

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: P331908-830

Luminaire Tested: **S123DIP-S340D1195U830-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

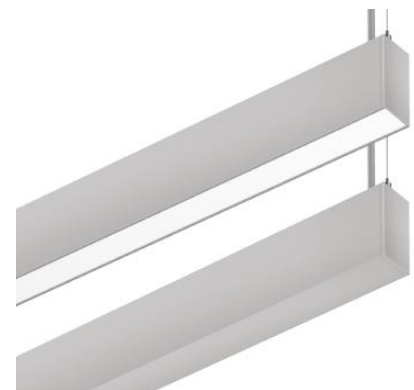
Test Information

Test Method: LM-79-08
Report Number: P331908-830
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-9,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123DIP-S340D1195U830-4F0-1E-UDD-F1
Description: DEFINE 3 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 340 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 1195 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5195.7 lumens
Efficiency: N/A
Efficacy: 123.1 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

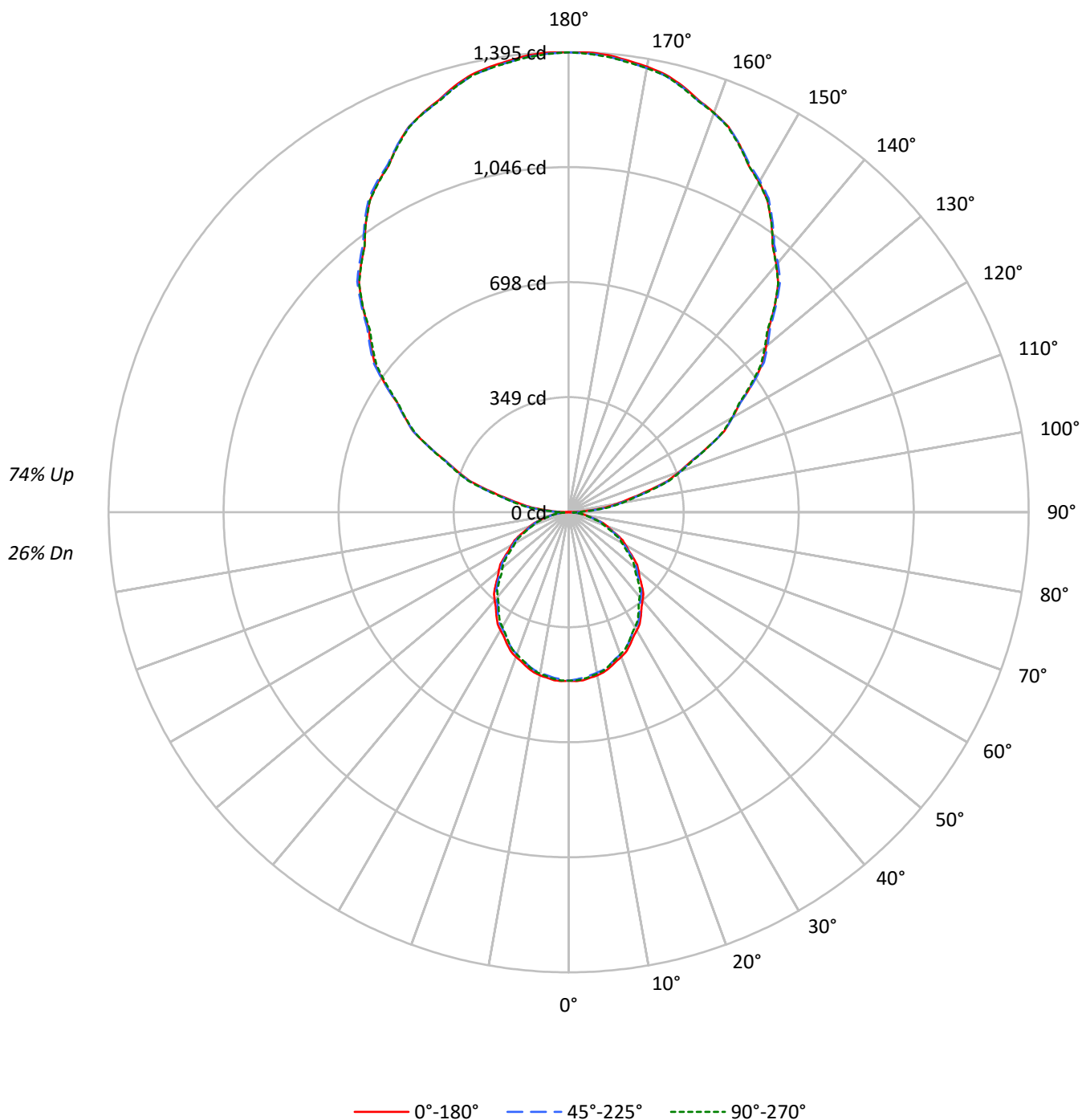
Input Watts (W): 42.2
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	0		
RCR																				
0	101	101	101	101	90	90	90	90	70	70	70	51	51	51	34	34	34	26		
1	92	88	84	81	82	79	76	73	61	59	57	45	43	42	30	29	28	22		
2	84	77	71	66	75	69	64	60	53	50	47	39	37	35	26	25	24	18		
3	77	67	60	55	68	60	54	50	47	43	39	35	32	30	23	22	20	15		
4	70	60	52	46	62	53	47	42	42	37	34	31	28	25	21	19	17	13		
5	64	53	45	39	57	47	41	36	37	32	29	28	24	22	19	17	15	11		
6	59	47	39	34	52	42	36	31	33	28	25	25	22	19	17	15	13	10		
7	54	43	35	30	48	38	32	27	30	25	22	22	19	17	15	13	12	9		
8	50	38	31	26	45	35	28	24	27	23	19	20	17	15	14	12	10	8		
9	47	35	28	23	42	31	25	21	25	20	17	19	16	13	13	11	9	7		
10	43	32	25	20	39	29	23	19	23	18	15	17	14	12	12	10	9	6		

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5498	5498	5498
5°	5524	5448	5486
10°	5487	5400	5434
15°	5422	5340	5349
20°	5347	5252	5257
25°	5247	5149	5138
30°	5137	5033	4994
35°	5021	4911	4847
40°	4900	4776	4703
45°	4766	4654	4539
50°	4632	4501	4376
55°	4459	4344	4211
60°	4284	4159	4028
65°	4126	3958	3836
70°	3899	3733	3566
75°	3564	3435	3290
80°	3211	3081	3050
85°	2816	2717	2606

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	48.1	0.9
10°-20°	135.9	2.6
20°-30°	200.7	3.9
30°-40°	234.4	4.5
40°-50°	235.7	4.5
50°-60°	207.0	4.0
60°-70°	154.2	3.0
70°-80°	87.9	1.7
80°-90°	29.3	0.6
90°-100°	90.8	1.7
100°-110°	271.8	5.2
110°-120°	462.3	8.9
120°-130°	608.1	11.7
130°-140°	683.5	13.2
140°-150°	671.9	12.9
150°-160°	565.6	10.9
160°-170°	376.5	7.2
170°-180°	131.8	2.5
0°-30°	384.6	7.4
0°-40°	619.1	11.9
0°-60°	1061.7	20.4
0°-90°	1333.2	25.7
90°-120°	825.0	15.9
90°-150°	2788.5	53.7
90°-180°	3863.0	74.3
0°-180°	5195.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	511	511	511	511	511	
5°	511	509	504	508	508	48
15°	487	485	479	482	480	137
25°	442	439	434	434	433	203
35°	382	379	374	371	369	239
45°	313	311	306	301	298	242
55°	238	237	232	227	224	213
65°	162	160	155	152	151	160
75°	86	84	83	80	79	92
85°	23	22	22	21	21	25
90°	1	12	26	31	33	5
95°	65	72	81	85	85	73
105°	246	249	258	259	261	264
115°	465	468	467	468	467	460
125°	681	684	682	678	674	607
135°	884	890	889	885	883	681
145°	1072	1074	1078	1076	1072	669
155°	1228	1228	1229	1232	1225	565
165°	1337	1334	1334	1340	1333	377
175°	1391	1387	1386	1392	1385	132
180°	1394	1394	1394	1394	1394	

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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	510.8	510.8	510.8	510.8	510.8	510.8	510.8	510.8	510.8	510.8	510.8
2.5°	512.6	512.2	511.9	511.6	511.2	510.7	509.8	509.0	508.1	507.3	508.0
5°	511.2	510.7	510.2	509.7	509.3	508.5	507.4	506.3	505.2	504.2	505.1
7.5°	506.2	505.7	505.2	504.7	504.3	503.4	502.4	501.2	500.1	499.0	499.8
10°	502.0	501.5	501.0	500.5	500.0	499.2	497.9	496.6	495.3	494.1	494.9
12.5°	496.3	496.0	495.5	495.1	494.7	493.9	492.8	491.5	490.3	489.2	489.8
15°	486.6	486.3	485.8	485.4	485.0	484.2	483.0	481.6	480.4	479.2	479.9
17.5°	475.2	474.8	474.3	473.7	473.3	472.4	471.1	469.9	468.5	467.3	467.8
20°	466.8	466.3	465.7	465.1	464.5	463.5	462.3	461.0	459.8	458.5	458.9
22.5°	457.3	456.8	456.2	455.6	455.1	454.1	452.8	451.6	450.3	449.0	449.3
25°	441.8	441.2	440.6	440.1	439.5	438.6	437.2	436.0	434.7	433.5	433.6
27.5°	425.2	424.6	424.0	423.5	422.9	422.0	420.7	419.2	417.9	416.5	416.6
30°	413.3	412.7	412.3	411.8	411.3	410.4	409.1	407.6	406.3	404.9	404.9
32.5°	401.3	400.7	400.0	399.4	398.8	397.8	396.8	395.8	394.7	393.7	393.1
35°	382.1	381.5	380.9	380.3	379.8	378.8	377.6	376.3	375.0	373.7	373.2
37.5°	362.4	361.7	360.9	360.1	359.5	358.4	357.1	355.8	354.6	353.3	352.6
40°	348.7	348.1	347.5	346.9	346.4	345.3	344.0	342.6	341.3	339.9	339.1
42.5°	335.0	334.3	333.7	333.0	332.3	331.3	330.0	328.6	327.3	325.8	325.1
45°	313.1	312.7	312.4	312.0	311.6	310.8	309.4	308.2	306.9	305.7	304.5
47.5°	291.4	290.9	290.3	289.7	289.2	288.3	287.1	285.9	284.7	283.5	282.4
50°	276.6	276.2	275.7	275.2	274.8	273.8	272.6	271.4	270.0	268.8	267.7
52.5°	261.2	260.9	260.5	260.2	259.9	259.0	257.7	256.4	255.1	253.6	252.8
55°	237.6	237.5	237.4	237.3	237.2	236.5	235.3	233.9	232.7	231.5	230.4
57.5°	215.1	214.8	214.4	214.1	213.8	213.1	212.1	211.0	210.1	209.1	208.1
60°	199.0	198.9	198.8	198.7	198.6	197.9	196.7	195.6	194.4	193.2	192.4
62.5°	184.5	184.3	184.1	183.8	183.5	182.9	181.6	180.5	179.3	178.1	177.3
65°	162.0	161.6	161.1	160.6	160.1	159.4	158.4	157.4	156.5	155.4	154.7
67.5°	138.3	137.8	137.4	137.0	136.6	135.9	135.3	134.5	133.7	133.0	132.3
70°	123.9	123.3	122.7	122.1	121.5	120.9	120.4	119.7	119.1	118.6	117.9
72.5°	108.8	108.3	107.9	107.4	107.0	106.5	105.8	105.2	104.5	103.9	103.2
75°	85.7	85.2	84.8	84.5	84.1	83.7	83.4	83.1	82.8	82.6	82.1
77.5°	65.1	64.9	64.8	64.6	64.3	64.0	63.7	63.3	63.0	62.6	62.3
80°	51.8	51.6	51.3	51.0	50.6	50.4	50.2	50.0	49.9	49.7	49.5
82.5°	38.8	38.7	38.7	38.6	38.5	38.5	38.5	38.5	38.5	38.4	38.2
85°	22.8	22.6	22.4	22.2	22.1	22.0	22.0	22.0	22.0	22.0	21.8
87.5°	9.3	9.6	9.9	10.1	10.4	10.7	11.3	11.9	12.4	13.0	13.1
90°	1.1	3.5	5.9	8.4	10.8	13.7	16.8	20.0	23.1	26.3	27.2
92.5°	26.5	28.2	29.8	31.5	33.1	34.9	36.7	38.5	40.2	42.0	42.8
95°	64.7	66.4	68.1	69.7	71.4	73.2	75.2	77.1	79.1	81.1	82.0
97.5°	114.8	116.0	117.3	118.6	119.8	121.2	122.6	124.0	125.4	126.8	127.9
100°	148.9	150.4	151.8	153.4	154.8	156.1	157.3	158.5	159.8	161.0	161.7
102.5°	188.3	189.3	190.1	191.0	191.9	193.1	194.7	196.3	197.9	199.5	200.3
105°	246.4	246.9	247.4	247.9	248.4	249.7	251.8	254.1	256.3	258.4	258.4
107.5°	313.9	314.1	314.4	314.7	315.0	315.7	316.5	317.4	318.2	319.1	319.9
110°	355.9	356.4	356.8	357.4	357.9	358.4	358.8	359.3	359.8	360.3	361.3

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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	399.7	400.0	400.3	400.6	400.9	401.1	401.1	401.2	401.3	401.4	402.7
115°	465.4	466.2	466.8	467.6	468.3	468.4	468.0	467.5	467.0	466.6	466.7
117.5°	531.6	532.1	532.5	533.0	533.5	533.5	532.8	532.2	531.6	530.9	530.8
120°	572.8	574.2	575.7	577.1	578.6	578.7	577.5	576.3	575.0	573.8	573.6
122.5°	615.7	616.7	617.8	618.9	620.0	620.2	619.5	618.9	618.3	617.6	617.0
125°	681.2	681.9	682.6	683.3	684.1	684.2	683.7	683.2	682.8	682.3	681.3
127.5°	741.6	743.2	744.7	746.3	747.8	748.4	747.8	747.2	746.8	746.2	744.9
130°	781.9	783.8	785.8	787.8	789.7	790.3	789.6	788.8	788.2	787.4	786.5
132.5°	822.2	824.2	826.1	828.0	830.0	830.8	830.2	829.6	829.1	828.6	827.4
135°	883.7	885.2	886.6	888.2	889.6	890.2	889.9	889.8	889.5	889.2	888.3
137.5°	940.8	941.9	943.1	944.3	945.6	946.5	947.2	947.7	948.4	949.0	948.0
140°	980.1	981.4	982.6	983.8	985.0	985.7	986.0	986.2	986.5	986.7	986.5
142.5°	1016.1	1017.3	1018.5	1019.7	1021.0	1021.7	1022.2	1022.7	1023.0	1023.5	1023.2
145°	1072.1	1072.6	1073.1	1073.6	1074.0	1074.7	1075.4	1076.1	1076.9	1077.6	1077.3
147.5°	1121.2	1122.1	1122.9	1123.8	1124.7	1125.5	1126.1	1126.8	1127.5	1128.2	1128.2
150°	1155.4	1155.8	1156.3	1156.8	1157.3	1157.8	1158.3	1158.8	1159.2	1159.7	1159.7
152.5°	1183.4	1184.1	1184.8	1185.4	1186.1	1186.6	1186.8	1187.2	1187.5	1187.8	1188.2
155°	1227.7	1227.7	1227.7	1227.7	1227.7	1227.8	1228.0	1228.2	1228.5	1228.7	1229.7
157.5°	1265.3	1265.0	1264.7	1264.4	1264.1	1264.0	1264.3	1264.5	1264.7	1264.9	1265.9
160°	1288.9	1288.5	1288.0	1287.5	1287.0	1286.8	1286.8	1286.8	1286.8	1286.8	1288.0
162.5°	1309.9	1309.3	1308.6	1308.0	1307.3	1307.0	1307.2	1307.4	1307.6	1307.8	1309.0
165°	1337.2	1336.4	1335.7	1334.9	1334.3	1333.9	1333.9	1333.9	1333.9	1333.9	1335.3
167.5°	1358.9	1357.8	1356.9	1355.9	1354.9	1354.5	1354.7	1354.9	1355.1	1355.3	1356.8
170°	1371.1	1370.1	1369.1	1368.2	1367.2	1366.7	1366.7	1366.7	1366.7	1366.7	1368.4
172.5°	1380.7	1379.8	1378.8	1377.8	1376.9	1376.4	1376.4	1376.4	1376.4	1376.4	1377.9
175°	1390.8	1389.9	1388.8	1387.9	1387.0	1386.4	1386.4	1386.4	1386.4	1386.4	1387.9
177.5°	1395.0	1394.2	1393.5	1392.6	1391.9	1391.5	1391.5	1391.5	1391.5	1391.5	1392.6
180°	1394.1	1394.1	1394.1	1394.1	1394.1	1394.1	1394.1	1394.1	1394.1	1394.1	1394.1

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	510.8	510.8	510.8	510.8	510.8	510.8	510.8	510.8
2.5°	508.8	509.6	510.4	510.8	510.7	510.6	510.5	510.4
5°	506.1	507.1	508.1	508.5	508.3	508.1	507.8	507.7
7.5°	500.8	501.6	502.5	502.8	502.8	502.7	502.6	502.4
10°	495.9	496.7	497.6	497.9	497.8	497.6	497.4	497.2
12.5°	490.4	491.1	491.7	492.0	491.9	491.7	491.6	491.5
15°	480.7	481.5	482.3	482.4	481.7	481.2	480.6	480.0
17.5°	468.3	468.9	469.5	469.7	469.4	469.2	469.0	468.8
20°	459.3	459.7	460.1	460.1	459.8	459.5	459.2	458.9
22.5°	449.6	450.0	450.3	450.3	449.9	449.5	449.1	448.7
25°	433.7	433.8	433.9	433.8	433.5	433.2	432.9	432.6
27.5°	416.7	416.8	416.8	416.7	416.3	415.9	415.6	415.2
30°	404.9	404.9	404.9	404.5	403.9	403.2	402.6	401.8
32.5°	392.6	392.0	391.5	391.1	390.7	390.3	389.9	389.6
35°	372.6	372.0	371.4	370.9	370.4	369.9	369.4	368.9
37.5°	351.9	351.2	350.4	350.0	349.7	349.3	349.0	348.7
40°	338.4	337.6	336.8	336.2	335.8	335.5	335.1	334.7
42.5°	324.3	323.5	322.7	322.2	321.8	321.4	321.0	320.6
45°	303.3	302.2	301.0	300.2	299.6	299.2	298.7	298.2
47.5°	281.3	280.1	278.9	278.1	277.7	277.3	276.8	276.4
50°	266.6	265.5	264.5	263.6	263.1	262.5	261.9	261.3
52.5°	251.8	250.9	250.0	249.2	248.6	248.1	247.5	246.9
55°	229.3	228.2	227.2	226.4	225.9	225.4	224.9	224.4
57.5°	207.2	206.1	205.2	204.4	203.9	203.3	202.7	202.2
60°	191.5	190.6	189.7	189.1	188.5	188.0	187.6	187.1
62.5°	176.3	175.5	174.7	174.0	173.7	173.3	173.1	172.7
65°	153.9	153.2	152.3	151.8	151.6	151.2	150.9	150.6
67.5°	131.6	130.9	130.3	129.7	129.3	128.8	128.5	128.1
70°	117.3	116.5	115.8	115.3	114.8	114.3	113.8	113.3
72.5°	102.6	102.0	101.4	100.9	100.8	100.5	100.2	99.9
75°	81.6	81.1	80.6	80.2	79.9	79.6	79.4	79.1
77.5°	61.9	61.6	61.3	61.2	61.2	61.2	61.2	61.2
80°	49.4	49.3	49.2	49.2	49.2	49.2	49.2	49.2
82.5°	38.1	37.9	37.7	37.5	37.5	37.4	37.3	37.2
85°	21.6	21.4	21.2	21.1	21.1	21.1	21.1	21.1
87.5°	13.2	13.3	13.5	13.6	13.7	13.8	13.9	13.9
90°	28.3	29.2	30.2	30.9	31.4	31.9	32.3	32.9
92.5°	43.6	44.4	45.1	45.4	45.1	44.9	44.5	44.2
95°	82.9	84.0	84.9	85.4	85.4	85.4	85.4	85.4
97.5°	129.0	130.2	131.3	131.8	131.7	131.6	131.5	131.4
100°	162.4	163.2	163.9	164.5	165.0	165.5	166.0	166.5
102.5°	201.0	201.7	202.5	202.7	202.6	202.6	202.5	202.4
105°	258.4	258.4	258.4	258.7	259.2	259.7	260.1	260.6
107.5°	320.7	321.5	322.3	322.4	322.2	321.9	321.6	321.3
110°	362.2	363.3	364.2	364.4	363.9	363.4	363.0	362.5

TEST NUMBER: P331908-830

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	403.8	405.0	406.1	406.7	406.6	406.5	406.4	406.3
115°	467.0	467.2	467.5	467.5	467.2	467.0	466.7	466.6
117.5°	530.8	530.7	530.7	530.4	529.7	529.0	528.3	527.6
120°	573.3	573.2	572.9	572.5	572.0	571.6	571.1	570.5
122.5°	616.4	615.8	615.1	614.4	613.8	613.1	612.4	611.7
125°	680.3	679.4	678.3	677.4	676.5	675.4	674.5	673.5
127.5°	743.5	742.2	740.7	739.5	738.4	737.3	736.1	735.1
130°	785.4	784.5	783.5	782.1	780.4	778.7	777.0	775.3
132.5°	826.2	825.1	823.9	822.7	821.3	820.0	818.7	817.4
135°	887.3	886.3	885.3	884.6	884.1	883.6	883.2	882.7
137.5°	947.0	945.9	944.9	944.0	943.0	942.2	941.2	940.3
140°	986.2	986.0	985.7	984.8	983.1	981.4	979.7	978.0
142.5°	1023.0	1022.8	1022.6	1021.7	1020.4	1019.1	1017.9	1016.5
145°	1077.1	1076.9	1076.7	1076.0	1075.1	1074.0	1073.1	1072.1
147.5°	1128.2	1128.2	1128.2	1127.5	1126.0	1124.5	1123.0	1121.6
150°	1159.7	1159.7	1159.7	1159.0	1157.5	1156.1	1154.6	1153.2
152.5°	1188.5	1188.9	1189.3	1188.9	1187.6	1186.4	1185.1	1183.8
155°	1230.7	1231.6	1232.7	1232.3	1230.6	1228.9	1227.2	1225.4
157.5°	1266.9	1267.9	1268.9	1268.8	1267.4	1266.0	1264.7	1263.3
160°	1289.2	1290.4	1291.7	1291.8	1290.8	1289.8	1288.8	1287.9
162.5°	1310.2	1311.5	1312.7	1312.5	1310.9	1309.4	1307.8	1306.3
165°	1336.8	1338.2	1339.7	1339.5	1337.8	1336.1	1334.5	1332.8
167.5°	1358.3	1359.8	1361.3	1361.3	1359.8	1358.3	1356.8	1355.3
170°	1370.1	1371.9	1373.6	1373.6	1371.9	1370.1	1368.4	1366.7
172.5°	1379.4	1380.9	1382.4	1382.3	1380.5	1378.8	1377.1	1375.5
175°	1389.3	1390.8	1392.2	1392.1	1390.4	1388.7	1387.0	1385.3
177.5°	1393.8	1395.0	1396.1	1396.0	1394.7	1393.3	1391.9	1390.6
180°	1394.1	1394.1	1394.1	1394.1	1394.1	1394.1	1394.1	1394.1

(END OF REPORT)