

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: P331486

Luminaire Tested: **S122DIW-S290D1240U835-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P331486
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-8,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S122DIW-S290D1240U835-4F0-1E-UDD-D1
Description: DEFINE 2 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 290 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1240 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5498.4 lumens
Efficiency: N/A
Efficacy: 118.0 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.31 / 1.42
Luminous Opening: Rectangular w/ Sides (W: 0.17' x L: 4' x H: 0.08')
CIE Type: Semi-Indirect

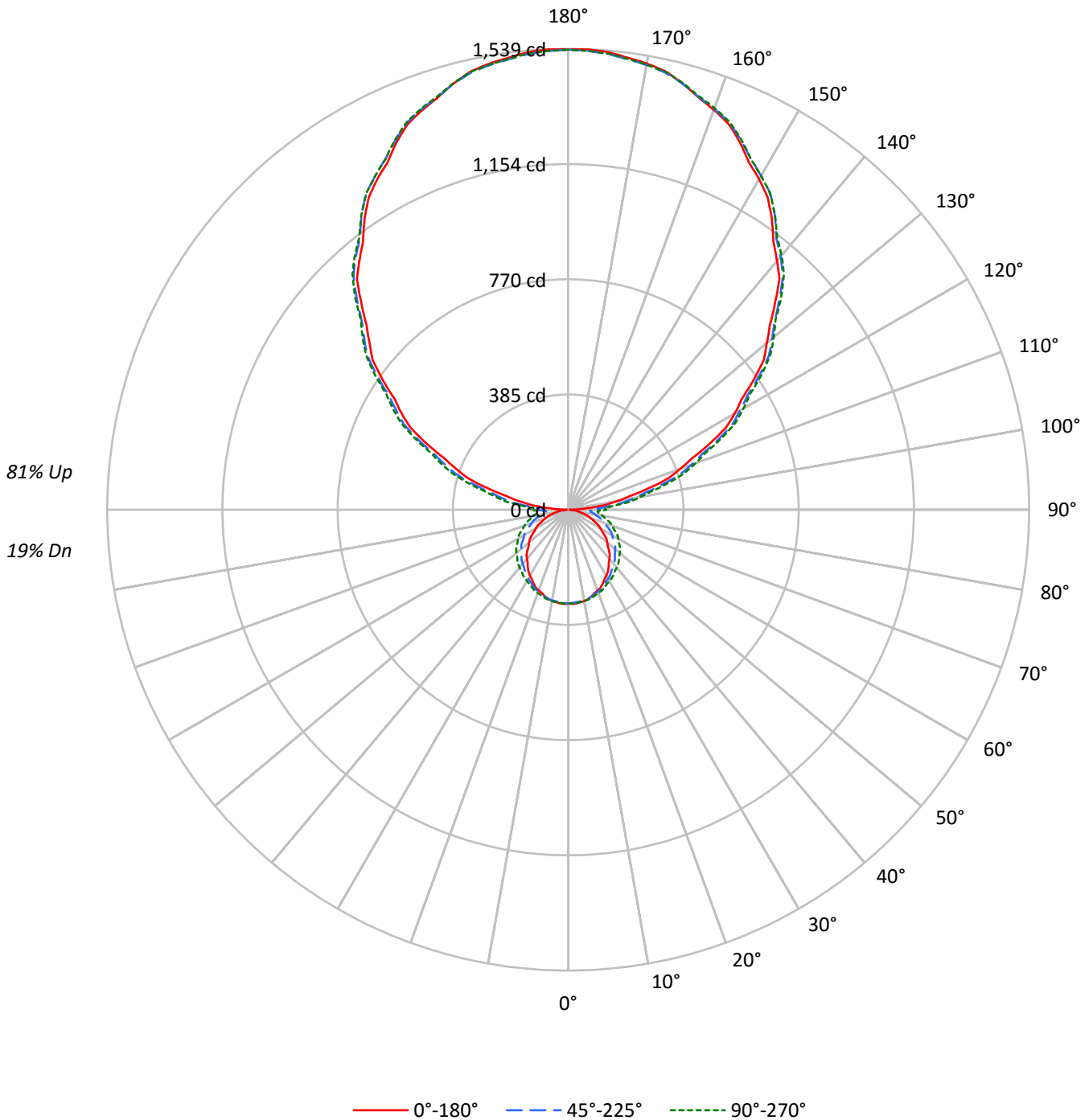
Input Watts (W): 46.6
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	100	100	100	100	88	88	88	88	66	66	66	46	46	46	28	28	28	19
1	90	86	82	78	79	76	73	70	57	55	53	40	38	37	24	23	22	15
2	82	75	69	63	72	66	61	57	50	46	43	34	32	31	21	19	18	12
3	75	65	58	52	65	58	52	47	43	39	36	30	28	25	18	17	15	10
4	68	58	50	44	60	51	44	39	38	34	30	27	24	22	16	14	13	8
5	62	51	43	37	55	45	38	33	34	29	26	24	21	18	14	13	11	7
6	57	45	38	32	50	40	34	29	31	26	22	21	18	16	13	11	10	6
7	53	41	33	28	46	36	30	25	27	23	19	19	16	14	12	10	9	6
8	49	37	29	24	43	33	26	22	25	20	17	18	14	12	11	9	8	5
9	45	33	26	21	40	30	23	19	23	18	15	16	13	11	10	8	7	4
10	42	30	23	19	37	27	21	17	21	16	13	15	12	10	9	7	6	4

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5062	5062	5062
5°	5086	4872	4853
10°	5054	4728	4675
15°	4983	4575	4487
20°	4896	4412	4306
25°	4810	4254	4140
30°	4687	4093	3976
35°	4563	3936	3860
40°	4433	3803	3743
45°	4308	3685	3644
50°	4176	3577	3546
55°	4035	3461	3447
60°	3865	3340	3342
65°	3686	3200	3215
70°	3487	3048	3081
75°	3236	2900	2956
80°	2836	2748	2829
85°	2454	2617	2731



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	29.7	0.5
10°-20°	85.2	1.5
20°-30°	129.1	2.3
30°-40°	157.2	2.9
40°-50°	169.1	3.1
50°-60°	164.2	3.0
60°-70°	143.4	2.6
70°-80°	110.4	2.0
80°-90°	80.2	1.5
90°-100°	148.4	2.7
100°-110°	339.7	6.2
110°-120°	541.5	9.8
120°-130°	693.5	12.6
130°-140°	768.7	14.0
140°-150°	749.1	13.6
150°-160°	627.4	11.4
160°-170°	416.2	7.6
170°-180°	145.5	2.6
0°-30°	243.9	4.4
0°-40°	401.1	7.3
0°-60°	734.5	13.4
0°-90°	1068.5	19.4
90°-120°	1029.6	18.7
90°-150°	3240.8	58.9
90°-180°	4430.0	80.6
0°-180°	5498.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	314	314	314	314	314	
5°	314	313	310	313	312	30
15°	300	301	301	305	304	84
25°	273	276	280	285	287	125
35°	235	243	251	261	264	147
45°	193	205	221	234	239	149
55°	148	164	188	203	210	132
65°	101	123	150	168	174	100
75°	56	82	110	129	136	59
85°	16	45	74	92	99	18
90°	6	49	105	120	128	7
95°	71	105	135	152	155	80
105°	281	299	324	342	348	297
115°	520	534	551	563	564	515
125°	756	767	778	786	789	675
135°	977	991	998	1006	1006	754
145°	1185	1194	1202	1206	1203	740
155°	1355	1359	1363	1369	1365	623
165°	1474	1473	1473	1481	1476	416
175°	1534	1530	1527	1536	1529	146
180°	1536	1536	1536	1536	1536	



TEST NUMBER: P331486

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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	313.5	313.5	313.5	313.5	313.5	313.5	313.5	313.5	313.5	313.5	313.5
2.5°	315.3	315.0	314.8	314.5	314.3	313.9	313.3	312.8	312.2	311.6	312.0
5°	314.4	314.1	313.8	313.5	313.1	312.7	312.1	311.5	310.9	310.3	310.9
7.5°	311.5	311.3	311.1	310.9	310.7	310.4	309.9	309.5	309.0	308.5	309.3
10°	309.4	309.2	309.0	308.8	308.6	308.3	308.0	307.7	307.4	307.1	307.9
12.5°	305.7	305.8	305.8	305.9	305.9	305.8	305.6	305.4	305.1	304.9	305.7
15°	299.8	300.0	300.2	300.4	300.6	300.7	300.7	300.7	300.7	300.7	301.6
17.5°	292.2	292.6	293.0	293.5	293.9	294.3	294.6	294.9	295.2	295.6	296.5
20°	287.1	287.6	288.1	288.6	289.1	289.6	290.0	290.4	290.8	291.2	292.3
22.5°	281.7	282.2	282.8	283.4	284.0	284.6	285.1	285.7	286.3	286.8	287.9
25°	272.6	273.3	274.0	274.7	275.4	276.2	277.1	278.0	278.9	279.8	281.0
27.5°	261.7	262.8	264.0	265.1	266.3	267.4	268.4	269.5	270.6	271.7	273.2
30°	254.4	255.7	257.0	258.3	259.6	261.0	262.3	263.6	264.9	266.2	267.8
32.5°	246.4	247.9	249.3	250.8	252.3	253.8	255.4	256.9	258.5	260.0	261.9
35°	234.9	236.6	238.3	240.0	241.7	243.5	245.5	247.4	249.3	251.2	253.4
37.5°	222.3	224.3	226.3	228.3	230.2	232.5	235.0	237.4	239.9	242.4	244.9
40°	214.0	216.2	218.4	220.6	222.8	225.3	228.0	230.8	233.5	236.2	238.8
42.5°	206.0	208.2	210.4	212.6	214.9	217.5	220.7	223.8	226.9	230.0	232.9
45°	192.6	195.3	198.1	200.8	203.5	206.6	210.2	213.7	217.2	220.8	223.9
47.5°	179.4	182.4	185.4	188.3	191.3	194.9	199.0	203.1	207.3	211.4	214.7
50°	170.4	173.5	176.6	179.7	182.9	186.7	191.3	195.8	200.3	204.9	208.3
52.5°	161.6	164.9	168.2	171.5	174.8	178.8	183.6	188.4	193.2	198.0	201.5
55°	147.6	151.3	154.9	158.5	162.2	166.6	171.9	177.1	182.4	187.6	191.3
57.5°	133.8	137.9	142.0	146.1	150.2	154.9	160.3	165.6	171.0	176.4	180.3
60°	124.0	128.4	132.7	137.0	141.4	146.4	152.2	157.9	163.7	169.4	173.3
62.5°	115.3	119.8	124.3	128.8	133.3	138.4	144.2	149.9	155.7	161.5	165.5
65°	100.8	105.8	110.7	115.7	120.6	126.1	132.0	138.0	144.0	149.9	154.1
67.5°	87.6	92.8	97.9	103.1	108.3	113.9	120.0	126.1	132.2	138.3	142.5
70°	78.1	83.4	88.6	93.9	99.1	104.9	111.1	117.4	123.7	129.9	134.3
72.5°	69.4	74.8	80.2	85.6	91.1	96.9	103.3	109.6	116.0	122.3	126.6
75°	55.9	61.5	67.2	72.8	78.5	84.5	91.0	97.5	103.9	110.4	114.7
77.5°	42.8	48.7	54.6	60.5	66.5	72.7	79.3	85.8	92.4	98.9	103.3
80°	34.1	40.2	46.4	52.5	58.7	65.1	71.6	78.2	84.7	91.3	95.5
82.5°	26.8	32.9	39.0	45.0	51.1	57.5	64.1	70.8	77.4	84.0	88.3
85°	16.4	22.6	28.9	35.1	41.4	47.7	54.2	60.7	67.1	73.6	77.8
87.5°	9.2	15.9	22.6	29.3	36.0	43.2	50.9	58.7	66.4	74.1	78.1
90°	5.8	15.2	24.5	33.8	43.1	54.1	66.9	79.7	92.5	105.3	108.8
92.5°	27.3	35.2	43.2	51.2	59.2	67.1	74.8	82.5	90.2	97.9	102.0
95°	71.1	78.7	86.3	93.9	101.6	108.7	115.3	122.0	128.6	135.2	139.1
97.5°	126.4	133.1	139.9	146.6	153.4	160.2	167.1	174.0	180.9	187.9	191.6
100°	167.9	173.9	179.9	186.0	192.0	198.3	204.8	211.3	217.8	224.4	228.1
102.5°	211.1	216.3	221.6	226.8	232.1	238.0	244.6	251.2	257.8	264.4	268.2
105°	281.0	284.8	288.6	292.4	296.2	301.0	306.9	312.7	318.5	324.3	328.4
107.5°	352.0	355.6	359.2	362.8	366.5	370.8	375.8	380.8	385.9	390.9	394.5
110°	397.3	401.0	404.8	408.5	412.3	416.6	421.6	426.5	431.5	436.4	439.6



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	447.1	450.5	453.9	457.4	460.8	464.7	469.2	473.7	478.2	482.6	485.2
115°	520.5	523.3	526.2	529.0	531.8	535.2	539.2	543.2	547.1	551.1	553.8
117.5°	593.2	596.2	599.2	602.2	605.3	608.1	610.7	613.3	615.8	618.4	620.7
120°	641.9	644.6	647.3	650.0	652.7	655.0	656.7	658.4	660.2	661.9	664.7
122.5°	686.5	689.4	692.4	695.3	698.2	700.8	703.0	705.1	707.3	709.5	711.6
125°	755.6	758.1	760.7	763.3	765.9	768.4	770.8	773.1	775.5	777.9	779.7
127.5°	823.2	826.4	829.6	832.8	836.0	838.4	839.9	841.5	843.1	844.6	846.1
130°	865.8	869.4	873.1	876.7	880.4	882.9	884.5	886.0	887.6	889.1	891.0
132.5°	913.5	916.4	919.4	922.3	925.3	927.7	929.4	931.2	932.9	934.7	935.7
135°	976.8	980.0	983.2	986.3	989.5	991.9	993.5	995.1	996.6	998.2	1000.1
137.5°	1044.0	1046.6	1049.1	1051.7	1054.3	1056.2	1057.4	1058.6	1059.7	1060.9	1062.6
140°	1084.4	1086.9	1089.4	1091.9	1094.4	1096.5	1098.1	1099.8	1101.4	1103.1	1104.7
142.5°	1125.9	1128.4	1130.9	1133.4	1135.9	1137.7	1138.7	1139.7	1140.7	1141.7	1143.3
145°	1185.1	1187.2	1189.2	1191.2	1193.2	1195.1	1196.8	1198.5	1200.3	1202.0	1202.9
147.5°	1238.3	1240.7	1243.1	1245.6	1248.0	1249.8	1250.9	1252.1	1253.2	1254.4	1255.1
150°	1274.6	1276.3	1278.1	1279.8	1281.5	1283.0	1284.1	1285.3	1286.4	1287.6	1288.4
152.5°	1306.8	1308.5	1310.2	1311.9	1313.7	1315.2	1316.6	1318.0	1319.4	1320.8	1321.9
155°	1355.0	1355.9	1356.7	1357.6	1358.5	1359.3	1360.2	1361.0	1361.9	1362.8	1364.2
157.5°	1396.2	1396.8	1397.4	1398.0	1398.5	1399.1	1399.6	1400.1	1400.6	1401.2	1403.1
160°	1421.1	1421.7	1422.3	1422.9	1423.4	1423.9	1424.1	1424.4	1424.7	1425.0	1426.7
162.5°	1443.9	1444.1	1444.2	1444.3	1444.4	1444.6	1444.9	1445.2	1445.5	1445.8	1447.7
165°	1474.3	1474.0	1473.7	1473.4	1473.1	1473.0	1473.0	1473.0	1473.0	1473.0	1475.0
167.5°	1499.7	1498.8	1498.0	1497.1	1496.2	1495.8	1495.7	1495.7	1495.6	1495.5	1497.6
170°	1513.2	1512.3	1511.5	1510.6	1509.7	1509.2	1508.9	1508.6	1508.3	1508.0	1510.0
172.5°	1522.5	1521.7	1520.8	1519.9	1519.1	1518.5	1518.2	1517.9	1517.6	1517.3	1519.4
175°	1533.9	1533.1	1532.2	1531.3	1530.5	1529.8	1529.2	1528.6	1528.0	1527.4	1529.5
177.5°	1538.6	1537.9	1537.2	1536.5	1535.8	1535.3	1534.8	1534.3	1533.9	1533.4	1534.8
180°	1536.5	1536.5	1536.5	1536.5	1536.5	1536.5	1536.5	1536.5	1536.5	1536.5	1536.5



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	313.5	313.5	313.5	313.5	313.5	313.5	313.5	313.5
2.5°	312.4	312.8	313.2	313.4	313.2	313.0	312.9	312.7
5°	311.5	312.1	312.7	312.9	312.8	312.7	312.6	312.5
7.5°	310.0	310.7	311.5	311.8	311.7	311.6	311.5	311.4
10°	308.7	309.5	310.3	310.7	310.6	310.5	310.4	310.3
12.5°	306.5	307.3	308.1	308.5	308.4	308.3	308.2	308.1
15°	302.5	303.5	304.4	304.8	304.7	304.6	304.5	304.4
17.5°	297.5	298.4	299.3	299.8	299.8	299.8	299.8	299.8
20°	293.4	294.5	295.6	296.2	296.2	296.2	296.2	296.2
22.5°	289.1	290.2	291.3	291.9	292.1	292.2	292.4	292.6
25°	282.3	283.5	284.7	285.4	285.7	286.0	286.3	286.6
27.5°	274.7	276.3	277.8	278.7	278.9	279.1	279.3	279.6
30°	269.4	271.1	272.7	273.6	273.9	274.2	274.5	274.8
32.5°	263.7	265.6	267.5	268.7	269.2	269.8	270.3	270.8
35°	255.7	257.9	260.1	261.6	262.3	263.0	263.7	264.4
37.5°	247.3	249.8	252.3	253.9	254.6	255.4	256.1	256.8
40°	241.5	244.1	246.7	248.5	249.4	250.3	251.2	252.1
42.5°	235.8	238.6	241.5	243.4	244.3	245.2	246.1	247.0
45°	227.0	230.2	233.3	235.4	236.4	237.4	238.4	239.4
47.5°	218.0	221.2	224.5	226.7	227.8	228.9	230.0	231.1
50°	211.7	215.2	218.6	220.9	222.0	223.1	224.2	225.3
52.5°	205.0	208.5	212.0	214.4	215.6	216.8	218.0	219.1
55°	194.9	198.5	202.2	204.6	205.9	207.3	208.6	209.9
57.5°	184.2	188.1	192.0	194.6	196.0	197.3	198.6	200.0
60°	177.1	181.0	184.8	187.4	188.8	190.2	191.7	193.1
62.5°	169.6	173.7	177.8	180.5	181.8	183.1	184.5	185.8
65°	158.2	162.3	166.5	169.2	170.5	171.8	173.1	174.4
67.5°	146.6	150.8	155.0	157.8	159.1	160.5	161.9	163.3
70°	138.6	142.9	147.3	150.1	151.3	152.5	153.7	154.9
72.5°	130.8	135.1	139.3	142.2	143.6	145.1	146.6	148.0
75°	119.1	123.4	127.8	130.6	131.9	133.2	134.5	135.8
77.5°	107.6	111.9	116.2	119.1	120.5	121.9	123.3	124.7
80°	99.8	104.0	108.3	111.1	112.5	113.9	115.3	116.7
82.5°	92.5	96.8	101.0	103.8	105.1	106.5	107.8	109.1
85°	82.1	86.3	90.6	93.4	94.8	96.2	97.6	99.0
87.5°	82.1	86.1	90.1	92.8	94.2	95.5	96.9	98.2
90°	112.3	115.7	119.2	121.7	123.2	124.7	126.2	127.7
92.5°	106.1	110.1	114.2	116.9	118.2	119.4	120.7	122.0
95°	142.9	146.7	150.6	152.8	153.4	154.1	154.7	155.3
97.5°	195.3	199.1	202.8	205.2	206.4	207.5	208.6	209.8
100°	231.8	235.6	239.3	241.6	242.4	243.2	244.1	244.9
102.5°	272.1	276.0	279.9	282.2	283.1	283.9	284.7	285.5
105°	332.5	336.7	340.8	343.4	344.5	345.6	346.7	347.8
107.5°	398.1	401.8	405.4	407.1	406.9	406.6	406.4	406.2
110°	442.9	446.1	449.3	451.1	451.3	451.6	451.8	452.1



TEST NUMBER: P331486

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	487.7	490.2	492.8	494.3	494.8	495.2	495.7	496.2
115°	556.6	559.3	562.1	563.6	563.8	564.0	564.3	564.5
117.5°	623.0	625.3	627.6	628.8	629.0	629.2	629.3	629.5
120°	667.5	670.4	673.2	674.7	675.0	675.2	675.5	675.7
122.5°	713.6	715.7	717.7	718.9	719.2	719.5	719.9	720.2
125°	781.6	783.5	785.3	786.6	787.2	787.8	788.4	789.0
127.5°	847.6	849.0	850.5	851.2	851.2	851.1	851.1	851.1
130°	892.8	894.7	896.5	897.3	896.9	896.6	896.2	895.9
132.5°	936.8	937.9	939.0	939.4	939.3	939.2	939.1	939.0
135°	1001.9	1003.7	1005.6	1006.4	1006.4	1006.3	1006.3	1006.2
137.5°	1064.2	1065.8	1067.5	1068.0	1067.6	1067.1	1066.6	1066.2
140°	1106.3	1107.9	1109.5	1110.1	1109.5	1109.0	1108.4	1107.9
142.5°	1144.8	1146.3	1147.8	1148.3	1147.7	1147.0	1146.4	1145.8
145°	1203.8	1204.7	1205.6	1205.7	1205.0	1204.4	1203.7	1203.1
147.5°	1255.8	1256.5	1257.2	1257.2	1256.3	1255.5	1254.6	1253.8
150°	1289.3	1290.2	1291.0	1291.0	1290.2	1289.3	1288.4	1287.6
152.5°	1323.0	1324.0	1325.1	1325.1	1324.0	1323.0	1321.9	1320.8
155°	1365.7	1367.1	1368.5	1368.8	1368.0	1367.1	1366.2	1365.4
157.5°	1405.1	1407.0	1409.0	1409.3	1407.9	1406.5	1405.1	1403.7
160°	1428.5	1430.2	1431.9	1432.2	1431.1	1429.9	1428.8	1427.6
162.5°	1449.7	1451.6	1453.6	1453.9	1452.5	1451.1	1449.7	1448.4
165°	1477.0	1479.0	1481.1	1481.3	1479.9	1478.5	1477.0	1475.6
167.5°	1499.6	1501.6	1503.6	1503.9	1502.4	1500.9	1499.4	1497.9
170°	1512.0	1514.0	1516.1	1516.2	1514.5	1512.8	1511.0	1509.3
172.5°	1521.4	1523.4	1525.4	1525.5	1523.8	1522.1	1520.4	1518.6
175°	1531.5	1533.5	1535.5	1535.7	1533.9	1532.2	1530.5	1528.7
177.5°	1536.2	1537.6	1538.9	1538.9	1537.6	1536.2	1534.8	1533.4
180°	1536.5	1536.5	1536.5	1536.5	1536.5	1536.5	1536.5	1536.5

(END OF REPORT)