

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: P331444

Luminaire Tested: **SA2XXDIP-C1005D725U835-4F0-1E-UDD-F**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P331444
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-2,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA2XXDIP-C1005D725U835-4F0-1E-UDD-F
Description: DEFINE 2 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1005 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 725 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

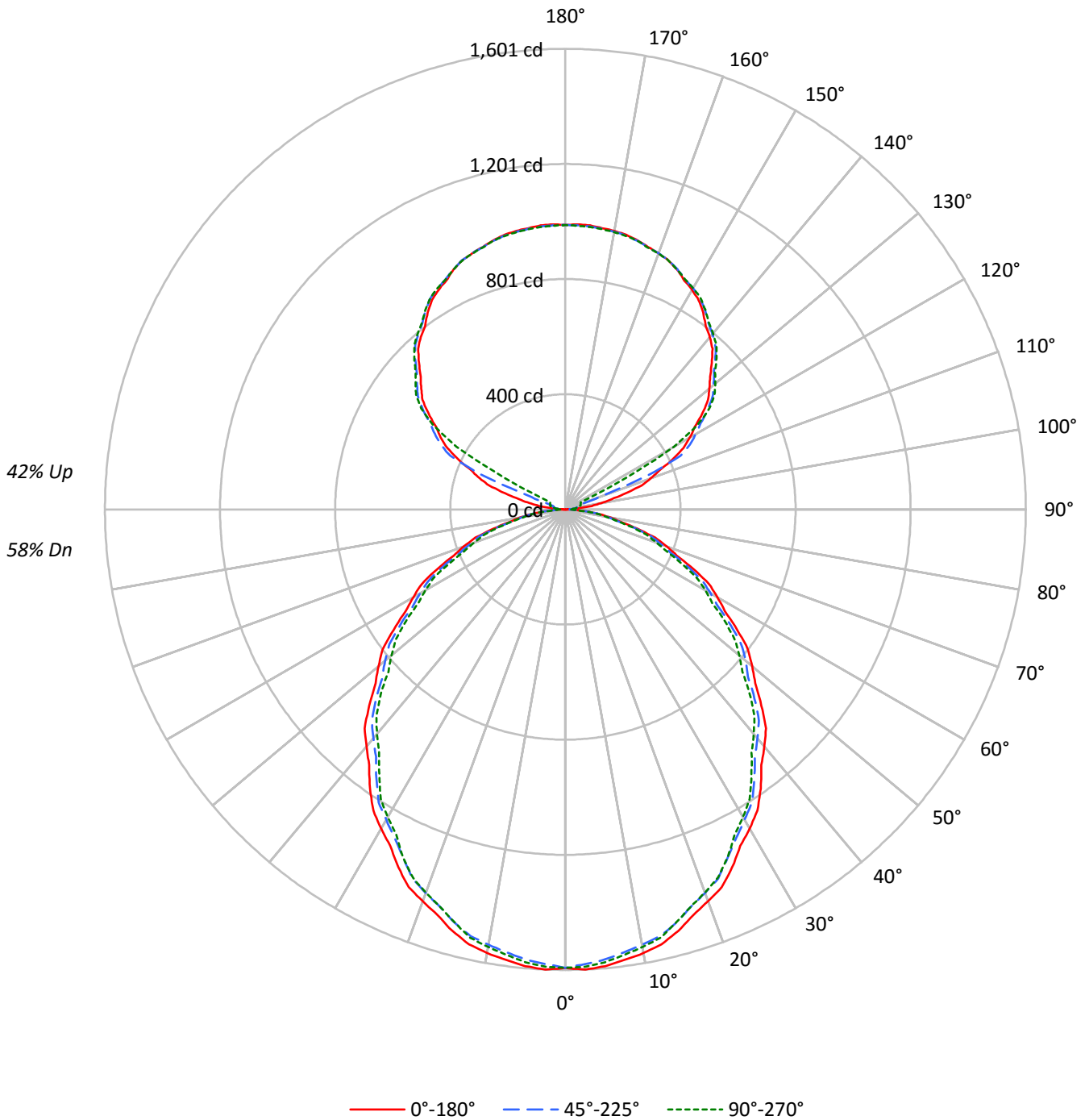
Lumens per Lamp: N/A
Luminaire Lumens: 6954.5 lumens
Efficiency: N/A
Efficacy: 114.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.16 / 1.3
Luminous Opening: Rectangular (W 0.17' x L: 4' x H: 0')
CIE Type: General Diffuse

Input Watts (W): 60.7
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									
RC	80									50									30									10									0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	50	30	10	0																
RCR																																					
0	109	109	109	109	102	102	102	102	88	88	88	75	75	75	64	64	64	58																			
1	100	95	91	88	93	89	86	82	77	75	72	66	65	63	56	55	54	49																			
2	91	83	77	72	84	78	72	68	68	63	60	58	55	52	50	47	45	41																			
3	83	73	66	60	77	68	62	57	60	55	50	52	48	44	44	41	39	35																			
4	76	65	57	51	70	61	54	48	53	47	43	46	42	38	39	36	33	30																			
5	70	58	50	43	65	54	47	41	48	42	37	41	37	33	35	32	29	26																			
6	64	52	44	38	60	49	41	36	43	37	32	37	33	29	32	28	26	23																			
7	59	47	39	33	55	44	37	32	39	33	29	34	29	26	29	26	23	20																			
8	55	43	35	29	51	40	33	28	36	30	25	31	26	23	27	23	20	18																			
9	51	39	31	26	48	37	30	25	33	27	23	29	24	21	25	21	18	16																			
10	48	36	28	24	45	34	27	23	30	25	21	27	22	19	23	19	17	15																			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	25733	25733	25733
5°	25832	25459	25608
10°	25678	25201	25327
15°	25361	24874	24849
20°	24911	24383	24357
25°	24464	23779	23779
30°	23886	23228	23029
35°	23349	22565	22231
40°	22675	21901	21479
45°	22012	21240	20717
50°	21288	20557	19826
55°	20535	19758	19023
60°	19695	18807	18112
65°	18793	17857	17039
70°	17651	16711	15918
75°	16064	15390	15009
80°	14254	13826	13110
85°	11634	11078	9930



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	149.9	2.2
10°-20°	421.7	6.1
20°-30°	619.8	8.9
30°-40°	720.0	10.4
40°-50°	719.2	10.3
50°-60°	627.2	9.0
60°-70°	463.8	6.7
70°-80°	262.7	3.8
80°-90°	73.1	1.1
90°-100°	33.0	0.5
100°-110°	120.9	1.7
110°-120°	323.3	4.6
120°-130°	533.6	7.7
130°-140°	567.5	8.2
140°-150°	527.5	7.6
150°-160°	424.1	6.1
160°-170°	273.3	3.9
170°-180°	94.1	1.4
0°-30°	1191.4	17.1
0°-40°	1911.4	27.5
0°-60°	3257.9	46.8
0°-90°	4057.4	58.3
90°-120°	477.2	6.9
90°-150°	2105.7	30.3
90°-180°	2897.0	41.7
0°-180°	6954.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1594	1594	1594	1594	1594	
5°	1594	1587	1571	1582	1580	151
15°	1517	1507	1488	1493	1487	427
25°	1373	1360	1335	1338	1335	631
35°	1185	1169	1145	1136	1128	739
45°	964	953	930	914	907	744
55°	730	720	702	684	676	652
65°	492	482	467	454	446	486
75°	258	254	247	238	241	275
85°	63	61	60	55	54	72
90°	1	8	14	18	19	5
95°	46	24	28	31	31	57
105°	218	227	44	51	54	232
115°	411	424	441	126	59	405
125°	582	591	604	609	612	518
135°	720	731	738	744	743	556
145°	835	835	846	851	848	522
155°	919	914	921	925	920	423
165°	969	965	966	971	966	274
175°	991	986	987	992	985	94
180°	989	989	989	989	989	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1593.8	1593.8	1593.8	1593.8	1593.8	1593.8	1593.8	1593.8	1593.8	1593.8	1593.8
2.5°	1601.2	1599.8	1598.5	1597.1	1595.7	1593.6	1590.6	1587.6	1584.6	1581.6	1584.3
5°	1593.8	1592.5	1591.1	1589.7	1588.4	1585.8	1582.1	1578.3	1574.6	1570.8	1573.6
7.5°	1579.7	1577.6	1575.5	1573.4	1571.3	1568.3	1564.5	1560.7	1556.9	1553.1	1555.8
10°	1566.2	1563.9	1561.5	1559.1	1556.7	1553.5	1549.4	1545.3	1541.2	1537.1	1539.9
12.5°	1547.9	1545.7	1543.6	1541.5	1539.4	1536.3	1532.2	1528.1	1524.1	1520.0	1521.9
15°	1517.2	1515.2	1513.1	1511.1	1509.0	1505.8	1501.4	1496.9	1492.5	1488.1	1489.5
17.5°	1478.0	1475.9	1473.9	1471.8	1469.8	1466.5	1462.0	1457.5	1453.0	1448.6	1450.1
20°	1449.8	1447.7	1445.7	1443.6	1441.6	1438.2	1433.4	1428.7	1423.9	1419.1	1420.1
22.5°	1421.6	1418.7	1415.9	1413.0	1410.1	1406.5	1402.0	1397.5	1393.0	1388.5	1388.7
25°	1373.2	1370.4	1367.7	1365.0	1362.3	1358.0	1352.2	1346.4	1340.6	1334.8	1335.5
27.5°	1318.0	1315.5	1313.1	1310.6	1308.2	1304.7	1300.1	1295.5	1291.0	1286.4	1285.4
30°	1281.2	1278.5	1275.7	1273.0	1270.3	1266.4	1261.3	1256.2	1251.1	1245.9	1244.9
32.5°	1242.0	1239.8	1237.6	1235.4	1233.2	1229.5	1224.1	1218.7	1213.3	1207.9	1206.1
35°	1184.6	1181.2	1177.8	1174.4	1171.0	1166.6	1161.1	1155.7	1150.3	1144.8	1142.8
37.5°	1120.0	1117.0	1114.0	1111.0	1108.0	1103.8	1098.3	1092.9	1087.4	1082.0	1079.4
40°	1075.8	1073.1	1070.4	1067.7	1064.9	1060.9	1055.4	1050.0	1044.5	1039.1	1036.0
42.5°	1032.9	1030.2	1027.5	1024.8	1022.0	1017.9	1012.5	1007.0	1001.6	996.1	992.8
45°	964.0	961.6	959.2	956.8	954.4	950.7	945.6	940.5	935.4	930.2	926.5
47.5°	895.3	893.1	890.8	888.6	886.3	882.5	877.2	871.9	866.6	861.3	857.3
50°	847.5	845.8	844.1	842.4	840.7	837.4	832.7	827.9	823.1	818.4	813.6
52.5°	800.9	798.7	796.4	794.2	791.9	788.5	784.0	779.5	775.1	770.6	766.6
55°	729.5	727.4	725.4	723.4	721.3	718.2	714.2	710.1	706.0	701.9	697.8
57.5°	657.8	656.1	654.5	652.9	651.2	648.2	643.7	639.2	634.7	630.2	626.2
60°	609.9	608.6	607.2	605.9	604.5	601.4	596.7	591.9	587.1	582.4	578.6
62.5°	563.4	561.2	559.0	556.8	554.6	551.7	548.0	544.4	540.7	537.0	533.5
65°	491.9	489.9	487.9	485.8	483.8	481.0	477.6	474.2	470.8	467.4	464.4
67.5°	419.3	417.7	416.0	414.4	412.8	410.4	407.3	404.3	401.2	398.2	395.8
70°	373.9	372.6	371.2	369.9	368.5	366.3	363.2	360.1	357.1	354.0	351.6
72.5°	327.3	326.0	324.6	323.3	321.9	320.2	318.3	316.3	314.3	312.3	309.9
75°	257.5	256.8	256.1	255.4	254.7	253.5	251.8	250.1	248.4	246.7	244.7
77.5°	194.9	193.8	192.6	191.5	190.3	189.4	188.7	188.0	187.3	186.7	185.6
80°	153.3	152.9	152.6	152.2	151.9	151.4	150.7	150.0	149.3	148.7	147.6
82.5°	114.0	114.0	113.9	113.8	113.7	113.5	113.1	112.7	112.3	111.9	110.6
85°	62.8	62.5	62.2	61.8	61.5	61.1	60.8	60.4	60.1	59.8	58.7
87.5°	22.2	22.0	21.8	21.6	21.4	21.2	20.9	20.6	20.3	20.0	19.4
90°	0.7	2.5	4.2	6.0	7.7	9.2	10.5	11.8	13.0	14.3	15.1
92.5°	14.4	14.3	14.1	14.0	13.8	14.1	14.7	15.3	16.0	16.6	17.0
95°	46.5	41.3	36.0	30.8	25.5	23.4	24.6	25.7	26.8	27.9	28.7
97.5°	92.3	77.5	62.7	47.9	33.1	27.0	29.6	32.2	34.8	37.3	38.0
100°	126.6	104.8	83.1	61.3	39.5	30.0	32.7	35.4	38.1	40.8	42.0
102.5°	164.4	159.8	155.2	150.6	145.9	132.3	109.7	87.1	64.5	41.9	43.6
105°	217.5	222.2	227.0	231.8	236.5	217.2	173.8	130.4	87.0	43.6	45.4
107.5°	278.0	281.8	285.7	289.5	293.4	269.3	217.2	165.2	113.1	61.1	59.3
110°	316.9	320.2	323.6	326.9	330.2	308.9	263.0	217.1	171.1	125.2	109.3



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	353.5	356.5	359.4	362.4	365.3	361.1	349.8	338.4	327.1	315.7	257.8
115°	411.3	414.0	416.7	419.4	422.1	425.5	429.4	433.4	437.4	441.4	367.8
117.5°	463.0	466.0	469.0	472.0	475.0	477.9	480.7	483.4	486.1	488.9	471.1
120°	500.7	503.1	505.5	507.9	510.3	512.9	515.8	518.6	521.5	524.3	526.2
122.5°	532.8	535.3	537.8	540.3	542.8	545.6	548.8	551.9	555.0	558.1	559.2
125°	581.6	583.6	585.7	587.8	589.8	592.4	595.4	598.4	601.4	604.5	605.6
127.5°	625.8	628.1	630.4	632.6	634.9	637.2	639.5	641.7	644.0	646.2	647.9
130°	653.8	656.4	658.9	661.4	664.0	666.1	667.9	669.6	671.4	673.1	674.9
132.5°	682.4	684.6	686.8	688.9	691.1	693.0	694.8	696.5	698.3	700.0	701.5
135°	719.6	722.2	724.7	727.3	729.8	731.8	733.2	734.6	736.1	737.5	739.1
137.5°	757.3	759.0	760.8	762.6	764.4	766.1	767.7	769.3	770.9	772.6	774.1
140°	781.9	783.1	784.4	785.7	786.9	788.5	790.2	792.0	793.7	795.5	796.9
142.5°	802.5	803.6	804.8	805.9	807.0	808.6	810.6	812.6	814.6	816.6	817.9
145°	834.8	834.6	834.5	834.3	834.2	835.4	838.1	840.8	843.5	846.2	847.4
147.5°	863.0	862.4	861.8	861.2	860.6	861.6	864.3	866.9	869.6	872.3	873.1
150°	881.3	880.2	879.1	878.0	876.8	877.6	880.1	882.6	885.2	887.7	888.7
152.5°	896.7	895.5	894.3	893.0	891.8	892.4	894.8	897.2	899.6	902.0	903.0
155°	919.2	917.8	916.3	914.9	913.5	913.7	915.6	917.5	919.4	921.3	922.3
157.5°	936.8	935.6	934.4	933.2	932.0	932.0	933.4	934.7	936.0	937.4	938.5
160°	947.1	946.1	945.2	944.2	943.3	943.3	944.2	945.2	946.1	947.1	948.1
162.5°	956.3	955.3	954.4	953.4	952.4	952.4	953.2	954.0	954.9	955.7	956.8
165°	968.6	967.6	966.7	965.7	964.7	964.5	965.0	965.5	965.9	966.4	967.5
167.5°	977.7	976.8	975.8	974.9	973.9	973.6	974.1	974.5	975.0	975.4	976.5
170°	982.9	981.9	981.0	980.0	979.1	978.7	979.1	979.4	979.7	980.0	981.1
172.5°	986.3	985.3	984.4	983.4	982.5	982.2	982.5	982.8	983.1	983.4	984.6
175°	990.7	989.6	988.5	987.4	986.3	985.9	986.2	986.5	986.8	987.2	988.3
177.5°	991.5	990.6	989.7	988.8	987.9	987.5	987.6	987.8	987.9	988.0	988.9
180°	988.6	988.6	988.6	988.6	988.6	988.6	988.6	988.6	988.6	988.6	988.6



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1593.8	1593.8	1593.8	1593.8	1593.8	1593.8	1593.8	1593.8
2.5°	1587.0	1589.7	1592.5	1593.6	1593.0	1592.5	1591.9	1591.4
5°	1576.3	1579.0	1581.7	1582.8	1582.1	1581.4	1580.7	1580.0
7.5°	1558.5	1561.2	1564.0	1565.0	1564.2	1563.5	1562.7	1562.0
10°	1542.6	1545.3	1548.0	1548.9	1547.9	1546.8	1545.8	1544.8
12.5°	1523.8	1525.7	1527.6	1528.2	1527.4	1526.7	1525.9	1525.2
15°	1490.8	1492.2	1493.5	1493.4	1491.7	1490.0	1488.3	1486.6
17.5°	1451.7	1453.3	1454.8	1454.8	1453.1	1451.5	1449.9	1448.2
20°	1421.2	1422.2	1423.2	1423.0	1421.7	1420.3	1419.0	1417.6
22.5°	1388.9	1389.1	1389.3	1389.0	1388.2	1387.4	1386.5	1385.7
25°	1336.2	1336.9	1337.6	1337.6	1336.9	1336.2	1335.5	1334.8
27.5°	1284.4	1283.3	1282.3	1281.0	1279.4	1277.7	1276.1	1274.5
30°	1243.9	1242.9	1241.9	1240.7	1239.3	1237.9	1236.6	1235.2
32.5°	1204.3	1202.4	1200.6	1199.0	1197.6	1196.3	1194.9	1193.5
35°	1140.7	1138.7	1136.6	1134.8	1133.1	1131.4	1129.6	1127.9
37.5°	1076.9	1074.4	1071.9	1069.8	1068.2	1066.5	1064.9	1063.3
40°	1032.9	1029.9	1026.8	1024.6	1023.2	1021.9	1020.5	1019.1
42.5°	989.5	986.1	982.8	980.2	978.3	976.4	974.5	972.5
45°	922.8	919.0	915.3	912.7	911.3	910.0	908.6	907.3
47.5°	853.4	849.4	845.5	842.5	840.5	838.6	836.6	834.6
50°	808.8	804.1	799.3	796.1	794.4	792.7	791.0	789.3
52.5°	762.7	758.7	754.8	751.7	749.4	747.2	744.9	742.7
55°	693.7	689.6	685.6	682.7	681.0	679.3	677.6	675.8
57.5°	622.1	618.1	614.1	611.4	610.2	608.9	607.6	606.3
60°	574.9	571.1	567.4	565.0	564.0	563.0	561.9	560.9
62.5°	530.1	526.6	523.1	520.7	519.4	518.1	516.8	515.5
65°	461.3	458.2	455.2	452.8	451.1	449.4	447.7	446.0
67.5°	393.4	391.0	388.6	386.7	385.4	384.0	382.7	381.3
70°	349.2	346.9	344.5	342.6	341.2	339.9	338.5	337.2
72.5°	307.6	305.2	302.8	301.1	300.0	298.9	297.8	296.7
75°	242.7	240.6	238.6	237.9	238.6	239.2	239.9	240.6
77.5°	184.6	183.6	182.6	181.6	180.6	179.7	178.7	177.8
80°	146.6	145.6	144.6	143.7	143.0	142.4	141.7	141.0
82.5°	109.3	108.0	106.7	106.0	105.8	105.7	105.6	105.4
85°	57.7	56.7	55.7	55.0	54.7	54.3	54.0	53.6
87.5°	18.7	18.1	17.4	17.0	16.7	16.5	16.3	16.1
90°	15.9	16.7	17.5	18.0	18.4	18.7	19.0	19.3
92.5°	17.4	17.8	18.2	18.6	18.7	18.9	19.1	19.3
95°	29.5	30.3	31.1	31.4	31.2	31.1	30.9	30.8
97.5°	38.6	39.2	39.9	40.3	40.5	40.7	40.9	41.1
100°	43.3	44.6	45.9	46.7	47.0	47.3	47.6	47.9
102.5°	45.2	46.9	48.5	49.6	50.0	50.5	50.9	51.4
105°	47.1	48.9	50.6	51.8	52.5	53.1	53.7	54.4
107.5°	57.5	55.7	54.0	53.4	54.0	54.7	55.3	55.9
110°	93.4	77.5	61.6	54.0	54.6	55.2	55.9	56.5



TEST NUMBER: P331444

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	199.8	141.8	83.8	55.0	55.6	56.1	56.6	57.1
115°	294.2	220.6	147.0	104.4	93.0	81.5	70.1	58.7
117.5°	453.3	435.4	417.6	389.9	352.3	314.7	277.1	239.5
120°	528.2	530.1	532.0	522.2	500.7	479.3	457.8	436.4
122.5°	560.4	561.5	562.7	561.2	557.0	552.8	548.7	544.5
125°	606.7	607.8	608.9	609.7	610.2	610.7	611.1	611.6
127.5°	649.5	651.1	652.7	653.6	653.7	653.8	653.9	654.0
130°	676.6	678.4	680.1	680.9	680.8	680.6	680.4	680.3
132.5°	703.0	704.5	706.0	706.7	706.5	706.4	706.2	706.0
135°	740.7	742.3	743.9	744.5	744.2	743.9	743.5	743.2
137.5°	775.7	777.2	778.8	779.3	778.8	778.2	777.7	777.1
140°	798.3	799.7	801.2	801.5	800.7	799.9	799.1	798.3
142.5°	819.2	820.5	821.8	822.1	821.3	820.5	819.7	818.9
145°	848.5	849.6	850.7	850.8	850.1	849.3	848.5	847.7
147.5°	873.9	874.8	875.6	875.7	875.0	874.3	873.7	873.0
150°	889.6	890.6	891.5	891.6	890.8	890.0	889.2	888.4
152.5°	903.9	904.9	905.9	905.8	904.8	903.7	902.7	901.6
155°	923.3	924.2	925.2	925.0	923.7	922.5	921.2	919.9
157.5°	939.5	940.6	941.7	941.6	940.4	939.1	937.9	936.7
160°	949.0	950.0	950.9	950.8	949.7	948.6	947.5	946.4
162.5°	957.8	958.9	960.0	959.9	958.5	957.1	955.8	954.4
165°	968.6	969.8	970.9	970.9	969.8	968.6	967.5	966.4
167.5°	977.7	978.8	979.9	979.7	978.3	976.9	975.4	974.0
170°	982.2	983.3	984.5	984.3	982.9	981.4	980.0	978.6
172.5°	985.7	986.8	987.9	987.7	986.3	984.9	983.4	982.0
175°	989.4	990.5	991.6	991.4	989.8	988.2	986.6	985.0
177.5°	989.8	990.7	991.6	991.5	990.3	989.2	988.0	986.9
180°	988.6	988.6	988.6	988.6	988.6	988.6	988.6	988.6

(END OF REPORT)