

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: P331909-840

Luminaire Tested: **S123DIP-S340D1195U840-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331909-840
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: S123DIP-S340D1195U840-4F0-1E-UDD-F4
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 340 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 1195 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5789.2 lumens
Efficiency: N/A
Efficacy: 137.2 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.18 / 1.31
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')
CIE Type: Semi-Indirect

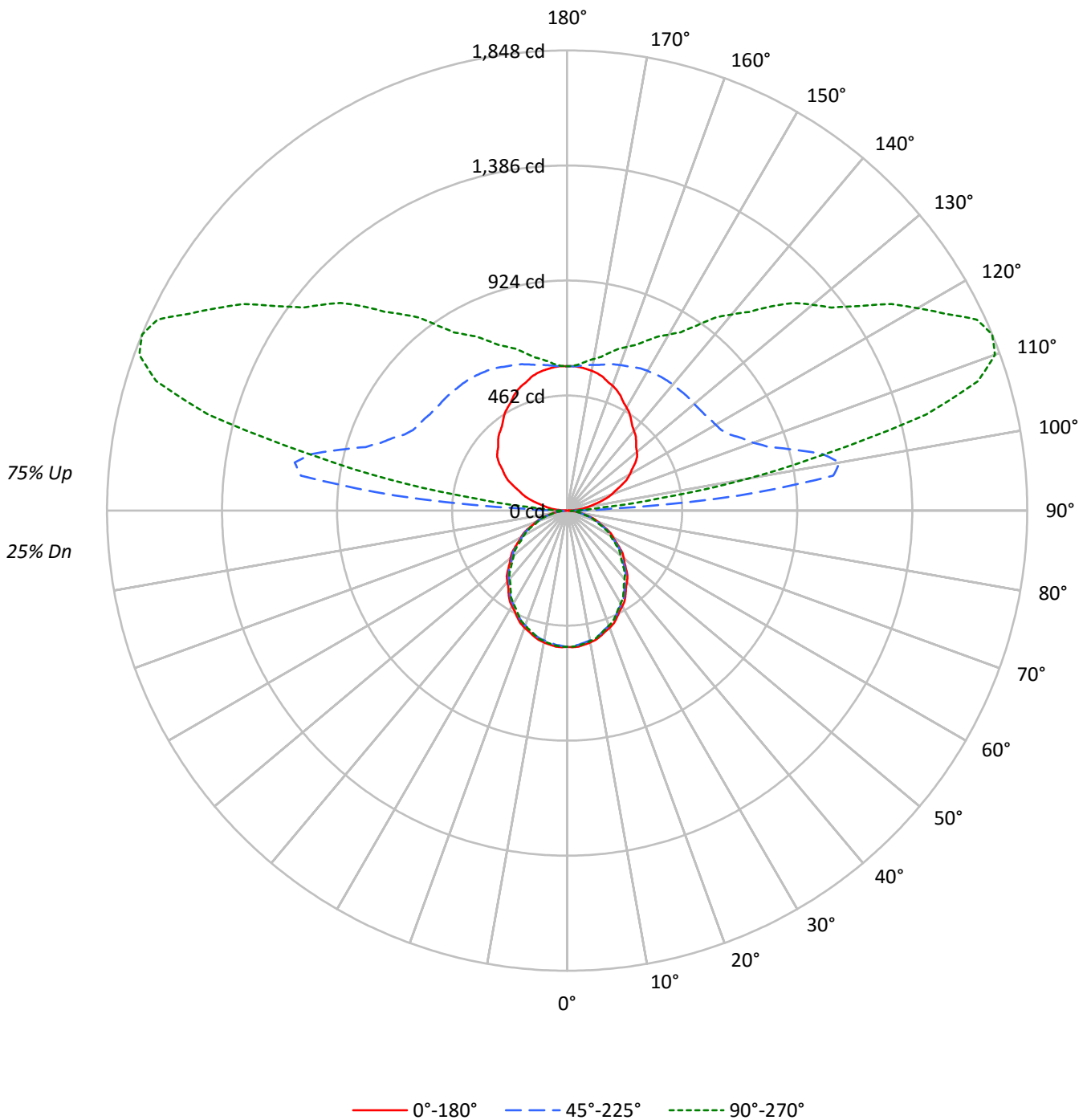
Input Watts (W): 42.2
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	69	69	69	50	50	50	33	33	33	25
1	92	88	84	81	82	78	75	72	60	58	57	44	43	42	29	28	28	21
2	84	77	71	66	74	68	63	59	53	50	47	39	37	35	25	24	23	17
3	76	67	60	55	68	60	54	49	47	43	39	34	31	29	22	21	20	15
4	70	59	52	46	62	53	47	42	41	37	33	30	27	25	20	18	17	13
5	64	53	45	39	57	47	41	36	37	32	28	27	24	22	18	16	15	11
6	59	47	39	34	52	42	36	31	33	28	25	24	21	19	16	14	13	10
7	54	42	35	29	48	38	31	27	30	25	22	22	19	16	15	13	11	8
8	50	38	31	26	44	34	28	24	27	22	19	20	17	15	14	12	10	8
9	47	35	28	23	41	31	25	21	25	20	17	18	15	13	13	11	9	7
10	43	32	25	20	39	29	23	19	23	18	15	17	14	12	12	10	8	6

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5890	5890	5890
5°	5919	5837	5877
10°	5879	5786	5822
15°	5810	5721	5731
20°	5730	5628	5632
25°	5621	5516	5505
30°	5504	5392	5351
35°	5380	5261	5194
40°	5251	5117	5039
45°	5107	4985	4864
50°	4963	4823	4687
55°	4778	4654	4511
60°	4590	4456	4316
65°	4422	4241	4111
70°	4176	3997	3821
75°	3818	3681	3523
80°	3440	3298	3267
85°	3013	2902	2791



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	51.5	0.9
10°-20°	145.6	2.5
20°-30°	215.0	3.7
30°-40°	251.2	4.3
40°-50°	252.5	4.4
50°-60°	221.8	3.8
60°-70°	165.2	2.9
70°-80°	94.1	1.6
80°-90°	31.5	0.5
90°-100°	322.6	5.6
100°-110°	913.4	15.8
110°-120°	898.5	15.5
120°-130°	716.7	12.4
130°-140°	565.1	9.8
140°-150°	421.7	7.3
150°-160°	294.0	5.1
160°-170°	172.7	3.0
170°-180°	56.2	1.0
0°-30°	412.1	7.1
0°-40°	663.3	11.5
0°-60°	1137.6	19.6
0°-90°	1428.5	24.7
90°-120°	2134.4	36.9
90°-150°	3837.9	66.3
90°-180°	4361.0	75.3
0°-180°	5789.2	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	547	547	547	547	547	
5°	548	545	540	545	544	52
15°	521	519	513	517	514	147
25°	473	470	464	465	464	218
35°	409	406	400	398	395	256
45°	336	333	328	322	320	259
55°	255	254	248	243	240	228
65°	174	171	166	163	161	171
75°	92	90	88	86	85	98
85°	24	24	24	23	23	27
90°	2	14	29	33	34	4
95°	40	130	696	203	136	43
105°	136	201	943	1650	1492	145
115°	240	300	722	1582	1815	238
125°	334	395	674	1220	1432	297
135°	392	468	664	1005	1160	303
145°	447	512	656	824	907	280
155°	508	548	635	722	752	234
165°	555	571	608	645	656	156
175°	578	579	583	591	590	55
180°	580	580	580	580	580	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	547.2	547.2	547.2	547.2	547.2	547.2	547.2	547.2	547.2	547.2	547.2
2.5°	549.2	548.8	548.5	548.2	547.8	547.1	546.2	545.3	544.4	543.5	544.3
5°	547.8	547.1	546.6	546.1	545.6	544.8	543.6	542.5	541.3	540.2	541.2
7.5°	542.4	541.8	541.3	540.8	540.3	539.4	538.3	537.0	535.8	534.6	535.5
10°	537.9	537.3	536.7	536.2	535.7	534.8	533.4	532.1	530.7	529.4	530.3
12.5°	531.8	531.4	530.9	530.5	530.1	529.2	528.0	526.6	525.3	524.1	524.8
15°	521.4	521.0	520.5	520.1	519.7	518.8	517.5	516.0	514.7	513.4	514.2
17.5°	509.2	508.7	508.2	507.6	507.1	506.1	504.7	503.4	502.0	500.7	501.2
20°	500.2	499.6	499.0	498.3	497.7	496.7	495.3	493.9	492.6	491.3	491.7
22.5°	490.0	489.4	488.8	488.2	487.6	486.6	485.1	483.8	482.4	481.1	481.4
25°	473.3	472.7	472.1	471.5	470.9	469.9	468.5	467.2	465.7	464.4	464.5
27.5°	455.6	454.9	454.3	453.7	453.1	452.1	450.7	449.2	447.8	446.3	446.4
30°	442.8	442.2	441.7	441.2	440.7	439.7	438.3	436.8	435.4	433.8	433.8
32.5°	430.0	429.3	428.6	427.9	427.3	426.3	425.2	424.0	422.9	421.8	421.2
35°	409.4	408.8	408.1	407.5	406.9	405.9	404.6	403.1	401.8	400.4	399.8
37.5°	388.3	387.5	386.7	385.9	385.2	384.1	382.6	381.2	379.9	378.5	377.8
40°	373.7	372.9	372.3	371.7	371.1	370.0	368.6	367.1	365.7	364.2	363.3
42.5°	358.9	358.2	357.5	356.8	356.1	355.0	353.6	352.0	350.6	349.1	348.3
45°	335.5	335.1	334.7	334.3	333.9	333.0	331.5	330.2	328.8	327.5	326.3
47.5°	312.3	311.6	311.0	310.4	309.8	308.9	307.6	306.3	305.1	303.8	302.6
50°	296.4	295.9	295.4	294.9	294.4	293.4	292.1	290.7	289.3	288.0	286.8
52.5°	279.8	279.5	279.1	278.8	278.4	277.5	276.1	274.7	273.3	271.8	270.8
55°	254.6	254.5	254.4	254.3	254.2	253.4	252.1	250.6	249.3	248.0	246.8
57.5°	230.5	230.1	229.7	229.4	229.0	228.3	227.2	226.1	225.1	224.0	223.0
60°	213.2	213.1	213.0	212.9	212.8	212.1	210.8	209.5	208.3	207.0	206.1
62.5°	197.7	197.4	197.2	196.9	196.6	195.9	194.6	193.4	192.1	190.9	190.0
65°	173.6	173.1	172.6	172.1	171.6	170.8	169.8	168.6	167.6	166.5	165.7
67.5°	148.1	147.6	147.2	146.7	146.3	145.6	144.9	144.1	143.3	142.5	141.8
70°	132.7	132.1	131.5	130.8	130.2	129.6	129.0	128.3	127.6	127.0	126.3
72.5°	116.5	116.0	115.6	115.1	114.6	114.1	113.4	112.7	112.0	111.3	110.6
75°	91.8	91.3	90.9	90.5	90.1	89.7	89.4	89.1	88.8	88.5	88.0
77.5°	69.8	69.6	69.4	69.2	68.9	68.6	68.3	67.9	67.5	67.1	66.8
80°	55.5	55.2	54.9	54.6	54.2	54.0	53.8	53.6	53.4	53.2	53.0
82.5°	41.6	41.5	41.5	41.4	41.3	41.3	41.2	41.2	41.2	41.1	40.9
85°	24.4	24.2	24.0	23.8	23.6	23.5	23.5	23.5	23.5	23.5	23.3
87.5°	10.3	10.5	10.7	11.1	11.4	11.7	12.3	12.9	13.5	14.1	13.8
90°	2.3	4.6	7.1	10.6	12.9	15.2	18.8	22.3	25.9	29.3	28.2
92.5°	14.5	21.6	31.4	40.6	50.5	67.9	98.6	149.1	198.5	180.5	136.1
95°	39.9	43.4	56.4	76.2	106.7	152.5	252.3	427.1	619.6	695.8	564.3
97.5°	68.1	69.2	79.3	96.6	126.7	176.2	271.6	468.6	789.4	1078.2	1153.6
100°	86.8	88.0	96.2	112.6	140.8	186.5	268.7	442.3	750.9	1111.2	1342.3
102.5°	106.5	108.7	115.9	131.4	156.7	198.7	272.5	419.8	694.6	1050.2	1351.6
105°	136.1	139.7	146.6	160.8	183.0	219.4	282.8	403.6	625.4	943.3	1280.1
107.5°	167.5	171.1	177.8	191.7	212.6	246.4	302.1	402.4	581.3	849.0	1154.8
110°	190.1	193.6	199.4	212.4	232.3	265.2	318.0	407.2	564.3	795.5	1075.9



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	210.8	214.3	220.2	233.0	253.0	284.9	334.0	416.6	555.0	759.8	1007.4
115°	240.5	245.2	252.3	264.0	284.0	315.6	360.2	431.8	551.5	721.5	924.5
117.5°	270.3	275.7	281.6	292.4	314.7	344.1	388.1	451.9	553.6	699.0	874.5
120°	290.9	294.5	300.3	312.1	334.4	363.8	406.0	467.0	557.3	688.7	848.3
122.5°	308.8	312.4	318.2	330.8	352.2	383.4	424.7	481.1	563.9	682.2	826.7
125°	334.4	336.8	343.8	356.7	379.0	410.6	451.7	503.3	573.7	673.5	799.0
127.5°	353.9	357.4	366.1	379.2	403.8	435.6	475.1	521.7	585.0	669.2	774.7
130°	366.1	369.6	380.1	394.3	418.9	450.5	489.3	533.8	592.5	666.4	761.4
132.5°	375.5	379.9	391.4	408.3	432.9	463.7	501.5	545.1	598.1	665.5	749.3
135°	391.9	396.6	409.5	427.1	451.7	483.4	519.8	559.7	606.6	664.1	733.4
137.5°	407.4	412.3	425.0	443.7	468.2	497.5	532.4	570.5	612.3	661.5	719.4
140°	417.7	423.5	435.3	454.0	477.6	506.9	540.9	576.1	616.0	660.6	711.0
142.5°	429.0	433.9	446.6	463.4	487.0	514.4	547.4	581.7	618.8	658.7	703.5
145°	447.1	450.5	461.1	478.7	498.7	525.6	556.1	587.8	620.7	655.9	693.5
147.5°	465.3	467.5	477.8	493.0	512.3	535.2	563.2	591.6	620.7	651.5	683.6
150°	477.6	478.7	488.1	503.3	519.8	540.9	567.8	592.5	620.7	647.6	677.0
152.5°	489.8	490.0	499.4	512.7	527.3	547.4	570.7	594.4	617.8	643.0	669.5
155°	508.1	508.1	515.1	526.8	539.7	556.1	576.1	594.9	614.8	634.8	658.2
157.5°	522.6	523.5	529.2	539.5	550.5	563.2	579.2	596.0	610.9	627.5	645.5
160°	533.8	533.8	538.6	548.0	556.1	567.8	582.0	596.0	608.9	621.9	637.1
162.5°	542.3	542.3	546.0	553.6	560.9	570.7	582.9	595.1	605.2	616.2	628.6
165°	555.0	553.8	556.1	562.0	566.7	574.9	584.3	592.5	599.6	607.7	617.1
167.5°	564.6	563.2	564.3	568.9	572.1	577.2	584.1	590.7	593.9	599.4	606.1
170°	570.3	567.8	569.1	572.6	574.9	577.2	583.1	587.8	590.2	593.7	599.6
172.5°	574.0	572.6	572.8	575.4	576.8	578.2	583.1	586.9	587.3	589.0	593.0
175°	578.5	577.2	576.1	578.5	578.5	579.7	582.0	584.3	583.1	583.1	585.5
177.5°	580.6	579.7	578.7	579.7	579.7	579.7	580.6	582.4	580.6	579.7	580.6
180°	579.7	579.7	579.7	579.7	579.7	579.7	579.7	579.7	579.7	579.7	579.7



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	547.2	547.2	547.2	547.2	547.2	547.2	547.2	547.2
2.5°	545.1	546.0	546.8	547.2	547.1	547.0	546.9	546.8
5°	542.3	543.3	544.4	544.8	544.6	544.4	544.1	543.9
7.5°	536.5	537.5	538.4	538.8	538.7	538.6	538.5	538.3
10°	531.3	532.2	533.1	533.5	533.3	533.1	532.9	532.7
12.5°	525.4	526.1	526.8	527.1	527.0	526.8	526.7	526.6
15°	515.0	515.8	516.7	516.8	516.1	515.5	514.9	514.3
17.5°	501.8	502.4	503.0	503.2	502.9	502.7	502.5	502.3
20°	492.1	492.5	492.9	493.0	492.6	492.3	492.0	491.7
22.5°	481.7	482.1	482.4	482.4	482.0	481.6	481.2	480.8
25°	464.6	464.7	464.8	464.7	464.4	464.1	463.8	463.5
27.5°	446.5	446.6	446.6	446.5	446.1	445.7	445.2	444.8
30°	433.8	433.8	433.8	433.4	432.7	432.0	431.3	430.5
32.5°	420.6	420.0	419.5	419.0	418.6	418.2	417.8	417.4
35°	399.2	398.6	397.9	397.4	396.9	396.3	395.8	395.3
37.5°	377.0	376.3	375.5	375.0	374.7	374.3	374.0	373.7
40°	362.5	361.7	360.8	360.2	359.8	359.4	359.0	358.6
42.5°	347.5	346.6	345.8	345.2	344.8	344.4	344.0	343.5
45°	325.0	323.8	322.4	321.6	321.0	320.5	320.0	319.5
47.5°	301.3	300.1	298.8	298.0	297.5	297.1	296.6	296.2
50°	285.7	284.5	283.4	282.5	281.9	281.2	280.6	279.9
52.5°	269.8	268.8	267.8	267.0	266.4	265.8	265.2	264.6
55°	245.7	244.5	243.4	242.6	242.1	241.5	241.0	240.4
57.5°	222.0	220.9	219.8	219.0	218.4	217.8	217.2	216.6
60°	205.2	204.2	203.3	202.6	202.0	201.5	201.0	200.5
62.5°	188.9	188.0	187.1	186.4	186.1	185.7	185.4	185.0
65°	164.9	164.1	163.2	162.7	162.4	162.0	161.7	161.4
67.5°	141.0	140.3	139.6	139.0	138.6	138.0	137.6	137.2
70°	125.6	124.8	124.1	123.5	123.0	122.5	121.9	121.4
72.5°	110.0	109.3	108.7	108.2	108.0	107.7	107.3	107.0
75°	87.5	86.8	86.3	85.9	85.6	85.3	85.0	84.7
77.5°	66.3	66.0	65.6	65.5	65.5	65.5	65.5	65.5
80°	52.9	52.8	52.7	52.7	52.7	52.7	52.7	52.7
82.5°	40.8	40.6	40.4	40.2	40.2	40.1	40.0	39.9
85°	23.1	22.9	22.7	22.6	22.6	22.6	22.6	22.6
87.5°	13.9	14.1	14.2	14.7	14.4	14.7	14.9	14.7
90°	29.3	30.5	31.7	34.0	32.8	34.0	35.2	34.0
92.5°	98.8	78.4	69.2	63.1	61.0	57.5	58.7	56.6
95°	422.4	286.3	224.1	181.9	159.6	149.1	140.8	136.1
97.5°	1052.9	843.3	692.1	551.7	465.1	412.3	380.6	370.5
100°	1383.3	1288.3	1151.0	984.4	865.9	780.2	734.5	735.7
102.5°	1493.2	1490.1	1410.1	1304.4	1212.2	1144.5	1106.2	1079.2
105°	1525.3	1642.6	1665.0	1634.5	1580.4	1535.9	1498.3	1492.5
107.5°	1432.8	1623.4	1726.2	1768.0	1768.9	1753.8	1741.2	1730.4
110°	1344.6	1560.5	1708.4	1790.5	1823.3	1832.7	1830.4	1828.1



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	1257.3	1477.9	1643.6	1749.2	1809.3	1838.4	1847.2	1847.8
115°	1141.7	1345.7	1518.2	1646.2	1734.1	1785.7	1809.3	1815.1
117.5°	1057.8	1234.1	1389.0	1518.7	1610.5	1669.6	1703.4	1711.4
120°	1013.7	1172.2	1312.9	1431.5	1524.1	1589.8	1618.0	1625.1
122.5°	979.0	1122.4	1252.8	1362.9	1445.3	1504.4	1535.4	1544.3
125°	932.8	1060.7	1173.3	1267.2	1342.3	1393.9	1423.2	1431.5
127.5°	892.4	1006.4	1108.0	1193.5	1260.4	1304.4	1331.0	1338.5
130°	867.1	972.7	1067.7	1147.5	1209.7	1251.9	1276.6	1286.0
132.5°	843.6	940.8	1029.3	1105.3	1163.7	1205.9	1227.8	1234.4
135°	811.9	895.2	971.5	1038.3	1095.9	1131.0	1152.2	1160.4
137.5°	783.0	851.3	917.1	975.0	1023.4	1059.0	1076.8	1082.3
140°	766.2	826.0	882.3	932.8	977.3	1010.3	1029.0	1027.8
142.5°	750.2	801.6	850.4	894.3	932.3	961.4	978.3	977.1
145°	730.9	769.7	807.3	841.2	870.6	895.2	904.6	907.0
147.5°	715.3	746.0	776.3	800.4	822.7	839.4	848.3	849.2
150°	704.0	730.9	755.6	777.9	795.5	808.4	815.5	815.5
152.5°	693.7	716.9	738.7	757.3	771.1	783.0	787.3	787.3
155°	678.1	696.9	714.6	728.6	739.2	748.6	750.9	752.0
157.5°	661.8	677.5	691.1	702.1	711.2	718.3	720.1	719.9
160°	652.4	665.3	677.0	685.2	693.5	700.4	700.4	699.3
162.5°	641.1	652.2	662.9	670.1	675.6	681.7	681.7	680.5
165°	626.5	633.6	641.8	647.6	652.4	657.0	655.9	655.9
167.5°	613.9	619.2	624.0	628.2	630.3	633.6	632.4	632.4
170°	605.4	608.9	613.6	616.0	617.1	619.6	618.3	618.3
172.5°	597.9	600.5	604.3	605.6	605.9	608.2	606.1	605.2
175°	587.8	589.0	591.4	591.4	591.4	592.5	591.4	590.2
177.5°	581.5	582.4	583.4	583.4	582.4	583.4	581.5	581.5
180°	579.7	579.7	579.7	579.7	579.7	579.7	579.7	579.7

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