

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: P332693-830

Luminaire Tested: **SA4XXDIP-C1195D810U830-4F0-1E-UDD-D4**

Issue Date: 10/7/2019

Test Information

Test Method: LM-79-08
Report Number: P332693-830
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-18,
Test Lab: INNOVATION CENTER
Issue Date: 10/7/2019
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: SA4XXDIP-C1195D810U830-4F0-1E-UDD-D4
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1195 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 810 LUMENS PER FOOT, BATWING OPTIC
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

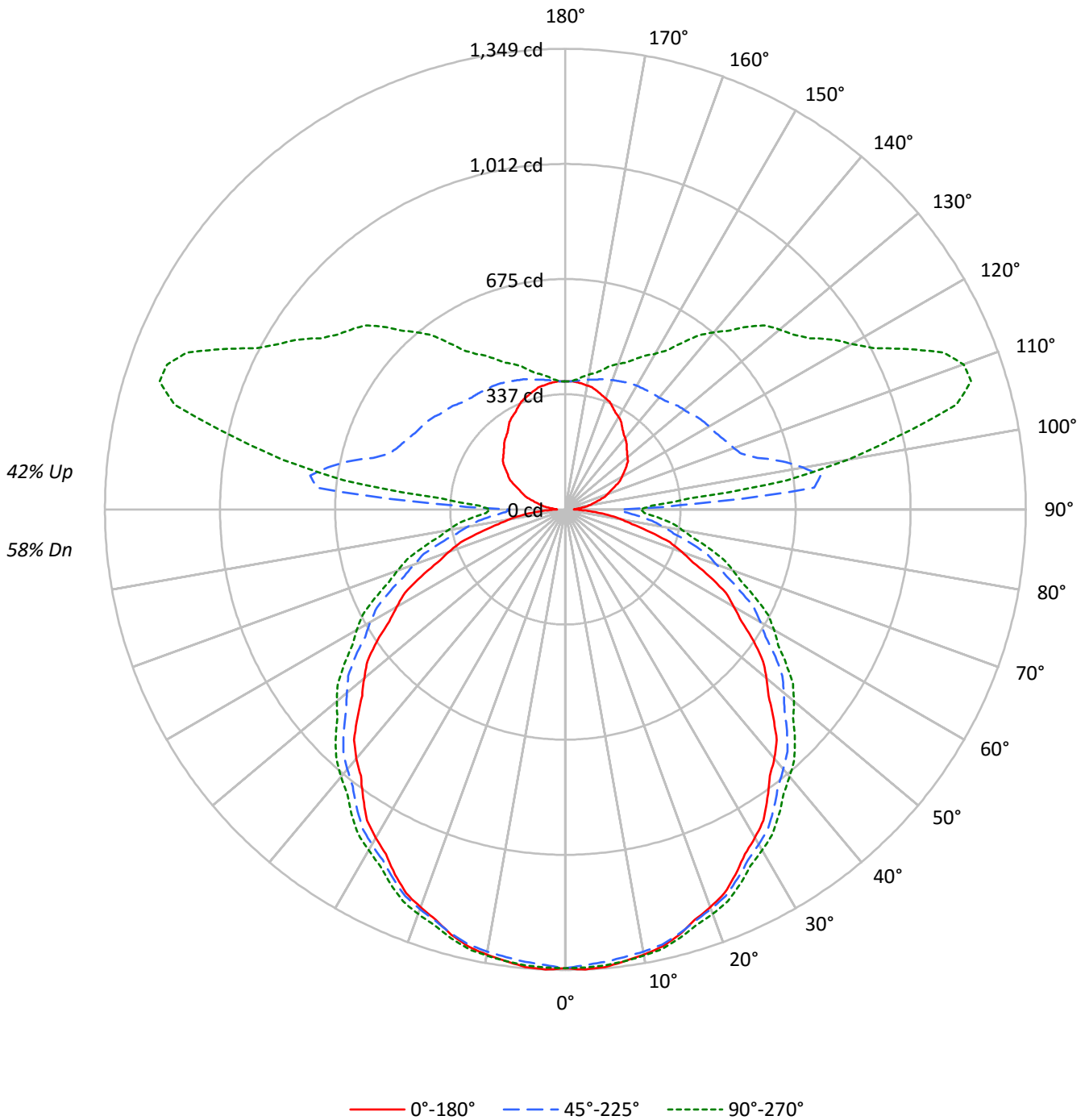
Lumens per Lamp: N/A
Luminaire Lumens: 7311.9 lumens
Efficiency: N/A
Efficacy: 120.5 lumens/watt
Spacing Criteria (0/90/45): 1.23 / 1.28 / 1.39
Luminous Opening: Rectangular w/ Sides (W: 0.33' x L: 4' x H: 0.08')
CIE Type: General Diffuse

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					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	50	30	10	0	
RCR																						
0	109	109	109	109	102	102	102	102	88	88	88	75	75	75	63	63	63	58				
1	98	94	89	85	91	87	83	80	75	72	70	64	62	60	54	53	51	46				
2	89	81	74	69	83	76	70	65	65	61	57	56	52	49	47	44	42	38				
3	81	71	63	57	75	66	59	53	57	52	47	49	45	41	41	38	35	32				
4	74	62	54	48	68	58	51	45	51	45	40	43	39	35	37	33	30	27				
5	68	55	47	41	63	52	44	38	45	39	34	39	34	30	33	29	26	23				
6	62	50	41	35	58	46	39	33	41	34	30	35	30	26	30	26	23	20				
7	58	45	36	31	53	42	34	29	37	31	26	32	27	23	27	23	20	18				
8	53	41	33	27	50	38	31	26	33	27	23	29	24	21	25	21	18	16				
9	50	37	29	24	46	35	28	23	31	25	21	27	22	18	23	19	16	14				
10	46	34	26	22	43	32	25	21	28	22	19	25	20	17	21	17	15	13				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	10851	10851	10851
5°	10884	10604	10635
10°	10818	10431	10423
15°	10721	10231	10174
20°	10574	10009	9931
25°	10410	9760	9665
30°	10231	9513	9392
35°	10029	9259	9152
40°	9868	9019	8902
45°	9628	8797	8688
50°	9425	8541	8461
55°	9216	8300	8195
60°	8889	7992	7953
65°	8532	7663	7655
70°	8098	7286	7308
75°	7493	6872	6995
80°	6823	6474	6686
85°	5963	6123	6505



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	127.3	1.7
10°-20°	364.7	5.0
20°-30°	551.4	7.5
30°-40°	667.1	9.1
40°-50°	705.3	9.6
50°-60°	663.8	9.1
60°-70°	550.7	7.5
70°-80°	386.8	5.3
80°-90°	220.8	3.0
90°-100°	400.8	5.5
100°-110°	660.0	9.0
110°-120°	569.6	7.8
120°-130°	461.3	6.3
130°-140°	370.0	5.1
140°-150°	273.8	3.7
150°-160°	190.3	2.6
160°-170°	111.9	1.5
170°-180°	36.4	0.5
0°-30°	1043.3	14.3
0°-40°	1710.5	23.4
0°-60°	3079.5	42.1
0°-90°	4237.8	58.0
90°-120°	1630.4	22.3
90°-150°	2735.5	37.4
90°-180°	3074.0	42.0
0°-180°	7311.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1344	1344	1344	1344	1344	
5°	1346	1341	1330	1342	1341	128
15°	1290	1291	1287	1300	1299	363
25°	1180	1189	1194	1209	1212	543
35°	1032	1050	1066	1086	1091	646
45°	861	890	918	943	951	665
55°	674	707	751	780	790	601
65°	467	515	566	602	616	462
75°	259	315	378	418	434	275
85°	80	143	211	254	271	85
90°	25	90	162	206	220	17
95°	44	147	732	467	365	43
105°	100	170	583	1177	1186	107
115°	161	215	502	931	1110	160
125°	218	258	471	775	874	194
135°	254	303	439	662	757	197
145°	291	332	423	537	595	183
155°	329	356	411	466	486	152
165°	359	370	394	418	424	101
175°	374	375	378	383	382	36
180°	375	375	375	375	375	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1344.1	1344.1	1344.1	1344.1	1344.1	1344.1	1344.1	1344.1	1344.1	1344.1	1344.1
2.5°	1348.9	1348.0	1347.3	1346.4	1345.7	1344.2	1342.0	1339.9	1337.8	1335.6	1337.5
5°	1345.5	1344.5	1343.5	1342.6	1341.5	1339.8	1337.5	1335.1	1332.8	1330.5	1333.1
7.5°	1334.1	1333.5	1332.8	1332.3	1331.7	1330.4	1328.5	1326.5	1324.6	1322.7	1325.7
10°	1324.5	1324.1	1323.8	1323.4	1323.1	1322.1	1320.4	1318.8	1317.1	1315.4	1318.4
12.5°	1311.2	1311.2	1311.1	1311.0	1311.0	1310.3	1309.2	1308.1	1306.9	1305.8	1308.5
15°	1289.9	1290.2	1290.5	1290.8	1291.2	1290.8	1289.9	1288.8	1287.8	1286.9	1289.9
17.5°	1260.7	1261.7	1262.6	1263.7	1264.6	1265.1	1264.9	1264.6	1264.4	1264.2	1267.3
20°	1240.2	1241.1	1242.2	1243.2	1244.2	1244.8	1245.2	1245.6	1245.9	1246.2	1249.5
22.5°	1217.3	1218.5	1219.8	1221.1	1222.4	1223.3	1223.9	1224.6	1225.1	1225.7	1229.1
25°	1180.0	1181.9	1184.0	1186.0	1188.0	1189.5	1190.5	1191.5	1192.5	1193.5	1197.2
27.5°	1138.4	1141.4	1144.3	1147.3	1150.2	1152.4	1154.0	1155.6	1157.1	1158.6	1162.0
30°	1110.7	1113.4	1116.1	1118.8	1121.4	1124.0	1126.2	1128.6	1131.0	1133.3	1137.0
32.5°	1080.6	1083.8	1087.0	1090.2	1093.4	1096.4	1099.0	1101.6	1104.2	1106.8	1111.1
35°	1032.5	1036.5	1040.5	1044.5	1048.5	1052.2	1055.6	1058.9	1062.2	1065.5	1070.3
37.5°	984.0	988.6	993.3	997.9	1002.5	1006.8	1011.0	1015.1	1019.3	1023.4	1028.2
40°	952.7	957.1	961.4	965.7	970.1	974.6	979.3	984.0	988.6	993.3	998.3
42.5°	916.6	921.4	926.3	931.2	936.1	941.3	946.8	952.3	957.7	963.3	968.8
45°	860.9	867.2	873.6	880.0	886.3	892.7	899.0	905.4	911.7	918.1	923.8
47.5°	807.6	814.2	820.8	827.3	833.9	840.8	848.2	855.5	862.9	870.2	876.1
50°	769.1	776.5	783.8	791.2	798.5	805.9	813.2	820.6	827.9	835.3	842.0
52.5°	730.6	737.9	745.3	752.6	760.0	767.9	776.3	784.8	793.1	801.6	808.3
55°	674.3	681.3	688.3	695.3	702.4	710.9	721.0	730.9	741.0	751.0	757.7
57.5°	611.3	620.1	628.8	637.4	646.1	655.4	665.4	675.4	685.4	695.3	703.3
60°	570.4	579.1	587.8	596.5	605.2	615.1	626.1	637.2	648.2	659.2	666.9
62.5°	530.7	540.2	549.7	559.2	568.6	578.9	590.0	601.1	612.1	623.1	630.7
65°	466.6	477.3	488.0	498.7	509.3	520.4	531.8	543.2	554.5	565.9	574.3
67.5°	404.8	416.2	427.6	438.9	450.3	462.1	474.3	486.4	498.6	510.9	519.3
70°	362.7	374.1	385.5	396.8	408.2	420.3	432.9	445.6	458.4	471.1	480.1
72.5°	321.8	333.4	345.1	356.7	368.3	380.9	394.5	407.9	421.4	435.0	443.7
75°	258.9	271.3	283.6	296.0	308.4	321.6	335.6	349.7	363.7	377.8	387.1
77.5°	200.2	213.3	226.4	239.5	252.6	266.6	281.3	296.0	310.7	325.4	334.9
80°	164.1	177.4	190.8	204.2	217.5	231.6	246.3	261.1	275.8	290.5	300.5
82.5°	127.9	141.9	155.8	169.7	183.6	197.9	212.6	227.3	242.0	256.7	267.0
85°	79.7	93.8	107.8	121.9	135.9	150.5	165.5	180.6	195.7	210.8	220.7
87.5°	44.7	58.6	72.8	86.5	100.3	114.4	130.0	144.7	159.6	174.6	184.1
90°	24.8	39.7	55.2	69.4	83.5	97.4	116.2	130.5	146.4	162.3	171.3
92.5°	31.3	47.1	66.2	87.2	110.0	138.5	190.3	261.9	332.0	375.5	345.9
95°	43.9	57.1	75.5	96.1	124.9	168.2	246.0	380.6	570.5	731.6	757.6
97.5°	61.4	70.9	86.7	105.1	129.8	167.2	230.2	343.6	532.3	754.2	906.3
100°	72.6	81.2	95.1	112.6	135.3	169.8	226.3	322.6	486.1	706.9	904.7
102.5°	84.4	93.1	105.4	121.2	142.3	174.8	227.1	313.0	453.7	650.8	854.1
105°	99.8	108.7	119.0	134.6	154.6	185.4	233.2	306.7	422.3	582.8	764.4
107.5°	119.8	126.8	135.9	150.9	169.0	198.7	242.8	310.3	410.1	541.0	690.6
110°	132.1	138.4	146.7	160.2	178.1	206.2	250.4	313.7	406.4	525.0	652.9



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	143.9	149.6	158.0	170.4	187.8	215.4	257.8	317.5	404.5	513.7	628.3
115°	160.9	166.1	174.3	184.6	201.6	228.4	268.5	323.5	402.7	501.9	602.1
117.5°	180.0	183.9	190.2	200.2	215.1	241.6	279.6	330.3	401.7	492.1	585.0
120°	191.8	194.3	200.4	209.5	223.1	249.0	286.7	334.8	401.2	486.1	574.6
122.5°	203.6	205.3	210.6	218.3	232.2	256.9	294.2	339.2	401.1	479.5	563.8
125°	217.5	220.2	224.2	232.1	245.7	270.3	305.2	347.5	402.3	471.1	548.2
127.5°	230.9	233.0	237.9	246.9	261.2	284.9	317.1	354.6	401.5	460.4	528.4
130°	237.4	240.1	245.6	256.3	269.9	293.9	324.2	358.4	401.3	453.8	515.9
132.5°	245.1	247.1	254.4	264.6	279.4	301.6	330.9	363.4	401.7	448.4	504.8
135°	254.3	257.3	264.7	277.2	292.7	313.0	339.6	368.5	401.1	438.8	486.9
137.5°	265.0	267.6	275.3	286.9	302.7	321.3	345.2	371.1	399.1	431.7	471.8
140°	272.8	274.7	282.4	294.6	309.7	327.4	349.9	373.8	399.2	427.5	463.5
142.5°	279.8	281.9	289.4	301.2	316.1	333.1	354.4	376.0	399.6	425.1	457.0
145°	291.2	293.0	300.0	310.0	323.7	339.8	358.9	378.8	400.2	423.0	448.7
147.5°	304.3	304.6	310.9	321.1	332.4	346.9	364.9	382.2	401.0	420.4	441.4
150°	312.5	312.9	318.5	327.0	337.7	351.6	367.8	384.0	401.0	418.6	437.1
152.5°	319.0	319.1	324.9	333.1	342.9	355.7	370.1	385.1	399.7	415.7	432.3
155°	329.4	330.2	334.6	342.0	350.1	361.1	373.6	386.2	397.9	411.2	425.3
157.5°	339.9	339.9	344.0	349.8	356.8	365.5	376.2	386.2	396.1	406.7	418.0
160°	346.4	346.4	349.3	354.5	360.4	368.5	377.3	386.2	394.3	403.1	412.7
162.5°	352.3	351.7	354.0	358.6	363.9	370.2	378.5	386.2	392.6	399.6	408.0
165°	358.9	358.9	360.4	364.1	367.8	372.2	378.8	384.7	389.2	394.3	400.2
167.5°	365.5	364.9	365.5	368.3	370.4	373.8	378.7	383.0	385.6	389.0	393.1
170°	368.5	367.8	368.5	370.7	372.2	374.4	378.1	381.7	383.2	385.4	388.4
172.5°	371.5	370.7	370.9	372.5	373.3	374.9	377.5	380.6	380.9	381.9	384.3
175°	374.4	373.6	373.6	374.4	375.1	375.1	376.6	378.8	378.1	378.1	379.6
177.5°	375.7	375.1	374.6	375.1	375.1	375.1	375.7	376.9	375.7	375.7	376.3
180°	375.1	375.1	375.1	375.1	375.1	375.1	375.1	375.1	375.1	375.1	375.1



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1344.1	1344.1	1344.1	1344.1	1344.1	1344.1	1344.1	1344.1
2.5°	1339.4	1341.2	1343.1	1343.9	1343.6	1343.3	1343.1	1342.8
5°	1335.9	1338.5	1341.1	1342.4	1342.0	1341.7	1341.3	1341.0
7.5°	1328.7	1331.7	1334.7	1336.1	1335.7	1335.4	1335.0	1334.7
10°	1321.4	1324.5	1327.5	1328.8	1328.5	1328.1	1327.8	1327.5
12.5°	1311.3	1314.0	1316.7	1318.1	1318.1	1318.0	1317.9	1317.9
15°	1292.9	1295.9	1298.8	1300.2	1299.9	1299.6	1299.2	1298.8
17.5°	1270.5	1273.5	1276.6	1278.0	1277.7	1277.4	1277.1	1276.9
20°	1252.9	1256.2	1259.6	1261.2	1261.2	1261.2	1261.2	1261.2
22.5°	1232.4	1235.8	1239.1	1241.0	1241.6	1242.1	1242.6	1243.2
25°	1200.9	1204.6	1208.2	1210.2	1210.6	1210.9	1211.3	1211.5
27.5°	1165.5	1168.8	1172.2	1174.1	1174.6	1175.0	1175.4	1175.7
30°	1140.7	1144.3	1148.0	1150.2	1150.8	1151.5	1152.2	1152.9
32.5°	1115.2	1119.5	1123.7	1126.1	1126.8	1127.5	1128.1	1128.8
35°	1075.0	1079.6	1084.3	1087.1	1088.2	1089.2	1090.1	1091.2
37.5°	1032.9	1037.6	1042.5	1045.4	1046.4	1047.4	1048.6	1049.6
40°	1003.3	1008.4	1013.4	1016.6	1017.9	1019.3	1020.6	1021.9
42.5°	974.3	979.9	985.4	988.7	989.9	990.9	991.9	993.1
45°	929.4	935.2	940.8	944.5	946.2	947.8	949.5	951.2
47.5°	882.0	887.9	893.8	897.7	899.8	901.7	903.7	905.8
50°	848.7	855.4	862.0	866.4	868.5	870.4	872.4	874.4
52.5°	815.0	821.7	828.3	832.7	834.7	836.7	838.7	840.7
55°	764.4	771.1	777.8	782.1	784.1	786.2	788.2	790.1
57.5°	711.2	719.3	727.2	732.1	734.0	735.8	737.7	739.6
60°	674.6	682.3	689.9	695.1	697.9	700.5	703.2	705.9
62.5°	638.5	646.2	653.8	659.0	661.8	664.4	667.0	669.8
65°	582.6	591.0	599.4	604.8	607.6	610.2	612.9	615.6
67.5°	527.8	536.3	544.8	550.4	553.0	555.5	558.2	560.8
70°	489.2	498.1	507.2	512.9	515.2	517.6	519.9	522.3
72.5°	452.5	461.3	470.0	475.7	478.3	480.9	483.5	486.2
75°	396.5	405.9	415.2	421.4	424.4	427.4	430.5	433.5
77.5°	344.4	353.9	363.4	369.8	373.0	376.2	379.4	382.6
80°	310.6	320.6	330.6	337.0	339.6	342.3	345.0	347.7
82.5°	277.4	287.7	297.9	304.6	307.6	310.5	313.4	316.3
85°	230.7	240.8	250.8	257.5	260.9	264.2	267.6	270.9
87.5°	194.0	203.8	213.6	220.0	223.0	226.1	228.9	231.9
90°	181.6	192.1	202.6	208.7	212.2	215.6	217.4	220.2
92.5°	305.4	279.0	266.2	257.5	251.5	250.2	250.3	253.0
95°	695.1	589.9	500.2	434.7	401.6	381.7	371.6	365.0
97.5°	946.0	912.3	848.9	777.9	727.8	686.4	667.1	654.7
100°	1021.2	1045.0	1017.9	969.1	907.3	864.7	844.9	841.4
102.5°	1010.6	1092.4	1111.6	1094.7	1057.9	1027.9	1007.3	1005.1
105°	941.5	1077.3	1158.7	1194.4	1198.5	1195.3	1187.7	1185.9
107.5°	848.3	992.3	1103.2	1174.3	1213.1	1232.4	1242.2	1246.4
110°	791.7	926.9	1041.5	1127.8	1182.7	1216.4	1232.3	1241.6



TEST NUMBER: P332693-830

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	748.0	868.3	976.7	1062.7	1124.8	1164.9	1186.2	1199.6
115°	701.6	799.6	893.2	968.7	1029.4	1075.9	1101.8	1110.0
117.5°	673.4	755.4	830.2	895.0	947.3	987.2	1013.7	1021.0
120°	658.6	733.9	799.6	856.6	901.3	936.3	958.2	968.9
122.5°	645.5	718.4	778.8	829.2	867.1	897.2	915.9	926.3
125°	625.3	695.0	752.2	796.9	828.4	851.8	867.8	874.2
127.5°	600.9	667.4	724.2	766.8	798.7	820.0	834.1	840.7
130°	583.1	647.2	703.4	746.5	778.7	799.2	812.9	819.4
132.5°	565.3	625.8	680.4	723.4	755.0	777.8	791.0	797.4
135°	538.7	591.9	642.2	682.8	714.3	736.9	750.7	757.1
137.5°	515.3	560.7	603.5	640.1	669.3	691.4	702.8	709.7
140°	501.8	540.8	578.3	612.3	639.7	657.6	669.6	677.2
142.5°	490.1	524.4	556.7	586.1	610.4	626.8	637.3	642.9
145°	474.2	501.2	525.4	547.7	567.5	581.4	590.0	595.0
147.5°	461.2	481.4	499.3	516.1	530.8	542.6	549.3	551.7
150°	454.7	471.6	486.4	499.6	511.5	521.0	525.5	526.2
152.5°	448.3	462.8	476.4	487.3	497.3	505.1	507.7	508.5
155°	438.5	450.3	461.4	470.2	477.6	483.4	485.7	485.7
157.5°	428.0	437.9	447.2	454.3	459.9	464.3	465.6	465.6
160°	421.6	429.7	437.8	443.7	448.1	452.5	453.3	453.3
162.5°	415.1	422.0	428.4	433.7	436.9	441.3	442.1	441.5
165°	406.0	410.5	415.7	419.3	422.3	425.3	424.5	423.8
167.5°	397.4	400.8	404.9	407.1	408.6	410.5	410.4	409.7
170°	392.1	394.3	397.3	399.4	401.0	401.6	401.0	401.0
172.5°	387.4	389.0	390.8	392.4	393.2	394.0	393.2	392.1
175°	381.1	381.7	383.2	383.2	383.2	384.7	383.2	381.7
177.5°	376.9	377.5	377.5	378.1	377.5	378.1	376.9	375.7
180°	375.1	375.1	375.1	375.1	375.1	375.1	375.1	375.1

(END OF REPORT)