

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: P332263-840

Luminaire Tested: **S123RDIP-S340D1025U840-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332263-840
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: S123RDIP-S340D1025U840-4F0-1E-UDD-F4
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 340 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 1025 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5061.0 lumens
Efficiency: N/A
Efficacy: 135.7 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.06 / 1.22
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')
CIE Type: Semi-Indirect

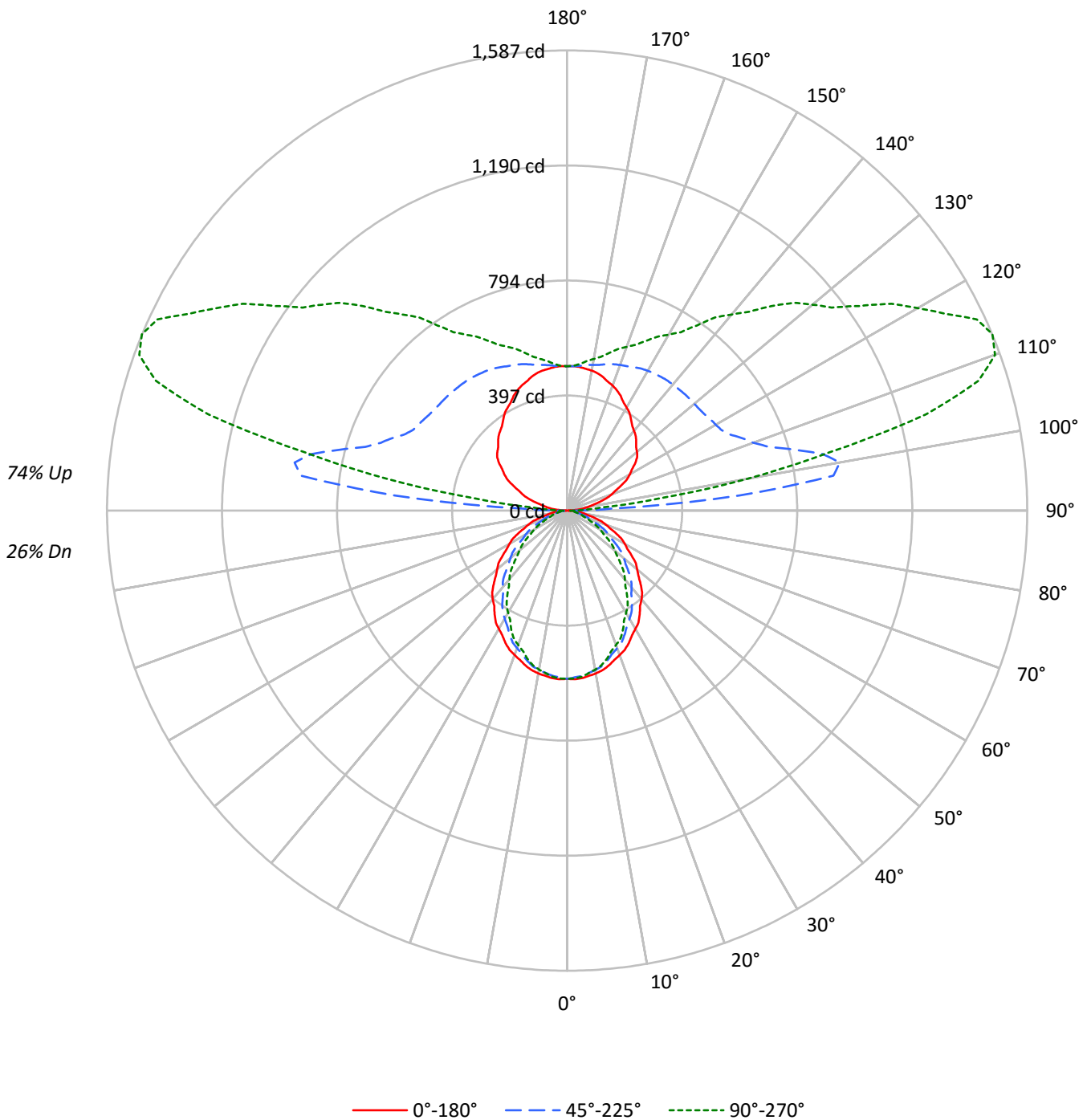
Input Watts (W): 37.3
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	0
RCR																		
0	101	101	101	101	90	90	90	90	70	70	70	51	51	51	34	34	34	26
1	93	88	85	81	82	79	76	73	61	59	58	45	44	43	30	30	29	22
2	84	77	72	67	75	69	64	60	54	51	48	40	38	36	27	26	25	19
3	77	68	61	56	68	61	55	50	48	44	40	35	33	31	24	22	21	16
4	70	60	53	47	63	54	48	43	42	38	34	32	29	26	21	20	18	14
5	65	54	46	40	57	48	42	37	38	33	30	28	25	23	19	17	16	12
6	59	48	40	35	53	43	37	32	34	29	26	26	22	20	18	16	14	11
7	55	43	36	30	49	39	32	28	31	26	23	23	20	18	16	14	13	10
8	51	39	32	27	45	35	29	24	28	23	20	21	18	16	15	13	11	9
9	47	36	28	24	42	32	26	22	26	21	18	19	16	14	14	12	10	8
10	44	32	26	21	39	29	23	19	23	19	16	18	15	13	13	11	9	7

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	6245	6245	6245
5°	6269	6183	6218
10°	6233	6105	6084
15°	6167	5962	5899
20°	6074	5783	5648
25°	5980	5583	5404
30°	5854	5351	5059
35°	5727	5119	4742
40°	5606	4846	4350
45°	5451	4576	3997
50°	5280	4270	3600
55°	5104	3920	3232
60°	4943	3546	2827
65°	4735	3140	2420
70°	4472	2634	1954
75°	4092	2075	1838
80°	3645	1841	1692
85°	3075	1618	1507



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	54.5	1.1
10°-20°	151.6	3.0
20°-30°	218.3	4.3
30°-40°	245.9	4.9
40°-50°	235.2	4.6
50°-60°	192.6	3.8
60°-70°	130.0	2.6
70°-80°	65.4	1.3
80°-90°	21.1	0.4
90°-100°	277.1	5.5
100°-110°	784.7	15.5
110°-120°	771.9	15.3
120°-130°	615.7	12.2
130°-140°	485.5	9.6
140°-150°	362.3	7.2
150°-160°	252.5	5.0
160°-170°	148.4	2.9
170°-180°	48.3	1.0
0°-30°	424.3	8.4
0°-40°	670.2	13.2
0°-60°	1098.1	21.7
0°-90°	1314.5	26.0
90°-120°	1833.8	36.2
90°-150°	3297.3	65.2
90°-180°	3746.0	74.0
0°-180°	5061.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	580	580	580	580	580	
5°	580	578	572	576	576	55
15°	553	548	535	533	529	156
25°	504	491	470	460	455	231
35°	436	418	390	370	361	273
45°	358	336	301	275	263	276
55°	272	248	209	183	172	244
65°	186	159	123	101	95	184
75°	98	76	50	45	44	105
85°	25	15	13	12	12	28
90°	2	12	25	28	29	4
95°	34	111	598	174	117	37
105°	117	173	810	1417	1282	124
115°	207	258	620	1359	1559	205
125°	287	339	579	1048	1230	255
135°	337	402	571	863	997	260
145°	384	440	564	708	779	241
155°	436	471	545	620	646	201
165°	477	490	522	554	564	134
175°	497	498	501	508	507	47
180°	498	498	498	498	498	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	580.2	580.2	580.2	580.2	580.2	580.2	580.2	580.2	580.2	580.2	580.2
2.5°	582.1	581.7	581.4	581.1	580.8	580.1	579.1	578.0	577.0	576.0	576.9
5°	580.2	579.7	579.2	578.7	578.0	577.2	575.9	574.7	573.4	572.2	573.1
7.5°	574.8	574.2	573.7	573.1	572.6	571.5	569.9	568.3	566.5	564.9	565.4
10°	570.3	569.6	568.9	568.2	567.3	566.0	564.2	562.3	560.4	558.6	558.7
12.5°	563.9	563.1	562.3	561.5	560.7	559.1	556.7	554.5	552.2	549.9	549.8
15°	553.4	552.2	551.1	549.9	548.8	546.7	543.8	540.9	538.0	535.0	534.5
17.5°	540.1	538.8	537.5	536.0	534.7	532.2	528.5	524.7	521.1	517.4	516.2
20°	530.3	528.7	526.9	525.3	523.6	520.8	516.8	512.8	508.9	504.9	503.5
22.5°	519.4	517.5	515.5	513.6	511.7	508.7	504.4	500.2	495.9	491.7	490.0
25°	503.5	500.9	498.3	495.6	493.0	489.3	484.5	479.7	474.8	470.1	467.9
27.5°	484.2	481.3	478.4	475.5	472.6	468.6	463.2	457.8	452.4	447.1	444.0
30°	471.0	467.9	464.7	461.6	458.5	453.9	448.1	442.2	436.4	430.5	427.0
32.5°	457.9	454.2	450.7	447.2	443.6	438.8	432.5	426.4	420.2	413.9	410.1
35°	435.8	431.9	428.2	424.4	420.7	415.6	409.1	402.5	396.1	389.6	385.2
37.5°	413.3	409.1	405.0	400.8	396.6	391.0	384.2	377.2	370.3	363.3	358.3
40°	399.0	394.5	389.8	385.3	380.6	374.6	367.2	359.7	352.3	344.9	339.5
42.5°	382.8	378.2	373.7	369.0	364.5	358.3	350.6	343.0	335.3	327.6	321.6
45°	358.1	353.4	348.7	344.0	339.2	332.9	324.9	316.8	308.7	300.6	294.7
47.5°	333.4	328.2	323.0	317.8	312.7	306.1	298.0	289.9	282.0	273.9	267.4
50°	315.3	310.3	305.5	300.5	295.6	288.9	280.4	272.0	263.5	255.0	248.5
52.5°	299.1	293.8	288.4	283.1	277.7	270.8	262.5	254.1	245.7	237.3	230.7
55°	272.0	266.8	261.8	256.6	251.5	244.5	235.6	226.7	217.8	208.9	202.9
57.5°	246.9	241.4	235.8	230.1	224.6	217.3	208.4	199.4	190.6	181.7	175.9
60°	229.6	223.9	218.1	212.4	206.6	199.4	190.8	182.1	173.4	164.7	159.1
62.5°	212.3	206.5	200.8	195.1	189.3	182.1	173.4	164.7	156.0	147.3	142.1
65°	185.9	180.2	174.4	168.6	162.9	155.9	147.7	139.6	131.5	123.3	118.2
67.5°	159.5	153.6	147.7	142.0	136.1	129.4	121.5	113.7	105.8	98.1	94.2
70°	142.1	136.4	130.8	125.1	119.6	113.0	105.7	98.4	91.1	83.7	80.1
72.5°	124.8	119.3	113.7	108.1	102.5	96.4	89.8	83.1	76.4	69.8	66.9
75°	98.4	93.3	88.3	83.3	78.3	72.9	67.2	61.4	55.6	49.9	48.9
77.5°	74.2	69.7	65.1	60.6	56.1	52.0	48.3	44.5	40.9	37.2	36.7
80°	58.8	54.5	50.3	45.9	41.7	38.5	36.3	34.0	31.8	29.7	29.3
82.5°	44.1	40.4	36.8	33.0	29.3	27.0	26.0	24.9	23.9	22.8	22.5
85°	24.9	22.6	20.3	18.1	15.8	14.4	14.1	13.8	13.5	13.1	12.9
87.5°	9.4	8.9	8.4	8.1	7.6	7.5	8.1	8.7	9.3	9.9	9.7
90°	2.0	4.0	6.1	9.1	11.1	13.1	16.2	19.2	22.2	25.2	24.2
92.5°	12.5	18.6	27.1	34.8	43.3	58.3	84.6	128.1	170.6	155.0	116.9
95°	34.2	37.3	48.4	65.5	91.7	131.1	216.7	366.9	532.2	597.7	484.8
97.5°	58.5	59.5	68.2	83.0	108.9	151.4	233.3	402.6	678.2	926.3	991.1
100°	74.6	75.6	82.7	96.7	121.0	160.3	230.9	380.0	645.1	954.6	1153.2
102.5°	91.5	93.3	99.6	112.9	134.7	170.8	234.1	360.6	596.7	902.2	1161.2
105°	116.9	120.0	126.0	138.1	157.2	188.5	243.0	346.8	537.2	810.4	1099.7
107.5°	143.9	146.9	152.8	164.7	182.7	211.7	259.4	345.8	499.4	729.4	992.1
110°	163.3	166.3	171.4	182.5	199.5	227.8	273.2	349.8	484.8	683.5	924.3



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	181.1	184.1	189.1	200.2	217.3	244.8	286.9	357.9	476.8	652.8	865.5
115°	206.6	210.7	216.7	226.8	244.0	271.1	309.4	370.9	473.7	620.0	794.4
117.5°	232.3	236.9	242.0	251.2	270.3	295.6	333.5	388.3	475.5	600.6	751.3
120°	249.9	253.0	258.0	268.1	287.3	312.5	348.8	401.2	478.8	591.7	728.8
122.5°	265.3	268.3	273.4	284.3	302.7	329.4	364.9	413.3	484.4	586.0	710.2
125°	287.3	289.3	295.4	306.4	325.6	352.8	388.1	432.4	492.9	578.7	686.5
127.5°	304.1	307.0	314.5	325.8	347.0	374.2	408.3	448.2	502.6	575.0	665.5
130°	314.5	317.5	326.6	338.7	359.8	387.1	420.3	458.7	509.1	572.6	654.2
132.5°	322.6	326.4	336.3	350.8	371.9	398.4	430.8	468.4	513.9	571.8	643.7
135°	336.7	340.7	351.8	366.9	388.1	415.3	446.6	480.8	521.2	570.6	630.1
137.5°	350.0	354.3	365.1	381.2	402.2	427.4	457.5	490.1	525.9	568.4	618.1
140°	358.9	363.9	374.0	390.1	410.3	435.5	464.7	494.9	529.2	567.5	610.9
142.5°	368.5	372.7	383.6	398.2	418.3	441.9	470.4	499.8	531.6	565.9	604.4
145°	384.1	387.1	396.2	411.3	428.4	451.6	477.8	505.0	533.2	563.5	595.7
147.5°	399.8	401.6	410.5	423.5	440.1	459.9	483.8	508.3	533.2	559.7	587.2
150°	410.3	411.3	419.3	432.4	446.6	464.7	487.9	509.1	533.2	556.4	581.6
152.5°	420.7	420.9	429.0	440.5	453.0	470.4	490.3	510.7	530.8	552.4	575.2
155°	436.5	436.5	442.5	452.6	463.7	477.8	494.9	511.1	528.2	545.3	565.5
157.5°	449.0	449.8	454.6	463.5	472.9	483.8	497.6	512.1	524.8	539.1	554.6
160°	458.7	458.7	462.7	470.7	477.8	487.9	500.0	512.1	523.2	534.2	547.3
162.5°	466.0	466.0	469.2	475.5	481.8	490.3	500.8	511.3	520.0	529.4	540.1
165°	476.8	475.7	477.8	482.8	486.9	493.9	502.0	509.1	515.1	522.2	530.2
167.5°	485.0	483.8	484.8	488.7	491.5	495.9	501.8	507.5	510.3	514.9	520.8
170°	489.9	487.9	488.9	491.9	493.9	495.9	501.0	505.0	507.1	510.1	515.1
172.5°	493.1	491.9	492.1	494.3	495.5	496.8	501.0	504.2	504.6	506.0	509.5
175°	497.0	495.9	494.9	497.0	497.0	498.0	500.0	502.0	501.0	501.0	503.0
177.5°	498.8	498.0	497.2	498.0	498.0	498.0	498.8	500.4	498.8	498.0	498.8
180°	498.0	498.0	498.0	498.0	498.0	498.0	498.0	498.0	498.0	498.0	498.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	580.2	580.2	580.2	580.2	580.2	580.2	580.2	580.2
2.5°	577.8	578.8	579.8	580.1	580.0	579.8	579.6	579.5
5°	574.1	575.0	575.9	576.3	576.1	575.9	575.7	575.5
7.5°	566.0	566.5	567.0	567.1	566.7	566.4	566.0	565.7
10°	558.8	558.9	559.0	558.8	558.3	557.7	557.1	556.6
12.5°	549.8	549.7	549.7	549.3	548.7	548.1	547.4	546.8
15°	533.9	533.4	532.9	532.3	531.6	530.8	530.1	529.4
17.5°	515.1	514.0	512.9	511.8	510.7	509.6	508.6	507.5
20°	502.2	500.8	499.5	498.2	496.9	495.6	494.4	493.1
22.5°	488.4	486.7	484.9	483.5	482.3	481.2	480.0	478.9
25°	465.6	463.5	461.3	459.6	458.5	457.4	456.2	455.0
27.5°	441.0	438.0	434.9	432.5	430.7	429.0	427.3	425.5
30°	423.4	419.9	416.4	413.7	412.0	410.4	408.7	407.0
32.5°	406.2	402.3	398.4	395.6	393.8	392.1	390.3	388.6
35°	380.6	376.1	371.6	368.4	366.6	364.7	362.7	360.9
37.5°	353.1	348.0	343.0	339.2	336.9	334.6	332.2	329.9
40°	334.1	328.6	323.2	319.2	316.8	314.5	312.0	309.6
42.5°	315.7	309.8	303.9	299.8	297.6	295.5	293.4	291.1
45°	288.7	282.8	276.8	272.6	270.1	267.6	265.1	262.6
47.5°	260.8	254.4	247.9	243.6	241.4	239.1	236.8	234.6
50°	242.1	235.6	229.1	224.7	222.3	219.8	217.4	215.0
52.5°	223.9	217.1	210.5	206.0	203.8	201.7	199.5	197.3
55°	196.8	190.8	184.7	180.6	178.5	176.4	174.3	172.2
57.5°	170.2	164.4	158.8	154.9	153.2	151.4	149.7	147.8
60°	153.4	147.7	142.1	138.4	136.6	134.8	133.1	131.3
62.5°	136.7	131.5	126.1	122.5	120.7	118.9	116.9	115.1
65°	113.0	108.0	102.8	99.7	98.5	97.4	96.2	95.0
67.5°	90.4	86.5	82.7	80.2	79.0	77.8	76.5	75.3
70°	76.4	72.8	69.1	66.8	65.5	64.4	63.2	62.1
72.5°	63.8	60.9	57.9	56.1	55.6	55.1	54.7	54.2
75°	47.8	46.8	45.6	45.0	44.8	44.6	44.4	44.2
77.5°	36.1	35.4	34.9	34.5	34.3	34.1	33.9	33.7
80°	29.0	28.7	28.4	28.2	27.9	27.7	27.5	27.3
82.5°	22.2	21.9	21.6	21.4	21.4	21.3	21.3	21.3
85°	12.7	12.5	12.3	12.2	12.2	12.2	12.2	12.2
87.5°	9.8	9.9	10.0	10.3	10.0	10.2	10.3	10.0
90°	25.2	26.3	27.3	29.2	28.2	29.2	30.2	29.2
92.5°	84.8	67.4	59.5	54.2	52.4	49.4	50.4	48.6
95°	362.8	246.0	192.6	156.2	137.1	128.1	121.0	116.9
97.5°	904.6	724.6	594.5	473.9	399.6	354.3	327.0	318.3
100°	1188.5	1106.8	988.9	845.8	744.0	670.3	631.1	632.1
102.5°	1282.8	1280.2	1211.4	1120.7	1041.5	983.2	950.4	927.2
105°	1310.4	1411.3	1430.4	1404.2	1357.8	1319.5	1287.3	1282.2
107.5°	1231.0	1394.7	1483.0	1518.9	1519.7	1506.8	1495.9	1486.6
110°	1155.2	1340.7	1467.6	1538.2	1566.5	1574.6	1572.6	1570.5



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	1080.2	1269.7	1412.0	1502.8	1554.4	1579.3	1587.0	1587.4
115°	980.8	1156.2	1304.3	1414.2	1489.9	1534.2	1554.4	1559.4
117.5°	908.9	1060.3	1193.3	1304.7	1383.6	1434.4	1463.5	1470.3
120°	870.9	1007.0	1128.0	1229.8	1309.4	1365.8	1390.1	1396.1
122.5°	841.1	964.3	1076.4	1170.9	1241.7	1292.5	1319.1	1326.8
125°	801.4	911.3	1008.0	1088.6	1153.2	1197.5	1222.7	1229.8
127.5°	766.7	864.6	952.0	1025.3	1082.8	1120.7	1143.5	1149.9
130°	745.0	835.7	917.3	985.8	1039.3	1075.6	1096.7	1104.8
132.5°	724.8	808.2	884.2	949.6	999.8	1036.0	1054.8	1060.5
135°	697.5	769.1	834.7	892.1	941.5	971.7	989.9	996.9
137.5°	672.8	731.4	787.9	837.7	879.2	909.9	925.1	929.8
140°	658.2	709.6	758.0	801.4	839.7	867.9	884.0	883.0
142.5°	644.5	688.7	730.6	768.3	801.0	826.0	840.5	839.5
145°	628.0	661.3	693.5	722.8	747.9	769.1	777.2	779.2
147.5°	614.5	640.9	666.9	687.7	706.8	721.1	728.8	729.6
150°	604.8	628.0	649.1	668.3	683.5	694.5	700.5	700.5
152.5°	595.9	615.9	634.7	650.6	662.5	672.8	676.4	676.4
155°	582.6	598.7	613.9	626.0	635.1	643.1	645.1	646.1
157.5°	568.6	582.0	593.7	603.2	611.1	617.1	618.7	618.5
160°	560.5	571.6	581.6	588.7	595.7	601.8	601.8	600.8
162.5°	550.8	560.3	569.6	575.8	580.5	585.6	585.6	584.6
165°	538.3	544.3	551.4	556.4	560.5	564.5	563.5	563.5
167.5°	527.4	532.0	536.0	539.7	541.5	544.3	543.3	543.3
170°	520.2	523.2	527.1	529.2	530.2	532.2	531.2	531.2
172.5°	513.7	515.9	519.2	520.4	520.6	522.6	520.8	520.0
175°	505.0	506.0	508.1	508.1	508.1	509.1	508.1	507.1
177.5°	499.6	500.4	501.2	501.2	500.4	501.2	499.6	499.6
180°	498.0	498.0	498.0	498.0	498.0	498.0	498.0	498.0

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