60°	7480	6465	6465
65°	7135	6192	6222
70°	6751	5899	5960
75°	6257	5612	5720
80°	5488	5319	5476
85°	4743	5064	5286



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	57.5	1.0
10°-20°	164.8	2.8
20°-30°	249.7	4.2
30°-40°	304.2	5.1
40°-50°	327.2	5.5
50°-60°	317.8	5.4
60°-70°	277.5	4.7
70°-80°	213.6	3.6
80°-90°	148.0	2.5
90°-100°	306.7	5.2
100°-110°	777.8	13.1
110°-120°	797.3	13.4
120°-130°	643.7	10.8
130°-140°	506.8	8.5
140°-150°	376.5	6.3
150°-160°	263.2	4.4
160°-170°	154.9	2.6
170°-180°	50.4	0.8
0°-30°	472.0	7.9
0°-40°	776.1	13.1
0°-60°	1421.1	23.9
0°-90°	2060.3	34.7
90°-120°	1881.9	31.7
90°-150°	3408.8	57.4
90°-180°	3877.0	65.3
0°-180°	5937.7	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	606	606	606	606	606	
5°	608	605	600	605	605	58
15°	580	582	582	589	589	163
25°	527	534	541	552	555	242
35°	454	469	486	505	512	284
45°	373	397	427	453	463	288
55°	286	318	363	394	406	255
65°	195	239	290	325	338	194
75°	108	158	214	250	263	114
85°	32	86	142	178	192	34
90°	10	74	150	182	195	8
95°	42	135	493	281	259	43
105°	126	215	817	1430	1243	135
115°	218	286	673	1358	1572	216
125°	302	358	626	1089	1265	268
135°	353	421	599	899	1032	273
145°	402	462	586	733	806	252
155°	457	494	569	644	669	210
165°	498	513	545	578	587	140
175°	519	520	524	531	529	49
180°	520	520	520	520	520	



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**CANDELA DISTRIBUTION (FULL):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	606.5	606.5	606.5	606.5	606.5	606.5	606.5	606.5	606.5	606.5	606.5
2.5°	610.0	609.5	609.1	608.6	608.1	607.3	606.2	605.1	604.1	603.0	603.7
5°	608.2	607.6	607.1	606.5	605.9	605.0	603.8	602.7	601.5	600.3	601.5
7.5°	602.8	602.4	602.0	601.6	601.2	600.5	599.7	598.7	597.9	597.0	598.4
10°	598.6	598.1	597.8	597.4	597.0	596.5	595.9	595.4	594.8	594.2	595.7
12.5°	591.5	591.6	591.7	591.8	591.9	591.7	591.2	590.8	590.4	590.0	591.5
15°	580.1	580.5	580.9	581.3	581.7	581.9	581.9	581.9	581.9	581.9	583.6
17.5°	565.3	566.2	567.0	567.8	568.6	569.4	570.0	570.6	571.2	571.9	573.7
20°	555.5	556.5	557.4	558.4	559.4	560.3	561.0	561.9	562.7	563.4	565.6
22.5°	544.9	546.0	547.3	548.4	549.5	550.6	551.7	552.8	553.9	555.0	557.2
25°	527.4	528.7	530.1	531.5	532.9	534.4	536.1	538.0	539.7	541.4	543.8
27.5°	506.3	508.5	510.7	513.0	515.2	517.4	519.4	521.5	523.6	525.6	528.6
30°	492.2	494.7	497.3	499.8	502.4	504.9	507.5	510.0	512.6	515.1	518.1
32.5°	476.7	479.6	482.4	485.3	488.2	491.1	494.1	497.1	500.1	503.1	506.7
35°	454.4	457.7	461.1	464.3	467.7	471.2	474.9	478.6	482.3	486.0	490.3
37.5°	430.2	434.0	437.8	441.6	445.5	449.8	454.6	459.4	464.2	469.0	473.8
40°	414.0	418.3	422.6	426.9	431.2	435.9	441.3	446.5	451.8	457.0	462.1
42.5°	398.6	402.8	407.1	411.4	415.7	420.9	427.0	433.0	439.0	445.1	450.6
45°	372.6	378.0	383.2	388.5	393.7	399.8	406.7	413.5	420.3	427.1	433.3
47.5°	347.2	352.9	358.7	364.4	370.1	377.0	385.0	393.0	401.1	409.1	415.4
50°	329.6	335.7	341.7	347.8	353.8	361.3	370.1	378.8	387.6	396.4	403.0
52.5°	312.7	319.1	325.5	331.8	338.2	346.0	355.2	364.5	373.8	383.1	389.9
55°	285.7	292.7	299.7	306.8	313.7	322.4	332.5	342.7	352.8	363.0	370.1
57.5°	258.9	266.9	274.8	282.8	290.7	299.8	310.1	320.5	330.9	341.2	348.8
60°	240.0	248.3	256.8	265.2	273.5	283.4	294.5	305.6	316.7	327.9	335.3
62.5°	223.1	231.8	240.5	249.2	258.0	267.9	279.0	290.1	301.3	312.4	320.3
65°	195.1	204.7	214.3	223.9	233.4	243.9	255.5	267.0	278.5	290.1	298.1
67.5°	169.4	179.4	189.5	199.5	209.5	220.3	232.1	243.9	255.7	267.5	275.6
70°	151.2	161.4	171.5	181.7	191.8	202.9	215.1	227.1	239.3	251.4	259.8
72.5°	134.3	144.7	155.2	165.7	176.2	187.5	199.8	212.1	224.4	236.6	244.9
75°	108.1	119.1	130.0	140.9	151.9	163.6	176.1	188.6	201.0	213.6	222.0
77.5°	82.8	94.3	105.7	117.1	128.5	140.7	153.3	166.1	178.7	191.4	199.8
80°	66.0	77.8	89.7	101.7	113.6	125.9	138.6	151.3	163.9	176.7	184.9
82.5°	51.8	63.6	75.3	87.1	98.9	111.2	124.1	136.9	149.7	162.6	170.8
85°	31.7	43.7	55.9	67.9	80.1	92.4	104.9	117.4	129.9	142.4	150.6
87.5°	17.4	29.7	42.1	54.2	66.2	78.9	92.4	106.2	119.9	132.7	140.4
90°	9.8	24.1	39.4	52.8	66.1	81.0	98.5	118.0	136.6	150.0	156.9
92.5°	20.3	36.2	54.0	69.0	86.3	106.9	141.6	185.5	225.9	239.7	227.1
95°	42.0	55.2	74.4	92.6	117.8	152.2	209.9	308.7	436.4	493.2	451.6
97.5°	63.2	76.7	95.5	117.3	143.9	180.7	249.8	382.3	586.3	762.8	802.9
100°	83.2	93.4	109.6	132.9	160.1	197.2	261.1	394.1	621.0	878.0	1029.3
102.5°	100.9	109.7	125.3	147.9	175.3	211.9	271.6	390.5	601.2	877.1	1110.7
105°	126.4	136.1	148.8	169.4	197.1	233.0	290.2	389.3	564.6	816.7	1089.6
107.5°	155.1	162.8	174.1	192.4	218.8	254.1	309.4	396.8	542.9	752.7	994.4
110°	173.6	181.5	191.4	208.3	233.2	268.9	322.5	404.1	535.7	721.3	934.6



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**CANDELA DISTRIBUTION (continued):**

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	191.1	198.5	208.5	224.0	247.5	283.5	335.0	412.1	532.0	698.8	891.2
115°	218.5	225.7	233.8	248.0	270.2	302.6	354.5	424.2	530.0	672.9	836.7
117.5°	246.1	251.5	258.9	270.9	291.5	324.3	372.2	437.6	530.7	656.3	799.4
120°	263.7	268.5	275.3	285.1	305.8	338.1	385.0	446.8	531.6	646.4	778.9
122.5°	280.5	284.0	290.3	300.4	320.7	353.4	397.4	454.7	533.5	639.0	761.0
125°	301.8	304.8	310.8	322.8	342.9	373.9	416.2	467.4	535.7	626.0	734.3
127.5°	319.4	323.2	331.4	344.4	363.4	394.7	434.7	480.2	539.2	616.3	709.6
130°	329.8	333.6	343.5	357.2	377.0	407.0	446.1	488.2	542.3	610.4	693.2
132.5°	339.4	344.1	354.6	369.3	389.9	419.3	455.9	496.3	545.4	605.5	679.2
135°	352.9	357.0	368.9	383.9	407.0	435.9	469.9	506.9	548.8	598.8	659.9
137.5°	366.5	371.3	383.3	399.2	422.0	448.4	480.9	514.4	551.6	593.5	644.9
140°	376.9	380.7	392.5	408.4	430.2	456.2	486.7	518.1	552.5	589.9	636.0
142.5°	387.4	390.4	401.4	417.2	438.2	462.5	491.8	522.1	553.8	588.5	628.4
145°	402.1	406.0	416.1	431.1	451.1	473.1	500.1	528.1	556.1	586.1	619.3
147.5°	418.9	421.9	431.4	445.3	461.9	481.5	506.9	531.5	556.9	582.6	610.7
150°	430.1	433.1	441.1	454.1	469.1	487.1	510.1	533.1	556.1	580.1	604.1
152.5°	441.3	442.7	450.6	462.1	476.3	492.7	513.3	533.9	554.5	576.1	598.5
155°	457.1	458.1	464.1	475.1	486.1	501.1	518.1	535.1	552.1	569.1	588.1
157.5°	470.3	471.3	476.1	485.7	494.5	507.1	521.5	535.1	547.5	561.9	578.3
160°	479.1	480.1	484.1	492.1	500.1	511.1	523.1	535.1	545.1	557.2	571.1
162.5°	487.9	487.3	491.3	497.7	504.9	513.5	523.9	534.3	542.7	553.1	564.7
165°	498.1	497.1	499.1	505.1	510.1	516.1	525.1	532.1	538.1	545.1	554.1
167.5°	506.5	505.3	507.1	510.9	514.5	518.3	524.9	530.7	533.5	538.1	543.7
170°	512.1	510.1	511.1	514.1	516.1	519.1	524.1	529.1	531.1	534.1	538.1
172.5°	515.3	514.1	513.5	516.5	517.7	519.9	523.3	526.7	527.9	529.3	532.5
175°	519.1	518.1	517.1	519.1	519.1	520.1	522.1	524.1	523.1	524.1	525.1
177.5°	520.9	519.3	518.5	520.1	520.1	520.1	520.9	522.5	520.9	520.1	520.9
180°	520.1	520.1	520.1	520.1	520.1	520.1	520.1	520.1	520.1	520.1	520.1



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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
0°	606.5	606.5	606.5	606.5	606.5	606.5	606.5	606.5
2.5°	604.5	605.3	606.1	606.3	606.0	605.7	605.4	605.1
5°	602.7	603.8	605.0	605.5	605.3	605.1	604.9	604.7
7.5°	599.8	601.2	602.6	603.2	603.0	602.8	602.6	602.4
10°	597.3	598.8	600.5	601.1	600.9	600.7	600.5	600.3
12.5°	593.1	594.6	596.2	596.8	596.7	596.5	596.3	596.1
15°	585.4	587.1	588.9	589.7	589.5	589.3	589.1	588.9
17.5°	575.5	577.4	579.2	580.1	580.1	580.1	580.1	580.1
20°	567.7	569.9	572.0	573.1	573.1	573.1	573.1	573.1
22.5°	559.3	561.5	563.5	564.8	565.1	565.4	565.8	566.0
25°	546.1	548.5	550.8	552.2	552.8	553.5	554.1	554.7
27.5°	531.6	534.5	537.5	539.2	539.6	540.0	540.4	540.9
30°	521.3	524.4	527.5	529.4	530.0	530.6	531.2	531.8
32.5°	510.3	513.9	517.5	519.8	520.9	521.9	523.0	524.0
35°	494.6	498.9	503.3	506.1	507.5	508.9	510.1	511.5
37.5°	478.5	483.3	488.1	491.2	492.7	494.0	495.5	497.0
40°	467.2	472.3	477.3	480.8	482.5	484.3	486.0	487.8
42.5°	456.2	461.8	467.3	471.0	472.7	474.5	476.2	477.9
45°	439.3	445.3	451.4	455.4	457.4	459.3	461.2	463.2
47.5°	421.7	428.1	434.4	438.6	440.7	442.9	445.1	447.2
50°	409.7	416.3	423.0	427.4	429.6	431.7	433.8	435.9
52.5°	396.7	403.5	410.3	414.8	417.1	419.4	421.7	424.0
55°	377.0	384.1	391.2	395.9	398.5	401.0	403.6	406.0
57.5°	356.4	363.9	371.5	376.6	379.2	381.8	384.4	386.9
60°	342.7	350.1	357.6	362.7	365.3	368.1	370.8	373.6
62.5°	328.1	336.0	344.0	349.2	351.7	354.3	356.9	359.5
65°	306.1	314.1	322.1	327.4	329.9	332.4	335.0	337.5
67.5°	283.7	291.8	299.9	305.3	307.9	310.6	313.2	315.9
70°	268.2	276.6	285.0	290.3	292.7	295.1	297.4	299.7
72.5°	253.1	261.3	269.6	275.1	277.9	280.8	283.5	286.4
75°	230.4	238.8	247.2	252.6	255.2	257.7	260.3	262.8
77.5°	208.2	216.5	224.9	230.4	233.2	235.9	238.6	241.3
80°	193.0	201.3	209.5	215.0	217.7	220.4	223.2	225.9
82.5°	179.0	187.2	195.4	200.8	203.4	206.0	208.5	211.1
85°	158.8	167.0	175.2	180.6	183.4	186.1	188.9	191.6
87.5°	148.2	155.8	164.1	169.6	172.1	174.6	177.1	179.6
90°	163.7	169.4	179.3	185.4	187.7	190.0	192.3	194.8
92.5°	212.2	207.5	206.7	205.5	207.1	206.2	209.4	210.1
95°	378.0	324.4	289.8	272.7	262.0	256.3	255.7	259.1
97.5°	719.5	615.5	514.5	447.0	401.6	379.3	367.0	360.8
100°	1015.5	898.7	769.0	652.6	571.7	530.9	504.0	488.2
102.5°	1207.9	1187.0	1093.8	970.3	882.2	810.9	776.9	754.6
105°	1304.5	1424.4	1444.2	1415.7	1355.8	1296.0	1255.1	1243.3
107.5°	1221.5	1398.4	1508.9	1561.7	1571.7	1570.4	1563.9	1547.5
110°	1151.8	1337.1	1471.4	1557.6	1602.8	1623.9	1635.1	1636.2





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**CANDELA DISTRIBUTION (continued):**

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	1087.8	1265.8	1408.9	1507.1	1569.1	1603.0	1622.2	1629.7
115°	1007.6	1167.5	1304.4	1411.4	1484.6	1532.8	1560.9	1572.1
117.5°	945.5	1086.5	1211.1	1311.6	1386.0	1436.6	1466.0	1475.6
120°	913.4	1042.9	1154.4	1249.2	1321.4	1370.5	1401.7	1413.8
122.5°	887.3	1006.3	1112.0	1197.7	1262.4	1310.4	1338.1	1348.3
125°	848.6	956.9	1050.2	1128.7	1188.4	1228.2	1255.0	1264.8
127.5°	810.4	908.4	996.3	1068.8	1121.1	1158.5	1181.8	1189.9
130°	785.8	876.6	960.3	1029.4	1080.0	1115.5	1137.1	1146.7
132.5°	762.2	846.3	923.4	988.5	1038.3	1073.8	1093.8	1102.5
135°	729.0	799.1	869.3	928.1	972.7	1007.2	1026.8	1032.3
137.5°	701.5	760.3	816.3	867.5	908.1	937.9	954.9	962.3
140°	684.2	735.3	784.4	830.6	863.8	891.0	907.1	914.3
142.5°	670.3	713.6	755.7	794.3	825.7	850.3	864.7	866.9
145°	651.4	685.6	717.8	748.0	772.9	790.8	801.8	805.8
147.5°	637.2	663.4	687.8	709.3	729.5	743.6	750.9	753.2
150°	628.1	650.1	671.1	689.1	704.1	716.2	722.1	723.2
152.5°	619.3	639.7	657.5	673.1	684.9	695.3	699.7	699.9
155°	607.1	623.1	638.1	649.1	660.1	667.1	671.1	669.2
157.5°	592.9	606.3	618.9	627.5	635.3	641.1	642.9	642.9
160°	584.1	595.1	606.1	613.1	620.1	625.1	626.1	626.1
162.5°	575.3	584.7	594.1	599.5	606.5	609.9	610.9	610.1
165°	562.1	569.1	576.1	580.1	584.1	588.1	588.1	587.1
167.5°	549.5	554.9	559.7	563.4	565.1	567.3	567.1	565.9
170°	543.1	546.1	550.1	552.1	553.1	556.1	555.1	553.1
172.5°	535.9	538.1	541.3	542.5	543.5	544.9	543.9	542.7
175°	528.1	529.1	530.1	531.1	531.1	532.1	531.1	529.1
177.5°	522.5	522.5	523.3	523.3	523.3	523.3	522.5	520.9
180°	520.1	520.1	520.1	520.1	520.1	520.1	520.1	520.1

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