

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: P331909-940

Luminaire Tested: **S123DIP-S340D1195U940-4F0-1E-UDD-F4**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331909-940
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-S340D1195U940-4F0-1E-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: 5111.9 lumens
Efficiency: N/A
Efficacy: 121.1 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

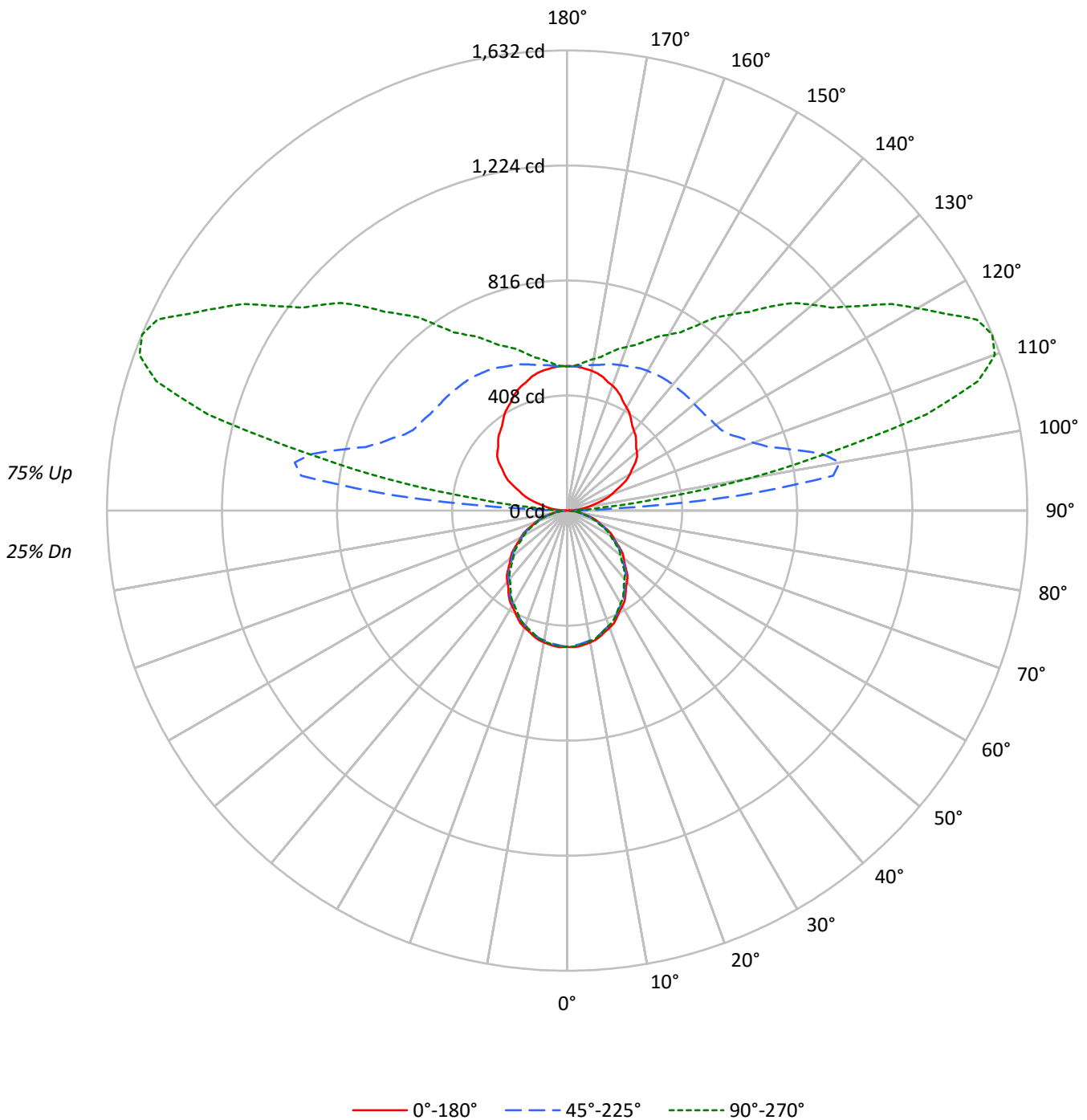
Input Watts (W): 42.2
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	101	101	101	101	90	90	90	90	69	69	69	50	50	50	33	33	33
1	92	88	84	81	82	78	75	72	60	58	57	44	43	42	29	28	28
2	84	77	71	66	74	68	63	59	53	50	47	39	37	35	25	24	23
3	76	67	60	55	68	60	54	49	47	43	39	34	31	29	22	21	20
4	70	59	52	46	62	53	47	42	41	37	33	30	27	25	20	18	17
5	64	53	45	39	57	47	41	36	37	32	28	27	24	22	18	16	15
6	59	47	39	34	52	42	36	31	33	28	25	24	21	19	16	14	13
7	54	42	35	29	48	38	31	27	30	25	22	22	19	16	15	13	11
8	50	38	31	26	44	34	28	24	27	22	19	20	17	15	14	12	10
9	47	35	28	23	41	31	25	21	25	20	17	18	15	13	13	11	9
10	43	32	25	20	39	29	23	19	23	18	15	17	14	12	12	10	8

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5201	5201	5201
5°	5226	5154	5190
10°	5191	5109	5141
15°	5131	5051	5060
20°	5060	4969	4974
25°	4963	4871	4861
30°	4860	4762	4724
35°	4750	4646	4586
40°	4636	4519	4449
45°	4509	4402	4294
50°	4382	4258	4140
55°	4219	4110	3984
60°	4052	3935	3810
65°	3904	3744	3629
70°	3688	3531	3374
75°	3373	3248	3111
80°	3037	2913	2882
85°	2668	2569	2470



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	45.5	0.9
10°-20°	128.5	2.5
20°-30°	189.9	3.7
30°-40°	221.8	4.3
40°-50°	223.0	4.4
50°-60°	195.8	3.8
60°-70°	145.9	2.9
70°-80°	83.1	1.6
80°-90°	27.8	0.5
90°-100°	284.8	5.6
100°-110°	806.5	15.8
110°-120°	793.4	15.5
120°-130°	632.8	12.4
130°-140°	498.9	9.8
140°-150°	372.4	7.3
150°-160°	259.6	5.1
160°-170°	152.5	3.0
170°-180°	49.6	1.0
0°-30°	363.9	7.1
0°-40°	585.7	11.5
0°-60°	1004.5	19.6
0°-90°	1261.3	24.7
90°-120°	1884.7	36.9
90°-150°	3388.9	66.3
90°-180°	3851.0	75.3
0°-180°	5111.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	483	483	483	483	483	
5°	484	481	477	481	480	46
15°	460	458	453	456	454	130
25°	418	415	410	410	409	192
35°	362	359	354	351	349	226
45°	296	294	289	284	282	229
55°	225	224	219	215	212	201
65°	153	151	147	144	142	151
75°	81	79	78	76	75	87
85°	22	21	21	20	20	24
90°	2	12	26	29	30	4
95°	35	114	614	179	120	38
105°	120	178	833	1457	1318	128
115°	212	265	637	1397	1603	210
125°	295	349	595	1077	1264	262
135°	346	413	586	887	1025	267
145°	395	452	579	728	801	247
155°	449	484	560	637	664	206
165°	490	504	537	569	579	138
175°	511	511	515	522	521	48
180°	512	512	512	512	512	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	483.2	483.2	483.2	483.2	483.2	483.2	483.2	483.2	483.2	483.2	483.2
2.5°	484.9	484.6	484.3	484.0	483.7	483.1	482.3	481.5	480.7	479.9	480.6
5°	483.7	483.1	482.7	482.2	481.8	481.1	480.0	479.0	478.0	477.0	477.9
7.5°	478.9	478.4	478.0	477.5	477.1	476.3	475.3	474.2	473.1	472.1	472.9
10°	474.9	474.5	473.9	473.5	473.1	472.3	471.0	469.8	468.6	467.4	468.2
12.5°	469.6	469.2	468.8	468.4	468.1	467.3	466.2	465.0	463.9	462.8	463.4
15°	460.4	460.0	459.6	459.2	458.9	458.1	456.9	455.7	454.5	453.3	454.1
17.5°	449.6	449.2	448.7	448.2	447.7	446.9	445.7	444.5	443.3	442.1	442.6
20°	441.7	441.1	440.6	440.0	439.4	438.5	437.4	436.1	435.0	433.8	434.2
22.5°	432.7	432.1	431.6	431.1	430.5	429.6	428.4	427.2	426.0	424.8	425.1
25°	417.9	417.4	416.9	416.3	415.8	414.9	413.7	412.5	411.3	410.1	410.2
27.5°	402.3	401.7	401.2	400.6	400.1	399.2	398.0	396.6	395.4	394.0	394.1
30°	391.0	390.5	390.0	389.6	389.1	388.3	387.0	385.7	384.4	383.1	383.1
32.5°	379.7	379.1	378.4	377.8	377.3	376.4	375.4	374.4	373.4	372.5	371.9
35°	361.5	361.0	360.3	359.8	359.3	358.4	357.2	356.0	354.8	353.6	353.0
37.5°	342.9	342.1	341.4	340.7	340.1	339.1	337.9	336.6	335.5	334.2	333.6
40°	329.9	329.3	328.8	328.2	327.7	326.7	325.5	324.1	322.9	321.6	320.8
42.5°	316.9	316.3	315.7	315.0	314.4	313.4	312.2	310.9	309.6	308.3	307.6
45°	296.2	295.9	295.5	295.2	294.8	294.0	292.7	291.6	290.3	289.2	288.1
47.5°	275.7	275.2	274.6	274.1	273.6	272.8	271.6	270.5	269.4	268.2	267.2
50°	261.7	261.3	260.8	260.4	259.9	259.0	257.9	256.7	255.5	254.3	253.2
52.5°	247.1	246.8	246.5	246.2	245.8	245.0	243.8	242.5	241.3	240.0	239.2
55°	224.8	224.7	224.6	224.5	224.4	223.7	222.6	221.3	220.2	219.0	217.9
57.5°	203.5	203.2	202.9	202.6	202.2	201.6	200.6	199.7	198.8	197.8	196.9
60°	188.2	188.2	188.1	188.0	187.9	187.3	186.1	185.0	184.0	182.8	182.0
62.5°	174.6	174.3	174.2	173.9	173.6	173.0	171.8	170.8	169.6	168.5	167.7
65°	153.3	152.8	152.4	151.9	151.5	150.8	149.9	148.9	148.0	147.0	146.3
67.5°	130.8	130.4	130.0	129.6	129.2	128.6	128.0	127.2	126.5	125.8	125.2
70°	117.2	116.6	116.1	115.5	114.9	114.4	113.9	113.2	112.7	112.2	111.6
72.5°	102.9	102.5	102.1	101.7	101.2	100.8	100.1	99.5	98.9	98.3	97.6
75°	81.1	80.6	80.3	79.9	79.5	79.2	78.9	78.6	78.4	78.1	77.7
77.5°	61.6	61.4	61.3	61.1	60.8	60.5	60.3	59.9	59.6	59.2	58.9
80°	49.0	48.8	48.5	48.2	47.9	47.7	47.5	47.3	47.2	47.0	46.8
82.5°	36.7	36.6	36.6	36.6	36.5	36.5	36.4	36.4	36.4	36.3	36.1
85°	21.6	21.4	21.2	21.0	20.9	20.8	20.8	20.8	20.8	20.8	20.6
87.5°	9.1	9.3	9.5	9.8	10.1	10.3	10.9	11.4	11.9	12.5	12.2
90°	2.1	4.1	6.2	9.4	11.4	13.5	16.6	19.7	22.8	25.9	24.9
92.5°	12.8	19.1	27.7	35.8	44.6	59.9	87.0	131.6	175.3	159.3	120.2
95°	35.2	38.3	49.8	67.3	94.3	134.6	222.7	377.1	547.1	614.4	498.3
97.5°	60.1	61.1	70.0	85.3	111.9	155.6	239.8	413.8	697.1	952.1	1018.6
100°	76.7	77.7	85.0	99.4	124.3	164.7	237.3	390.6	663.1	981.1	1185.3
102.5°	94.1	95.9	102.4	116.0	138.4	175.5	240.6	370.7	613.3	927.3	1193.5
105°	120.2	123.3	129.5	142.0	161.6	193.8	249.7	356.4	552.2	832.9	1130.3
107.5°	147.9	151.1	157.0	169.2	187.7	217.6	266.7	355.3	513.3	749.7	1019.7
110°	167.8	170.9	176.1	187.5	205.1	234.2	280.8	359.5	498.3	702.4	950.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	186.1	189.2	194.4	205.7	223.4	251.6	294.9	367.8	490.1	670.9	889.6
115°	212.4	216.5	222.7	233.1	250.7	278.7	318.1	381.3	487.0	637.1	816.4
117.5°	238.7	243.4	248.6	258.2	277.9	303.8	342.7	399.0	488.8	617.2	772.2
120°	256.9	260.0	265.2	275.6	295.2	321.2	358.5	412.3	492.1	608.1	749.0
122.5°	272.7	275.8	281.0	292.1	311.0	338.6	375.1	424.8	497.9	602.4	730.0
125°	295.2	297.4	303.5	315.0	334.7	362.6	398.9	444.4	506.6	594.7	705.5
127.5°	312.5	315.6	323.2	334.8	356.6	384.6	419.5	460.7	516.6	590.9	684.0
130°	323.2	326.4	335.6	348.1	369.9	397.8	432.0	471.4	523.2	588.4	672.3
132.5°	331.5	335.5	345.6	360.5	382.3	409.5	442.8	481.3	528.2	587.6	661.6
135°	346.1	350.2	361.6	377.1	398.9	426.9	459.0	494.2	535.7	586.4	647.6
137.5°	359.7	364.1	375.2	391.8	413.4	439.3	470.1	503.7	540.6	584.1	635.3
140°	368.8	374.0	384.3	400.9	421.7	447.5	477.6	508.7	543.9	583.3	627.9
142.5°	378.8	383.2	394.3	409.2	430.0	454.2	483.4	513.6	546.4	581.7	621.2
145°	394.8	397.8	407.2	422.7	440.3	464.1	491.1	519.1	548.0	579.2	612.3
147.5°	410.9	412.8	421.9	435.3	452.4	472.6	497.3	522.4	548.0	575.2	603.6
150°	421.7	422.7	431.0	444.4	459.0	477.6	501.4	523.2	548.0	571.9	597.8
152.5°	432.5	432.7	441.0	452.7	465.6	483.4	503.9	524.9	545.5	567.8	591.2
155°	448.6	448.6	454.9	465.2	476.5	491.1	508.7	525.3	542.9	560.5	581.2
157.5°	461.5	462.3	467.3	476.4	486.1	497.3	511.4	526.3	539.4	554.1	570.0
160°	471.4	471.4	475.5	483.8	491.1	501.4	513.9	526.3	537.7	549.1	562.6
162.5°	478.8	478.8	482.1	488.8	495.3	503.9	514.7	525.5	534.4	544.1	555.1
165°	490.1	489.0	491.1	496.2	500.4	507.7	515.9	523.2	529.4	536.6	544.9
167.5°	498.6	497.3	498.3	502.3	505.2	509.7	515.8	521.6	524.4	529.2	535.2
170°	503.5	501.4	502.5	505.6	507.7	509.7	514.9	519.1	521.1	524.2	529.4
172.5°	506.8	505.6	505.8	508.1	509.3	510.6	514.9	518.3	518.6	520.0	523.6
175°	510.8	509.7	508.7	510.8	510.8	511.8	513.9	515.9	514.9	514.9	517.0
177.5°	512.6	511.8	511.0	511.8	511.8	511.8	512.6	514.2	512.6	511.8	512.6
180°	511.8	511.8	511.8	511.8	511.8	511.8	511.8	511.8	511.8	511.8	511.8



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	483.2	483.2	483.2	483.2	483.2	483.2	483.2	483.2
2.5°	481.3	482.1	482.9	483.2	483.1	483.0	483.0	482.9
5°	478.8	479.7	480.7	481.1	480.9	480.7	480.5	480.3
7.5°	473.8	474.6	475.4	475.7	475.6	475.5	475.5	475.3
10°	469.1	469.9	470.7	471.1	470.9	470.7	470.6	470.4
12.5°	464.0	464.6	465.2	465.5	465.4	465.2	465.1	465.0
15°	454.8	455.5	456.3	456.4	455.8	455.2	454.7	454.1
17.5°	443.1	443.6	444.2	444.3	444.1	443.9	443.7	443.5
20°	434.5	434.9	435.2	435.3	435.0	434.7	434.4	434.2
22.5°	425.3	425.7	426.0	426.0	425.6	425.3	424.9	424.5
25°	410.3	410.4	410.5	410.4	410.1	409.8	409.6	409.3
27.5°	394.2	394.3	394.3	394.2	393.9	393.5	393.2	392.8
30°	383.1	383.1	383.1	382.7	382.1	381.5	380.8	380.1
32.5°	371.4	370.9	370.4	370.0	369.6	369.3	368.9	368.5
35°	352.5	352.0	351.3	350.9	350.4	349.9	349.5	349.0
37.5°	332.9	332.3	331.5	331.1	330.8	330.5	330.2	329.9
40°	320.1	319.4	318.6	318.1	317.7	317.4	317.0	316.6
42.5°	306.8	306.0	305.3	304.8	304.4	304.1	303.7	303.3
45°	287.0	285.9	284.7	284.0	283.5	283.0	282.6	282.1
47.5°	266.1	265.0	263.9	263.1	262.7	262.3	261.9	261.5
50°	252.3	251.2	250.2	249.4	248.9	248.3	247.8	247.2
52.5°	238.3	237.4	236.5	235.8	235.2	234.7	234.2	233.6
55°	217.0	215.9	214.9	214.2	213.7	213.2	212.8	212.3
57.5°	196.0	195.0	194.1	193.4	192.9	192.3	191.8	191.3
60°	181.2	180.3	179.5	178.9	178.3	177.9	177.5	177.0
62.5°	166.8	166.0	165.2	164.6	164.3	164.0	163.7	163.4
65°	145.6	144.9	144.1	143.7	143.4	143.0	142.8	142.5
67.5°	124.5	123.9	123.2	122.7	122.3	121.9	121.5	121.2
70°	110.9	110.2	109.6	109.1	108.6	108.2	107.6	107.2
72.5°	97.1	96.5	95.9	95.5	95.3	95.1	94.8	94.5
75°	77.2	76.7	76.2	75.9	75.6	75.3	75.1	74.8
77.5°	58.6	58.3	58.0	57.9	57.9	57.9	57.9	57.9
80°	46.7	46.6	46.5	46.5	46.5	46.5	46.5	46.5
82.5°	36.0	35.8	35.7	35.5	35.5	35.4	35.3	35.2
85°	20.4	20.2	20.1	20.0	20.0	20.0	20.0	20.0
87.5°	12.3	12.5	12.6	13.0	12.8	13.0	13.2	13.0
90°	25.9	26.9	28.0	30.1	29.0	30.1	31.1	30.1
92.5°	87.2	69.2	61.1	55.7	53.9	50.7	51.8	49.9
95°	373.0	252.8	197.9	160.6	140.9	131.6	124.3	120.2
97.5°	929.7	744.7	611.1	487.1	410.7	364.1	336.1	327.2
100°	1221.5	1137.6	1016.4	869.2	764.6	688.9	648.5	649.6
102.5°	1318.5	1315.7	1245.1	1151.8	1070.4	1010.6	976.8	953.0
105°	1346.8	1450.5	1470.2	1443.2	1395.5	1356.2	1323.0	1317.9
107.5°	1265.2	1433.4	1524.2	1561.1	1561.9	1548.6	1537.5	1527.9
110°	1187.3	1378.0	1508.5	1581.0	1610.0	1618.3	1616.2	1614.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	1110.2	1305.0	1451.3	1544.5	1597.6	1623.3	1631.1	1631.6
115°	1008.1	1188.3	1340.6	1453.6	1531.2	1576.8	1597.6	1602.8
117.5°	934.1	1089.7	1226.5	1341.0	1422.1	1474.3	1504.1	1511.2
120°	895.1	1035.0	1159.3	1264.0	1345.8	1403.8	1428.7	1434.9
122.5°	864.4	991.0	1106.3	1203.5	1276.2	1328.4	1355.8	1363.6
125°	823.7	936.6	1036.0	1118.9	1185.3	1230.8	1256.7	1264.0
127.5°	788.0	888.7	978.4	1053.8	1112.9	1151.8	1175.3	1181.9
130°	765.6	858.9	942.8	1013.3	1068.2	1105.5	1127.2	1135.5
132.5°	744.9	830.7	908.8	976.0	1027.5	1064.8	1084.1	1089.9
135°	716.9	790.5	857.8	916.9	967.7	998.7	1017.4	1024.7
137.5°	691.4	751.7	809.8	860.9	903.7	935.1	950.8	955.6
140°	676.5	729.3	779.1	823.7	863.0	892.1	908.6	907.6
142.5°	662.5	707.8	750.9	789.7	823.2	848.9	863.8	862.8
145°	645.4	679.7	712.8	742.8	768.7	790.5	798.8	800.8
147.5°	631.6	658.7	685.5	706.8	726.5	741.2	749.0	749.8
150°	621.6	645.4	667.2	686.9	702.4	713.8	720.1	720.1
152.5°	612.5	633.0	652.3	668.7	680.9	691.4	695.2	695.2
155°	598.8	615.4	631.0	643.4	652.7	661.0	663.1	664.1
157.5°	584.3	598.2	610.2	619.9	628.0	634.3	635.9	635.7
160°	576.0	587.5	597.8	605.0	612.3	618.5	618.5	617.5
162.5°	566.1	575.9	585.3	591.7	596.6	601.9	601.9	600.9
165°	553.2	559.5	566.7	571.9	576.0	580.1	579.2	579.2
167.5°	542.1	546.8	551.0	554.7	556.5	559.5	558.4	558.4
170°	534.6	537.7	541.8	543.9	544.9	547.1	546.0	546.0
172.5°	528.0	530.2	533.6	534.8	535.0	537.1	535.2	534.4
175°	519.1	520.0	522.2	522.2	522.2	523.2	522.2	521.1
177.5°	513.4	514.2	515.1	515.1	514.2	515.1	513.4	513.4
180°	511.8	511.8	511.8	511.8	511.8	511.8	511.8	511.8

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