

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: P331942

Luminaire Tested: **S123DIP-S560D1025U835-4F0-1E-UDD-D4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331942
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-S560D1025U835-4F0-1E-UDD-D4
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 560 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: 6076.8 lumens
Efficiency: N/A
Efficacy: 136.6 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

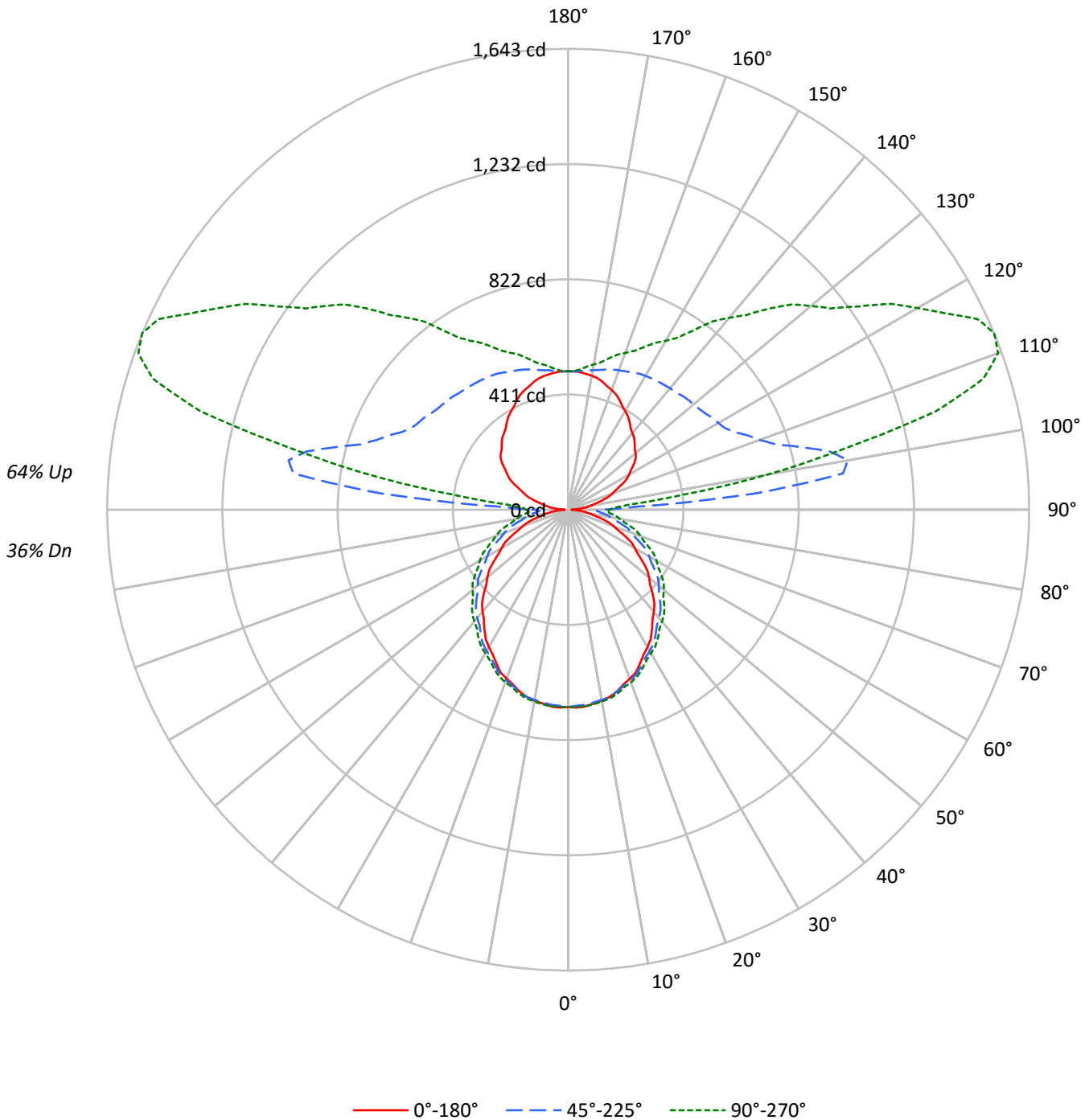
Input Watts (W): 44.5
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	104	104	104	104	94	94	94	94	75	75	75	58	58	58	43	43	43	36				
1	94	89	85	81	85	81	77	74	65	62	60	50	49	47	37	36	35	28				
2	85	77	71	66	77	70	65	60	56	53	49	44	41	39	32	30	29	23				
3	77	68	60	54	70	61	55	50	49	45	41	38	35	32	28	26	24	19				
4	71	60	52	46	63	54	47	42	44	39	35	34	30	27	25	22	21	16				
5	65	53	45	39	58	48	41	36	39	34	30	30	27	24	22	20	18	14				
6	59	47	39	34	53	43	36	31	35	30	26	27	23	21	20	18	15	12				
7	55	43	35	29	49	39	32	27	32	26	22	25	21	18	18	16	14	11				
8	51	39	31	26	46	35	28	24	29	23	20	23	19	16	17	14	12	10				
9	47	35	28	23	43	32	25	21	26	21	18	21	17	14	16	13	11	9				
10	44	32	25	20	40	29	23	19	24	19	16	19	15	13	14	12	10	8				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	7569	7569	7569
5°	7593	7378	7383
10°	7525	7209	7173
15°	7428	7016	6943
20°	7289	6795	6690
25°	7119	6541	6425
30°	6943	6313	6156
35°	6746	6072	5942
40°	6558	5852	5711
45°	6351	5641	5527
50°	6145	5433	5325
55°	5919	5219	5143
60°	5697	5003	4956
65°	5471	4772	4733
70°	5132	4514	4504
75°	4700	4216	4274
80°	4202	3924	4008
85°	3741	3722	3854



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	66.7	1.1
10°-20°	190.0	3.1
20°-30°	284.2	4.7
30°-40°	339.4	5.6
40°-50°	355.1	5.8
50°-60°	333.2	5.5
60°-70°	278.3	4.6
70°-80°	199.1	3.3
80°-90°	122.6	2.0
90°-100°	348.9	5.7
100°-110°	831.8	13.7
110°-120°	801.0	13.2
120°-130°	630.6	10.4
130°-140°	490.1	8.1
140°-150°	360.8	5.9
150°-160°	250.1	4.1
160°-170°	146.9	2.4
170°-180°	47.8	0.8
0°-30°	540.9	8.9
0°-40°	880.3	14.5
0°-60°	1568.7	25.8
0°-90°	2168.8	35.7
90°-120°	1981.7	32.6
90°-150°	3463.2	57.0
90°-180°	3908.0	64.3
0°-180°	6076.8	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	703	703	703	703	703	
5°	704	702	698	704	703	67
15°	670	672	672	679	679	189
25°	605	613	615	625	625	279
35°	521	533	543	554	558	326
45°	426	444	463	478	484	328
55°	325	350	378	398	404	291
65°	224	255	288	310	319	222
75°	122	158	196	220	231	130
85°	38	76	116	141	150	39
90°	12	60	112	140	149	9
95°	42	149	668	271	223	43
105°	122	196	860	1482	1356	129
115°	208	269	654	1404	1609	207
125°	287	339	598	1078	1264	255
135°	335	399	574	877	1014	259
145°	381	436	558	707	781	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°	703.2	703.2	703.2	703.2	703.2	703.2	703.2	703.2	703.2	703.2	703.2
2.5°	706.3	705.9	705.5	705.0	704.6	703.9	702.8	701.7	700.6	699.5	700.6
5°	704.0	703.6	703.3	703.0	702.6	701.9	700.9	699.9	698.9	697.8	699.2
7.5°	697.1	697.1	697.2	697.3	697.4	696.9	695.9	694.9	693.9	692.9	694.6
10°	691.0	691.3	691.6	692.0	692.3	692.1	691.2	690.4	689.5	688.7	690.4
12.5°	683.6	684.1	684.6	685.0	685.5	685.5	684.9	684.3	683.7	683.1	684.7
15°	670.3	670.8	671.3	671.8	672.3	672.5	672.3	672.1	672.0	671.8	673.5
17.5°	653.4	654.4	655.5	656.5	657.5	658.0	657.9	657.8	657.8	657.7	659.2
20°	641.2	642.2	643.2	644.2	645.2	645.9	646.3	646.6	646.9	647.3	648.8
22.5°	628.3	629.3	630.3	631.4	632.4	633.1	633.6	634.1	634.6	635.0	637.0
25°	605.2	606.9	608.6	610.3	612.0	613.1	613.6	614.1	614.6	615.1	617.3
27.5°	581.9	583.8	585.8	587.7	589.6	591.1	592.2	593.3	594.4	595.5	597.4
30°	565.3	567.5	569.7	572.0	574.2	576.0	577.3	578.7	580.0	581.4	583.5
32.5°	546.9	549.4	551.9	554.4	556.9	559.0	560.8	562.5	564.3	566.1	568.3
35°	520.9	523.6	526.3	529.1	531.8	534.3	536.5	538.7	540.9	543.1	545.7
37.5°	493.3	496.4	499.4	502.5	505.6	508.5	511.2	513.9	516.6	519.4	522.3
40°	474.9	478.0	481.1	484.1	487.2	490.4	493.8	497.2	500.6	504.0	506.9
42.5°	454.7	458.5	462.2	465.9	469.7	473.3	476.9	480.4	484.0	487.5	490.7
45°	425.9	430.0	434.1	438.2	442.2	446.4	450.7	454.9	459.2	463.4	466.7
47.5°	395.7	400.4	405.0	409.6	414.2	419.0	423.9	428.7	433.6	438.5	442.1
50°	376.1	380.9	385.6	390.4	395.2	400.2	405.5	410.8	416.0	421.3	425.2
52.5°	355.3	360.3	365.4	370.4	375.4	380.9	386.7	392.5	398.3	404.2	408.2
55°	324.8	330.4	336.0	341.6	347.3	353.1	359.3	365.4	371.5	377.6	382.2
57.5°	295.1	300.9	306.8	312.6	318.5	324.8	331.5	338.2	344.9	351.6	356.2
60°	274.2	280.4	286.5	292.6	298.7	305.3	312.3	319.3	326.2	333.2	338.0
62.5°	254.6	260.9	267.2	273.4	279.7	286.5	293.9	301.3	308.7	316.1	320.8
65°	224.4	231.1	237.7	244.4	251.0	258.1	265.6	273.0	280.5	288.0	293.1
67.5°	193.8	200.9	207.9	214.9	222.0	229.3	237.0	244.6	252.2	259.8	265.4
70°	172.4	179.7	187.0	194.3	201.6	209.4	217.5	225.7	233.9	242.1	247.5
72.5°	152.7	160.1	167.4	174.7	182.0	189.9	198.3	206.8	215.2	223.7	229.3
75°	121.8	129.8	137.8	145.8	153.8	162.1	170.6	179.1	187.6	196.1	201.7
77.5°	94.8	102.9	111.0	119.0	127.1	135.4	144.0	152.6	161.2	169.8	175.7
80°	75.8	84.2	92.5	100.9	109.2	117.8	126.6	135.5	144.4	153.2	159.0
82.5°	59.3	67.8	76.2	84.7	93.2	101.9	110.9	119.9	128.9	137.9	143.7
85°	37.5	46.0	54.6	63.1	71.6	80.3	89.4	98.4	107.4	116.4	122.2
87.5°	20.8	29.7	38.5	47.6	56.5	65.5	74.7	84.0	93.3	102.6	108.2
90°	12.0	22.3	32.6	44.0	54.3	64.8	76.5	88.2	99.8	111.5	116.3
92.5°	21.7	35.2	51.1	66.5	82.4	105.2	139.9	191.3	242.0	235.2	203.1
95°	42.4	52.0	69.6	93.2	125.8	172.2	265.4	422.5	594.5	667.8	561.2
97.5°	65.4	72.4	87.0	107.7	139.3	188.4	277.4	453.1	733.9	987.6	1056.8
100°	80.8	87.2	99.6	119.1	148.5	194.0	271.7	427.3	697.6	1011.9	1213.5
102.5°	96.9	103.6	114.7	132.8	159.2	201.3	271.7	404.7	646.2	956.3	1217.7
105°	121.9	129.0	139.1	155.1	178.2	214.8	276.1	386.2	582.2	860.0	1151.2
107.5°	147.7	154.2	163.5	178.7	200.0	233.9	288.2	380.6	539.6	774.4	1039.1
110°	166.3	172.4	180.4	194.5	214.5	247.4	299.1	381.8	522.3	725.8	968.8



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	183.9	189.4	196.9	210.4	229.9	261.6	309.8	386.6	511.0	691.8	906.7
115°	208.5	214.5	222.5	234.5	253.6	284.6	328.7	395.7	503.6	654.5	831.2
117.5°	233.7	239.5	245.8	256.2	276.4	304.9	348.2	408.2	500.4	630.0	783.3
120°	250.6	254.5	260.3	271.1	290.9	319.1	360.7	418.2	500.7	618.1	757.8
122.5°	265.8	269.2	274.7	285.9	304.5	333.9	374.4	427.7	503.5	609.5	736.2
125°	286.8	288.8	294.8	305.7	324.7	354.1	394.0	442.9	507.7	597.5	707.8
127.5°	303.3	306.2	313.4	324.4	345.2	374.1	411.9	455.5	513.5	589.3	682.3
130°	313.7	316.6	325.4	337.2	358.0	386.5	422.9	464.2	517.5	583.8	667.9
132.5°	321.1	324.9	334.6	348.9	369.9	397.4	432.2	472.1	519.9	580.0	654.3
135°	334.9	338.7	349.6	364.4	385.2	413.0	445.8	481.6	523.4	574.2	636.1
137.5°	347.9	352.0	362.6	378.5	399.1	424.5	455.3	488.7	525.3	568.3	620.3
140°	356.1	361.1	371.1	387.1	407.0	432.2	461.7	492.1	526.6	565.0	610.5
142.5°	365.7	369.8	380.4	394.6	414.5	437.8	466.1	495.3	527.0	561.0	601.4
145°	381.1	383.9	392.7	407.5	424.3	447.2	473.1	500.1	528.0	558.0	591.3
147.5°	395.9	397.7	406.5	419.4	435.8	455.4	479.1	503.3	528.0	554.2	581.9
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°	703.2	703.2	703.2	703.2	703.2	703.2	703.2	703.2
2.5°	701.7	702.8	703.9	704.4	704.2	704.1	704.0	703.8
5°	700.6	701.9	703.3	703.9	703.7	703.5	703.4	703.2
7.5°	696.3	698.0	699.8	700.5	700.3	700.1	699.9	699.7
10°	692.1	693.8	695.5	696.1	695.8	695.5	695.1	694.8
12.5°	686.3	687.8	689.4	690.0	689.7	689.3	689.0	688.7
15°	675.2	676.9	678.6	679.4	679.2	679.0	678.9	678.7
17.5°	660.8	662.3	663.8	664.5	664.2	664.0	663.8	663.5
20°	650.4	651.9	653.4	654.3	654.4	654.6	654.8	654.9
22.5°	638.9	640.9	642.8	643.7	643.6	643.5	643.4	643.3
25°	619.5	621.8	624.0	625.1	625.1	625.1	625.1	625.1
27.5°	599.3	601.2	603.1	604.2	604.3	604.4	604.6	604.7
30°	585.5	587.5	589.6	590.6	590.6	590.6	590.6	590.6
32.5°	570.4	572.6	574.8	576.1	576.5	576.9	577.3	577.7
35°	548.2	550.8	553.3	554.9	555.6	556.3	557.0	557.7
37.5°	525.1	528.0	530.9	532.7	533.2	533.7	534.3	534.8
40°	509.8	512.7	515.6	517.4	518.1	518.8	519.4	520.1
42.5°	493.8	497.0	500.2	502.2	503.2	504.1	505.1	506.0
45°	469.9	473.1	476.4	478.7	480.0	481.4	482.8	484.1
47.5°	445.8	449.4	453.0	455.4	456.4	457.5	458.6	459.6
50°	429.1	433.1	437.0	439.5	440.7	441.9	443.1	444.3
52.5°	412.3	416.3	420.4	423.1	424.6	426.0	427.5	429.0
55°	386.8	391.4	396.0	399.0	400.4	401.7	403.1	404.5
57.5°	360.9	365.5	370.1	373.2	374.8	376.4	378.0	379.6
60°	342.8	347.5	352.3	355.6	357.5	359.3	361.2	363.1
62.5°	325.6	330.4	335.1	338.4	340.1	341.8	343.6	345.3
65°	298.2	303.3	308.5	311.9	313.6	315.3	317.0	318.7
67.5°	271.0	276.6	282.2	285.7	287.1	288.5	290.0	291.4
70°	253.0	258.4	263.9	267.4	269.1	270.8	272.5	274.2
72.5°	234.8	240.4	246.0	249.7	251.4	253.1	254.8	256.5
75°	207.3	213.0	218.6	222.4	224.4	226.5	228.5	230.6
77.5°	181.6	187.5	193.4	197.2	198.8	200.3	201.9	203.5
80°	164.8	170.6	176.4	180.1	181.8	183.5	185.2	186.9
82.5°	149.5	155.2	161.0	164.8	166.5	168.2	169.9	171.6
85°	128.0	133.8	139.6	143.3	145.0	146.7	148.4	150.1
87.5°	114.2	120.1	126.1	130.3	131.8	133.7	135.6	137.1
90°	123.1	129.9	136.7	142.4	143.1	145.8	148.5	149.2
92.5°	177.0	165.3	163.2	161.6	161.3	159.9	162.5	162.2
95°	445.7	335.2	287.6	255.2	237.9	230.6	225.3	223.0
97.5°	976.2	803.0	679.3	563.3	491.4	448.2	422.9	416.0
100°	1253.4	1177.5	1065.6	927.2	828.1	756.9	719.7	722.4
102.5°	1342.9	1345.1	1281.8	1195.2	1118.4	1062.4	1031.6	1010.4
105°	1364.6	1469.2	1492.9	1470.1	1425.7	1389.3	1358.9	1355.5
107.5°	1280.2	1446.9	1538.9	1577.4	1579.7	1568.4	1559.2	1551.5
110°	1201.8	1389.9	1520.1	1592.8	1622.2	1631.5	1630.9	1630.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	1123.6	1315.5	1460.8	1553.5	1606.1	1632.3	1641.4	1643.3
115°	1020.0	1197.8	1348.6	1460.1	1536.3	1581.6	1602.9	1609.3
117.5°	943.3	1097.3	1233.1	1346.2	1425.6	1477.2	1507.3	1515.4
120°	902.4	1041.1	1164.8	1268.2	1348.2	1405.3	1430.5	1437.6
122.5°	869.5	995.3	1110.1	1206.2	1277.5	1329.0	1356.5	1365.3
125°	825.2	937.6	1037.0	1119.2	1184.3	1229.4	1255.6	1263.7
127.5°	785.9	886.3	976.1	1051.0	1109.1	1147.8	1171.5	1179.0
130°	761.0	854.0	938.1	1008.1	1062.1	1099.0	1121.0	1130.0
132.5°	737.7	823.4	901.8	968.6	1019.5	1056.6	1076.3	1083.0
135°	706.1	780.0	847.9	906.8	956.6	987.4	1006.2	1014.0
137.5°	677.1	737.9	796.5	847.5	889.5	920.7	936.7	942.2
140°	660.0	713.4	763.9	808.5	847.3	876.1	892.9	892.8
142.5°	643.4	689.4	733.2	772.1	805.3	830.9	846.1	846.0
145°	624.6	658.9	692.2	722.2	747.8	769.4	778.1	780.8
147.5°	609.3	635.9	662.0	683.1	702.7	717.5	725.7	727.1
150°	598.9	621.9	642.8	662.0	677.3	688.6	694.9	695.3
152.5°	590.1	609.9	628.5	644.3	656.1	666.4	670.0	670.1
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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