

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: P331897

Luminaire Tested: **S123DIP-S340D1025U835-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331897
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-17,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123DIP-S340D1025U835-4F0-1E-UDD-D4
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 340 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1025 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5151.1 lumens
Efficiency: N/A
Efficacy: 138.1 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.25' x L: 4' x H: 0.08')
CIE Type: Semi-Indirect

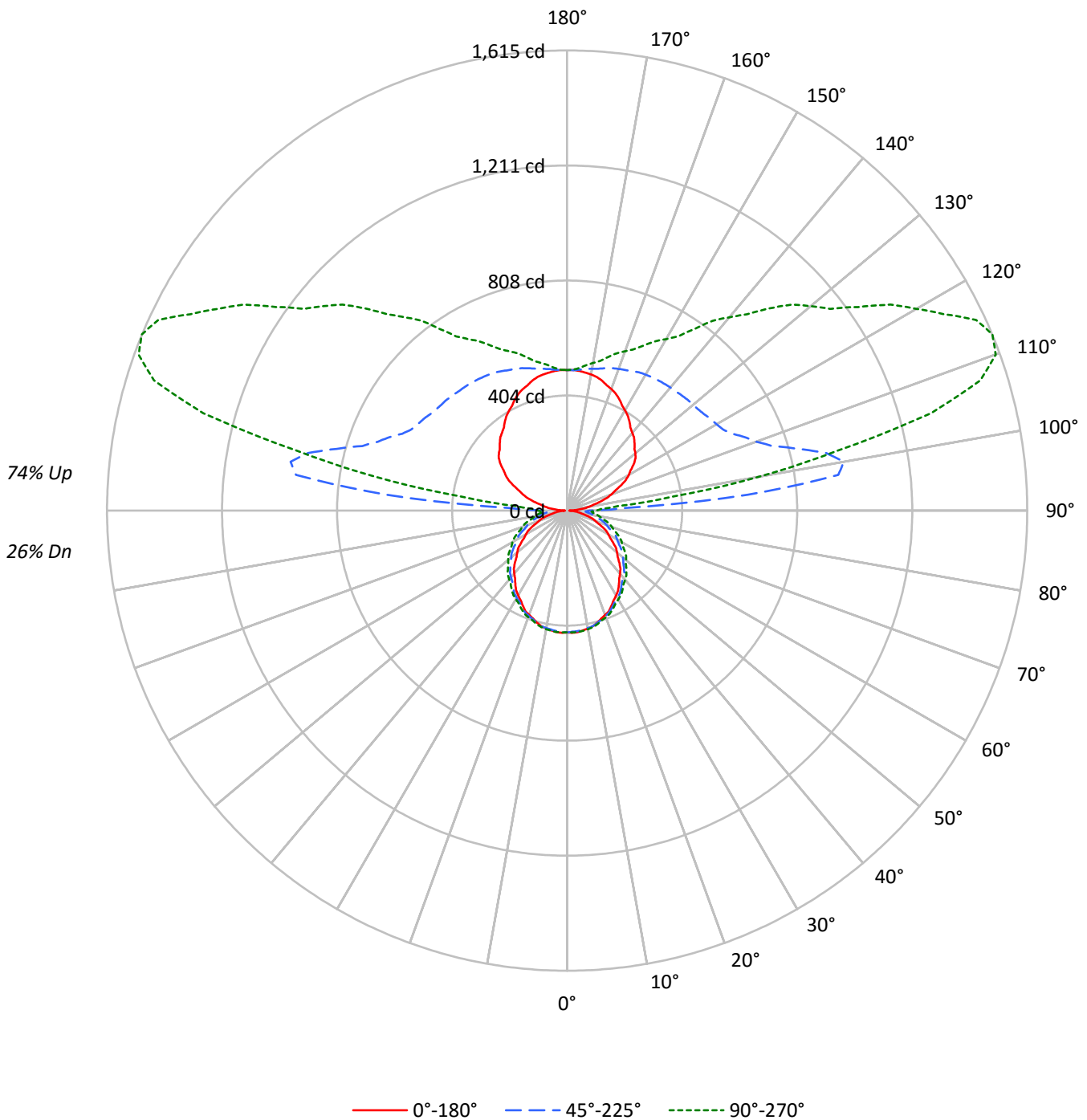
Input Watts (W): 37.3
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	90	90	90	90	70	70	70	51	51	51	34	34	34	26				
1	92	87	83	80	82	78	75	72	60	58	56	44	42	41	29	28	27	20				
2	83	76	70	65	74	68	63	58	52	49	46	38	36	34	25	24	23	17				
3	76	66	59	54	67	59	53	48	46	42	38	34	31	28	22	20	19	14				
4	69	59	51	45	61	52	46	41	41	36	32	30	27	24	20	18	16	12				
5	63	52	44	38	56	47	40	35	36	31	28	27	23	21	18	16	14	10				
6	58	46	39	33	52	42	35	30	32	27	24	24	21	18	16	14	12	9				
7	54	42	34	29	48	37	31	26	29	24	21	22	18	16	14	12	11	8				
8	50	38	30	25	44	34	27	23	27	22	18	20	16	14	13	11	10	7				
9	46	34	27	22	41	31	24	20	24	19	16	18	15	12	12	10	9	6				
10	43	31	24	20	38	28	22	18	22	18	14	17	13	11	11	9	8	6				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4604	4604	4604
5°	4618	4488	4490
10°	4577	4385	4363
15°	4518	4267	4223
20°	4434	4133	4070
25°	4330	3980	3908
30°	4224	3841	3744
35°	4103	3694	3614
40°	3990	3560	3474
45°	3864	3432	3362
50°	3739	3305	3239
55°	3601	3175	3128
60°	3466	3044	3015
65°	3328	2903	2878
70°	3120	2744	2740
75°	2859	2565	2600
80°	2556	2387	2438
85°	2274	2264	2344



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	40.5	0.8
10°-20°	115.6	2.2
20°-30°	172.9	3.4
30°-40°	206.5	4.0
40°-50°	216.0	4.2
50°-60°	202.7	3.9
60°-70°	169.3	3.3
70°-80°	121.1	2.4
80°-90°	76.1	1.5
90°-100°	319.7	6.2
100°-110°	810.3	15.7
110°-120°	786.6	15.3
120°-130°	622.4	12.1
130°-140°	486.4	9.4
140°-150°	360.0	7.0
150°-160°	250.1	4.9
160°-170°	146.9	2.9
170°-180°	47.8	0.9
0°-30°	329.0	6.4
0°-40°	535.5	10.4
0°-60°	954.2	18.5
0°-90°	1320.7	25.6
90°-120°	1916.7	37.2
90°-150°	3385.6	65.7
90°-180°	3830.0	74.4
0°-180°	5151.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	428	428	428	428	428	
5°	428	427	424	428	428	41
15°	408	409	409	413	413	115
25°	368	373	374	380	380	170
35°	317	324	330	337	339	198
45°	259	270	282	290	294	200
55°	198	213	230	242	246	177
65°	136	155	175	189	194	135
75°	74	96	119	134	140	79
85°	23	46	71	86	91	24
90°	8	41	78	96	102	6
95°	39	134	638	233	181	41
105°	120	187	838	1451	1322	127
115°	207	264	639	1382	1584	205
125°	286	338	588	1062	1246	254
135°	334	399	571	869	1004	258
145°	381	436	558	705	777	239
155°	432	466	540	614	640	199
165°	472	486	517	548	558	133
175°	492	493	496	503	502	47
180°	493	493	493	493	493	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	427.7	427.7	427.7	427.7	427.7	427.7	427.7	427.7	427.7	427.7	427.7
2.5°	429.6	429.4	429.1	428.9	428.6	428.2	427.5	426.8	426.2	425.5	426.2
5°	428.2	428.0	427.8	427.6	427.4	427.0	426.3	425.7	425.1	424.5	425.3
7.5°	424.0	424.1	424.1	424.1	424.2	423.9	423.3	422.7	422.1	421.5	422.5
10°	420.3	420.5	420.7	420.9	421.1	421.0	420.4	419.9	419.4	418.9	419.9
12.5°	415.8	416.1	416.4	416.7	417.0	416.9	416.6	416.2	415.9	415.5	416.5
15°	407.7	408.0	408.3	408.6	408.9	409.1	408.9	408.8	408.7	408.6	409.7
17.5°	397.5	398.1	398.7	399.3	399.9	400.2	400.2	400.1	400.1	400.1	401.0
20°	390.0	390.6	391.2	391.9	392.5	392.9	393.1	393.3	393.5	393.7	394.7
22.5°	382.2	382.8	383.4	384.0	384.7	385.1	385.4	385.7	386.0	386.3	387.5
25°	368.1	369.1	370.2	371.2	372.2	372.9	373.2	373.5	373.8	374.2	375.5
27.5°	353.9	355.1	356.3	357.5	358.7	359.6	360.2	360.9	361.6	362.2	363.4
30°	343.9	345.2	346.6	347.9	349.3	350.3	351.2	352.0	352.8	353.7	354.9
32.5°	332.7	334.2	335.7	337.2	338.7	340.0	341.1	342.2	343.3	344.3	345.7
35°	316.8	318.5	320.2	321.8	323.5	325.0	326.3	327.7	329.0	330.4	331.9
37.5°	300.1	301.9	303.8	305.7	307.5	309.3	310.9	312.6	314.3	315.9	317.7
40°	288.9	290.8	292.6	294.5	296.3	298.3	300.4	302.5	304.5	306.6	308.4
42.5°	276.6	278.9	281.1	283.4	285.7	287.9	290.1	292.2	294.4	296.5	298.5
45°	259.1	261.6	264.0	266.5	269.0	271.5	274.1	276.7	279.3	281.9	283.9
47.5°	240.7	243.5	246.3	249.2	252.0	254.9	257.8	260.8	263.7	266.7	268.9
50°	228.8	231.7	234.6	237.5	240.4	243.4	246.6	249.9	253.1	256.3	258.7
52.5°	216.1	219.2	222.2	225.3	228.4	231.7	235.2	238.8	242.3	245.8	248.3
55°	197.6	201.0	204.4	207.8	211.2	214.8	218.5	222.3	226.0	229.7	232.5
57.5°	179.5	183.0	186.6	190.2	193.7	197.6	201.6	205.7	209.8	213.9	216.7
60°	166.8	170.5	174.3	178.0	181.7	185.7	190.0	194.2	198.4	202.7	205.6
62.5°	154.9	158.7	162.5	166.3	170.1	174.3	178.8	183.3	187.8	192.3	195.1
65°	136.5	140.6	144.6	148.6	152.7	157.0	161.5	166.1	170.6	175.2	178.3
67.5°	117.9	122.2	126.5	130.7	135.0	139.5	144.1	148.8	153.4	158.1	161.4
70°	104.8	109.3	113.7	118.2	122.6	127.4	132.3	137.3	142.3	147.2	150.6
72.5°	92.9	97.4	101.8	106.3	110.7	115.5	120.6	125.8	130.9	136.1	139.5
75°	74.1	79.0	83.8	88.7	93.6	98.6	103.8	108.9	114.1	119.3	122.7
77.5°	57.7	62.6	67.5	72.4	77.3	82.4	87.6	92.8	98.0	103.3	106.9
80°	46.1	51.2	56.3	61.4	66.4	71.7	77.0	82.4	87.8	93.2	96.7
82.5°	36.1	41.2	46.4	51.5	56.7	62.0	67.5	72.9	78.4	83.9	87.4
85°	22.8	28.0	33.2	38.4	43.5	48.9	54.4	59.8	65.3	70.8	74.3
87.5°	12.8	18.3	23.9	29.7	35.2	40.8	46.7	52.6	58.5	64.4	67.7
90°	8.1	15.1	22.2	30.3	37.3	44.5	52.8	61.1	69.3	77.6	80.1
92.5°	18.1	28.6	41.6	54.0	66.9	86.6	117.9	166.0	213.4	203.2	168.9
95°	39.1	46.1	61.1	82.1	112.1	155.6	245.5	399.3	568.1	638.0	529.5
97.5°	62.5	67.1	79.3	97.8	126.9	173.3	259.2	431.8	709.5	960.1	1027.3
100°	78.1	82.4	92.7	110.0	137.2	180.2	254.8	407.3	674.6	985.8	1185.5
102.5°	94.5	99.2	108.4	124.6	149.1	188.7	256.0	386.1	624.5	931.7	1191.1
105°	119.5	125.0	133.5	147.9	169.4	203.8	262.2	369.4	562.5	837.5	1126.9
107.5°	145.7	150.8	158.7	172.6	192.5	224.4	275.9	365.6	522.0	754.0	1016.9
110°	164.5	169.4	176.2	189.1	207.9	238.8	287.9	367.9	505.8	706.6	947.8



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	182.1	186.6	193.1	205.6	224.1	254.0	299.7	374.0	495.7	674.0	887.2
115°	207.0	212.2	219.4	230.6	248.9	278.3	320.0	384.6	490.1	638.6	813.7
117.5°	232.2	237.6	243.3	253.3	273.0	300.1	341.1	398.9	488.9	616.1	767.9
120°	249.4	252.9	258.4	268.9	288.4	315.3	354.7	410.0	490.3	605.5	743.6
122.5°	264.6	267.8	273.1	284.2	302.6	330.9	369.3	420.5	494.2	598.0	723.3
125°	285.9	287.9	293.9	304.8	323.8	352.3	390.2	437.1	500.0	587.9	696.8
127.5°	302.4	305.3	312.6	323.7	344.6	372.7	408.9	450.9	507.3	581.5	673.2
130°	312.8	315.7	324.6	336.5	357.3	385.3	420.3	460.3	512.3	577.2	660.0
132.5°	320.4	324.2	334.0	348.3	369.3	396.2	430.0	468.8	515.6	574.6	647.7
135°	334.3	338.2	349.1	364.0	384.8	412.3	444.4	479.4	520.5	570.6	631.3
137.5°	347.4	351.5	362.2	378.1	398.8	424.0	454.4	487.4	523.6	566.1	617.1
140°	355.8	360.8	370.8	386.8	406.7	431.8	461.1	491.3	525.6	563.8	608.3
142.5°	365.4	369.5	380.2	394.5	414.4	437.7	465.9	495.1	526.8	560.8	600.3
145°	380.8	383.7	392.5	407.4	424.3	447.2	473.1	500.1	528.0	558.0	590.8
147.5°	395.9	397.7	406.5	419.4	435.8	455.4	479.1	503.3	528.0	554.2	581.8
150°	406.3	407.3	415.2	428.2	442.2	460.2	483.1	504.1	528.0	551.0	575.9
152.5°	416.6	416.8	424.8	436.2	448.6	465.8	485.5	505.7	525.6	547.0	569.6
155°	432.2	432.2	438.2	448.2	459.2	473.1	490.1	506.1	523.0	540.0	560.0
157.5°	444.6	445.4	450.2	459.0	468.3	479.1	492.7	507.1	519.7	533.8	549.2
160°	454.2	454.2	458.2	466.1	473.1	483.1	495.1	507.1	518.1	529.0	542.0
162.5°	461.4	461.4	464.6	470.9	477.1	485.5	495.9	506.3	514.9	524.2	534.8
165°	472.1	471.1	473.1	478.1	482.1	489.1	497.1	504.1	510.1	517.1	525.0
167.5°	480.3	479.1	480.1	483.9	486.7	491.1	496.9	502.5	505.3	509.9	515.7
170°	485.1	483.1	484.1	487.1	489.1	491.1	496.1	500.1	502.1	505.1	510.1
172.5°	488.3	487.1	487.3	489.5	490.7	491.9	496.1	499.3	499.7	501.1	504.5
175°	492.1	491.1	490.1	492.1	492.1	493.1	495.1	497.1	496.1	496.1	498.1
177.5°	493.9	493.1	492.3	493.1	493.1	493.1	493.9	495.5	493.9	493.1	493.9
180°	493.1	493.1	493.1	493.1	493.1	493.1	493.1	493.1	493.1	493.1	493.1



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	427.7	427.7	427.7	427.7	427.7	427.7	427.7	427.7
2.5°	426.8	427.5	428.2	428.4	428.4	428.3	428.2	428.1
5°	426.1	427.0	427.8	428.2	428.1	427.9	427.8	427.7
7.5°	423.6	424.6	425.6	426.1	426.0	425.8	425.7	425.6
10°	421.0	422.0	423.0	423.4	423.2	423.0	422.8	422.6
12.5°	417.4	418.4	419.3	419.7	419.5	419.3	419.1	418.9
15°	410.7	411.7	412.8	413.2	413.1	413.0	412.9	412.8
17.5°	401.9	402.9	403.8	404.2	404.0	403.9	403.8	403.6
20°	395.6	396.5	397.5	398.0	398.1	398.2	398.3	398.4
22.5°	388.6	389.8	391.0	391.6	391.5	391.4	391.4	391.3
25°	376.8	378.2	379.5	380.2	380.2	380.2	380.2	380.2
27.5°	364.5	365.7	366.9	367.5	367.6	367.7	367.7	367.8
30°	356.1	357.4	358.6	359.2	359.2	359.2	359.2	359.2
32.5°	347.0	348.3	349.6	350.4	350.7	350.9	351.2	351.4
35°	333.5	335.0	336.6	337.6	338.0	338.4	338.8	339.2
37.5°	319.4	321.2	323.0	324.0	324.3	324.7	325.0	325.3
40°	310.1	311.9	313.6	314.7	315.1	315.6	316.0	316.4
42.5°	300.4	302.3	304.2	305.5	306.1	306.6	307.2	307.8
45°	285.8	287.8	289.8	291.2	292.0	292.8	293.7	294.5
47.5°	271.1	273.4	275.6	277.0	277.6	278.3	278.9	279.6
50°	261.0	263.4	265.8	267.4	268.1	268.8	269.5	270.3
52.5°	250.8	253.2	255.7	257.4	258.3	259.2	260.0	260.9
55°	235.3	238.1	240.9	242.7	243.5	244.4	245.2	246.0
57.5°	219.5	222.3	225.1	227.0	228.0	229.0	230.0	230.9
60°	208.5	211.4	214.3	216.3	217.4	218.6	219.7	220.9
62.5°	198.0	200.9	203.8	205.8	206.9	207.9	209.0	210.1
65°	181.4	184.5	187.6	189.7	190.7	191.8	192.8	193.8
67.5°	164.8	168.2	171.6	173.8	174.6	175.5	176.4	177.2
70°	153.9	157.2	160.5	162.7	163.7	164.7	165.8	166.8
72.5°	142.8	146.2	149.6	151.9	152.9	153.9	155.0	156.0
75°	126.1	129.5	133.0	135.3	136.5	137.8	139.0	140.3
77.5°	110.5	114.1	117.7	119.9	120.9	121.9	122.8	123.8
80°	100.2	103.8	107.3	109.5	110.6	111.6	112.7	113.7
82.5°	90.9	94.4	98.0	100.2	101.3	102.3	103.3	104.4
85°	77.9	81.4	84.9	87.2	88.2	89.3	90.3	91.3
87.5°	71.4	75.1	78.8	81.5	82.3	83.6	84.8	85.7
90°	84.6	89.2	93.7	98.0	98.0	100.0	102.1	102.1
92.5°	140.6	126.7	122.3	119.3	118.5	116.4	118.4	117.5
95°	411.9	299.3	249.6	215.8	197.9	189.9	184.0	181.0
97.5°	944.7	769.5	643.8	526.5	453.9	410.0	384.1	376.5
100°	1223.4	1145.5	1031.8	892.0	792.3	720.4	682.5	684.6
102.5°	1314.4	1314.7	1249.6	1161.7	1084.3	1027.7	996.1	974.2
105°	1338.4	1441.1	1463.0	1438.9	1393.9	1356.9	1325.9	1321.9
107.5°	1256.2	1421.1	1511.3	1548.7	1550.4	1538.5	1528.7	1520.4
110°	1179.1	1365.5	1493.9	1565.6	1594.3	1603.2	1602.0	1600.8



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	1102.5	1292.7	1436.3	1527.9	1579.9	1605.6	1614.0	1615.4
115°	1000.9	1177.1	1326.3	1436.7	1512.4	1557.2	1578.0	1583.8
117.5°	926.3	1078.7	1212.9	1325.0	1403.8	1455.0	1484.5	1492.1
120°	886.8	1023.9	1146.1	1248.4	1328.0	1384.6	1409.3	1416.0
122.5°	855.2	979.5	1092.8	1187.9	1258.7	1309.7	1336.8	1345.1
125°	812.8	923.8	1021.8	1103.1	1167.7	1212.3	1238.0	1245.7
127.5°	775.4	874.5	963.0	1037.0	1094.6	1132.9	1156.1	1163.2
130°	751.8	843.6	926.5	995.6	1049.2	1085.7	1107.3	1115.9
132.5°	729.8	814.4	891.5	957.5	1007.9	1044.6	1063.8	1070.1
135°	700.1	772.8	839.5	897.6	947.1	977.5	996.0	1003.5
137.5°	672.8	732.5	790.1	840.5	882.1	913.0	928.7	933.8
140°	656.8	709.2	758.7	802.7	841.1	869.6	886.1	885.6
142.5°	641.4	686.5	729.4	767.7	800.5	825.8	840.7	840.2
145°	623.5	657.3	690.1	719.6	745.0	766.4	774.8	777.2
147.5°	609.0	635.4	661.4	682.3	701.6	716.1	724.1	725.3
150°	598.9	621.9	642.8	661.9	677.1	688.3	694.5	694.7
152.5°	590.1	609.9	628.5	644.2	656.1	666.3	669.9	670.0
155°	576.9	592.9	607.9	619.9	628.9	636.8	638.8	639.8
157.5°	563.0	576.3	587.9	597.3	605.1	611.1	612.7	612.5
160°	555.0	566.0	575.9	582.9	589.9	595.9	595.9	594.9
162.5°	545.4	554.8	564.0	570.2	574.8	579.9	579.9	578.9
165°	533.0	539.0	546.0	551.0	555.0	559.0	558.0	558.0
167.5°	522.2	526.8	530.8	534.4	536.2	539.0	538.0	538.0
170°	515.1	518.1	522.0	524.0	525.0	527.0	526.0	526.0
172.5°	508.7	510.9	514.1	515.3	515.5	517.5	515.7	514.9
175°	500.1	501.1	503.1	503.1	503.1	504.1	503.1	502.1
177.5°	494.7	495.5	496.3	496.3	495.5	496.3	494.7	494.7
180°	493.1	493.1	493.1	493.1	493.1	493.1	493.1	493.1

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