

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: P332207-830

Luminaire Tested: **S123DIW-S1000D1535U830-4F0-1E-UDD-D1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332207-830
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: S123DIW-S1000D1535U830-4F0-1E-UDD-D1
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1000 LUMENS PER FOOT, DROP SATIN WHITE DIFFUSER
UPLIGHT 1535 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8975.7 lumens
Efficiency: N/A
Efficacy: 117.2 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.26 / 1.37
Luminous Opening: Rectangular w/ Sides (W: 0.25' x L: 4' x H: 0.08')
CIE Type: General Diffuse

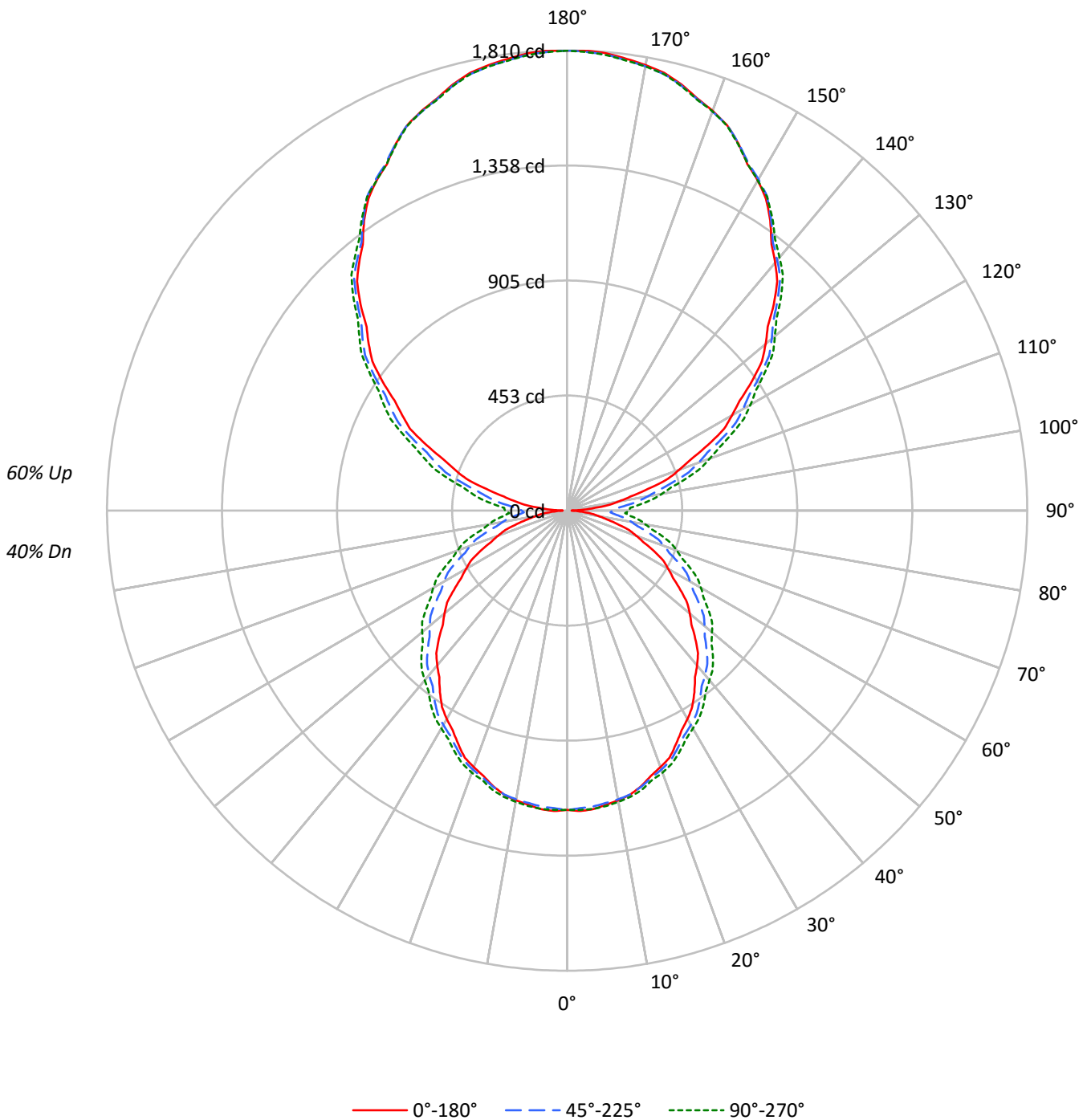
Input Watts (W): 76.6
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	105	105	105	105	96	96	96	96	78	78	78	62	62	62	47	47	47	40
1	95	90	86	82	86	82	79	75	67	64	62	53	51	50	40	39	38	32
2	86	78	72	66	78	71	66	61	58	54	51	46	43	41	35	33	32	26
3	78	68	61	55	71	62	56	51	51	46	42	41	37	34	31	28	26	22
4	71	60	52	46	65	55	48	43	45	40	36	36	32	29	27	25	23	19
5	65	54	45	39	59	49	42	36	40	35	31	32	28	25	25	22	20	16
6	60	48	40	34	54	44	37	31	36	31	27	29	25	22	22	19	17	14
7	55	43	35	30	50	40	32	27	33	27	23	26	22	19	20	17	15	12
8	51	39	31	26	47	36	29	24	30	24	21	24	20	17	19	16	13	11
9	48	36	28	23	43	33	26	21	27	22	18	22	18	15	17	14	12	10
10	45	33	25	21	41	30	23	19	25	20	16	20	16	14	16	13	11	9

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	12676	12676	12676
5°	12715	12357	12363
10°	12602	12072	12012
15°	12439	11748	11627
20°	12206	11380	11204
25°	11920	10955	10760
30°	11627	10572	10310
35°	11297	10169	9950
40°	10983	9801	9564
45°	10635	9448	9257
50°	10293	9100	8917
55°	9912	8741	8611
60°	9543	8380	8298
65°	9165	7994	7927
70°	8591	7558	7545
75°	7872	7060	7157
80°	7040	6572	6712
85°	6274	6235	6458



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	111.6	1.2
10°-20°	318.2	3.5
20°-30°	476.0	5.3
30°-40°	568.4	6.3
40°-50°	594.7	6.6
50°-60°	558.1	6.2
60°-70°	466.1	5.2
70°-80°	333.5	3.7
80°-90°	204.2	2.3
90°-100°	242.7	2.7
100°-110°	444.5	5.0
110°-120°	661.3	7.4
120°-130°	824.3	9.2
130°-140°	902.8	10.1
140°-150°	875.4	9.8
150°-160°	734.1	8.2
160°-170°	488.7	5.4
170°-180°	171.1	1.9
0°-30°	905.9	10.1
0°-40°	1474.3	16.4
0°-60°	2627.1	29.3
0°-90°	3630.9	40.5
90°-120°	1348.4	15.0
90°-150°	3950.9	44.0
90°-180°	5345.0	59.5
0°-180°	8975.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1178	1178	1178	1178	1178	
5°	1179	1176	1169	1178	1178	112
15°	1122	1126	1125	1137	1137	316
25°	1013	1026	1030	1046	1047	467
35°	872	893	910	928	934	545
45°	713	744	776	800	811	550
55°	544	586	632	666	677	487
65°	376	426	482	519	534	371
75°	204	264	328	369	386	218
85°	63	127	195	237	252	66
90°	18	96	179	226	244	17
95°	98	159	232	276	290	105
105°	330	366	432	466	482	353
115°	610	631	673	704	714	604
125°	888	894	926	947	951	792
135°	1150	1157	1170	1186	1190	886
145°	1393	1394	1398	1407	1407	869
155°	1593	1593	1595	1600	1590	733
165°	1735	1731	1731	1739	1730	489
175°	1805	1800	1799	1807	1798	171
180°	1809	1809	1809	1809	1809	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1177.6	1177.6	1177.6	1177.6	1177.6	1177.6	1177.6	1177.6	1177.6	1177.6	1177.6
2.5°	1182.8	1182.1	1181.4	1180.7	1180.1	1178.7	1177.0	1175.2	1173.3	1171.5	1173.3
5°	1178.9	1178.4	1177.8	1177.2	1176.7	1175.5	1173.8	1172.1	1170.4	1168.7	1170.9
7.5°	1167.3	1167.5	1167.6	1167.7	1167.8	1167.1	1165.5	1163.8	1162.1	1160.5	1163.3
10°	1157.2	1157.7	1158.3	1158.9	1159.4	1159.0	1157.5	1156.1	1154.7	1153.3	1156.1
12.5°	1144.8	1145.6	1146.4	1147.2	1148.0	1147.9	1147.0	1145.9	1145.0	1144.1	1146.7
15°	1122.5	1123.3	1124.2	1125.0	1125.9	1126.1	1125.9	1125.6	1125.3	1125.0	1127.9
17.5°	1094.3	1096.0	1097.7	1099.4	1101.1	1101.9	1101.8	1101.6	1101.5	1101.5	1104.0
20°	1073.7	1075.4	1077.1	1078.8	1080.5	1081.8	1082.3	1082.9	1083.5	1084.0	1086.6
22.5°	1052.2	1053.9	1055.6	1057.3	1059.0	1060.3	1061.1	1061.9	1062.7	1063.5	1066.7
25°	1013.4	1016.2	1019.2	1022.0	1024.8	1026.7	1027.6	1028.4	1029.3	1030.1	1033.8
27.5°	974.4	977.7	980.9	984.2	987.4	990.0	991.8	993.6	995.4	997.3	1000.5
30°	946.7	950.5	954.1	957.8	961.6	964.5	966.9	969.1	971.4	973.6	977.1
32.5°	916.0	920.1	924.3	928.4	932.6	936.1	939.1	942.1	945.1	948.0	951.7
35°	872.3	876.8	881.5	886.0	890.6	894.7	898.4	902.1	905.8	909.6	913.8
37.5°	826.1	831.3	836.4	841.5	846.7	851.5	856.1	860.6	865.2	869.8	874.6
40°	795.3	800.5	805.6	810.8	815.9	821.3	827.0	832.7	838.4	844.1	848.9
42.5°	761.5	767.8	774.0	780.3	786.6	792.7	798.6	804.6	810.5	816.4	821.7
45°	713.2	720.1	727.0	733.8	740.6	747.6	754.7	761.9	769.0	776.1	781.6
47.5°	662.7	670.4	678.3	686.0	693.7	701.7	709.8	718.0	726.1	734.3	740.4
50°	629.9	637.8	645.8	653.8	661.8	670.2	679.0	687.9	696.7	705.6	712.1
52.5°	594.9	603.4	611.9	620.3	628.8	637.8	647.6	657.3	667.0	676.8	683.6
55°	543.9	553.4	562.7	572.1	581.5	591.4	601.6	611.9	622.2	632.4	640.2
57.5°	494.2	504.0	513.8	523.6	533.4	543.9	555.2	566.4	577.6	588.8	596.5
60°	459.3	469.5	479.8	490.0	500.3	511.2	522.9	534.7	546.4	558.1	566.0
62.5°	426.4	436.9	447.4	457.9	468.3	479.8	492.2	504.5	516.9	529.3	537.2
65°	375.9	387.0	398.1	409.3	420.4	432.2	444.7	457.2	469.8	482.4	490.9
67.5°	324.5	336.4	348.2	360.0	371.7	384.1	396.8	409.6	422.4	435.2	444.5
70°	288.6	300.9	313.1	325.5	337.7	350.6	364.3	378.1	391.7	405.4	414.5
72.5°	255.8	268.1	280.3	292.6	304.8	318.0	332.2	346.3	360.4	374.6	383.9
75°	204.0	217.4	230.7	244.2	257.6	271.4	285.7	299.9	314.1	328.4	337.8
77.5°	158.8	172.3	185.9	199.3	212.8	226.8	241.2	255.5	269.9	284.3	294.2
80°	127.0	141.0	155.0	168.9	182.9	197.3	212.1	227.0	241.8	256.6	266.3
82.5°	99.2	113.5	127.7	141.9	156.1	170.7	185.8	200.8	215.8	230.9	240.6
85°	62.9	77.1	91.3	105.7	119.9	134.6	149.7	164.8	179.8	195.0	204.7
87.5°	34.4	49.2	64.1	78.9	93.7	108.8	124.1	139.5	154.9	170.2	180.2
90°	18.1	35.3	52.3	69.5	86.6	104.5	123.1	141.8	160.4	179.1	190.0
92.5°	50.0	64.8	79.6	94.3	109.1	124.7	141.4	158.1	174.7	191.3	201.8
95°	97.9	111.3	124.6	138.0	151.3	166.2	182.7	199.2	215.7	232.1	242.2
97.5°	161.6	173.2	184.8	196.5	208.2	221.7	236.9	252.0	267.2	282.4	292.3
100°	204.8	215.8	226.9	237.9	248.9	261.7	276.4	291.2	305.9	320.6	329.8
102.5°	255.0	264.3	273.7	283.0	292.4	304.5	319.5	334.5	349.4	364.4	373.4
105°	330.1	337.5	345.0	352.5	360.0	371.3	386.3	401.4	416.5	431.7	439.6
107.5°	416.0	422.3	428.5	434.6	440.8	450.3	463.1	475.9	488.6	501.4	510.0
110°	469.6	475.4	481.2	486.9	492.7	501.5	513.6	525.7	537.7	549.7	558.4



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	526.5	531.0	535.6	540.3	544.9	552.7	563.7	574.9	585.9	597.0	605.7
115°	610.5	614.8	619.3	623.6	627.9	634.9	644.6	654.2	663.8	673.4	680.6
117.5°	696.1	698.8	701.5	704.3	707.0	712.8	721.6	730.5	739.2	748.1	754.8
120°	748.5	751.8	755.1	758.5	761.8	767.3	775.1	783.0	790.8	798.6	804.8
122.5°	804.2	806.3	808.4	810.6	812.8	817.8	826.0	834.1	842.3	850.4	855.8
125°	887.9	888.8	889.8	890.7	891.6	896.0	903.6	911.3	918.9	926.5	931.2
127.5°	966.4	968.1	969.8	971.6	973.3	977.2	983.4	989.6	995.7	1001.8	1005.7
130°	1018.7	1020.9	1023.1	1025.4	1027.7	1031.1	1035.9	1040.7	1045.4	1050.2	1054.3
132.5°	1070.0	1072.4	1074.9	1077.3	1079.8	1083.0	1086.8	1090.7	1094.6	1098.4	1102.1
135°	1149.5	1151.1	1152.8	1154.4	1156.0	1158.2	1161.0	1163.9	1166.7	1169.5	1173.4
137.5°	1223.2	1224.6	1225.9	1227.3	1228.6	1230.6	1233.1	1235.8	1238.3	1241.0	1244.2
140°	1273.4	1274.9	1276.5	1278.1	1279.7	1281.0	1282.2	1283.4	1284.6	1285.7	1289.7
142.5°	1319.9	1321.4	1322.7	1324.0	1325.4	1326.4	1327.2	1327.9	1328.6	1329.4	1332.8
145°	1392.7	1393.1	1393.5	1393.7	1394.1	1394.8	1395.7	1396.7	1397.6	1398.5	1400.5
147.5°	1455.1	1456.2	1457.4	1458.6	1459.7	1460.7	1461.6	1462.4	1463.3	1464.2	1464.9
150°	1499.5	1500.2	1500.7	1501.4	1502.0	1502.6	1503.3	1503.9	1504.5	1505.1	1505.1
152.5°	1535.9	1536.7	1537.7	1538.5	1539.4	1540.0	1540.4	1540.8	1541.2	1541.5	1542.1
155°	1593.3	1593.3	1593.3	1593.3	1593.3	1593.5	1593.7	1594.0	1594.4	1594.7	1596.0
157.5°	1642.2	1641.8	1641.4	1641.1	1640.7	1640.6	1640.9	1641.1	1641.3	1641.6	1642.9
160°	1672.9	1672.3	1671.6	1670.9	1670.4	1670.0	1670.0	1670.0	1670.0	1670.0	1671.6
162.5°	1700.2	1699.3	1698.4	1697.5	1696.7	1696.3	1696.6	1696.9	1697.0	1697.3	1698.9
165°	1735.4	1734.5	1733.5	1732.6	1731.6	1731.2	1731.2	1731.2	1731.2	1731.2	1733.1
167.5°	1763.6	1762.3	1761.0	1759.7	1758.5	1758.0	1758.2	1758.5	1758.8	1759.0	1761.0
170°	1779.4	1778.2	1777.0	1775.7	1774.4	1773.8	1773.8	1773.8	1773.8	1773.8	1776.0
172.5°	1792.0	1790.7	1789.4	1788.2	1787.0	1786.3	1786.3	1786.3	1786.3	1786.3	1788.3
175°	1805.1	1803.8	1802.5	1801.3	1800.0	1799.4	1799.4	1799.4	1799.4	1799.4	1801.3
177.5°	1810.4	1809.5	1808.5	1807.4	1806.4	1805.9	1805.9	1805.9	1805.9	1805.9	1807.4
180°	1809.3	1809.3	1809.3	1809.3	1809.3	1809.3	1809.3	1809.3	1809.3	1809.3	1809.3



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1177.6	1177.6	1177.6	1177.6	1177.6	1177.6	1177.6	1177.6
2.5°	1175.2	1177.0	1178.7	1179.6	1179.3	1179.1	1178.9	1178.6
5°	1173.2	1175.5	1177.8	1178.7	1178.5	1178.2	1177.9	1177.6
7.5°	1166.1	1169.0	1171.9	1173.1	1172.8	1172.4	1172.1	1171.8
10°	1159.0	1161.8	1164.7	1165.8	1165.3	1164.7	1164.1	1163.6
12.5°	1149.2	1151.9	1154.5	1155.6	1155.0	1154.4	1153.9	1153.3
15°	1130.8	1133.6	1136.4	1137.7	1137.5	1137.2	1136.9	1136.6
17.5°	1106.5	1109.2	1111.7	1112.8	1112.4	1112.0	1111.6	1111.2
20°	1089.1	1091.7	1094.3	1095.7	1096.0	1096.3	1096.6	1096.8
22.5°	1070.0	1073.2	1076.5	1078.0	1077.8	1077.7	1077.5	1077.3
25°	1037.6	1041.2	1044.9	1046.8	1046.8	1046.8	1046.8	1046.8
27.5°	1003.6	1006.8	1010.0	1011.7	1012.0	1012.2	1012.5	1012.7
30°	980.5	983.9	987.3	989.1	989.1	989.1	989.1	989.1
32.5°	955.4	958.9	962.6	964.8	965.4	966.1	966.9	967.5
35°	918.0	922.4	926.6	929.3	930.5	931.6	932.7	933.9
37.5°	879.5	884.3	889.2	892.0	893.0	893.8	894.8	895.7
40°	853.8	858.7	863.5	866.5	867.6	868.7	869.9	871.0
42.5°	827.0	832.3	837.6	841.0	842.6	844.2	845.8	847.4
45°	786.9	792.4	797.8	801.6	803.9	806.2	808.5	810.8
47.5°	746.5	752.6	758.7	762.6	764.4	766.2	767.9	769.7
50°	718.7	725.2	731.8	736.0	738.1	740.1	742.1	744.0
52.5°	690.4	697.2	704.0	708.6	711.1	713.5	716.0	718.4
55°	647.8	655.5	663.3	668.2	670.5	672.8	675.0	677.3
57.5°	604.4	612.1	619.8	625.1	627.7	630.4	633.1	635.7
60°	574.0	582.0	589.9	595.5	598.7	601.8	604.9	608.0
62.5°	545.3	553.3	561.2	566.7	569.6	572.5	575.4	578.3
65°	499.5	508.0	516.5	522.3	525.1	527.9	530.8	533.7
67.5°	453.8	463.2	472.5	478.4	480.8	483.2	485.6	488.0
70°	423.6	432.7	441.9	447.9	450.7	453.6	456.4	459.3
72.5°	393.3	402.7	412.0	418.1	420.9	423.8	426.7	429.5
75°	347.2	356.7	366.0	372.5	375.9	379.3	382.7	386.2
77.5°	304.2	314.1	324.0	330.3	332.8	335.5	338.1	340.7
80°	276.0	285.7	295.3	301.6	304.4	307.3	310.2	313.0
82.5°	250.3	260.0	269.7	276.0	278.8	281.6	284.5	287.4
85°	214.3	224.0	233.8	240.1	242.9	245.7	248.5	251.5
87.5°	190.1	200.1	210.0	216.5	219.5	222.4	225.5	228.4
90°	201.0	212.0	222.9	230.1	233.6	237.0	240.5	244.0
92.5°	212.3	222.7	233.2	239.6	241.9	244.1	246.3	248.5
95°	252.4	262.5	272.6	279.1	281.9	284.7	287.6	290.5
97.5°	302.3	312.2	322.2	328.5	331.2	333.9	336.7	339.4
100°	338.9	348.2	357.4	363.7	367.2	370.7	374.2	377.7
102.5°	382.4	391.3	400.4	406.2	409.0	411.7	414.3	417.1
105°	447.6	455.6	463.5	469.2	472.4	475.5	478.7	481.9
107.5°	518.7	527.4	536.0	541.4	543.6	545.6	547.8	549.9
110°	567.0	575.7	584.4	589.6	591.3	592.9	594.6	596.2



TEST NUMBER: P332207-830

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	614.3	623.1	631.8	637.3	639.7	642.1	644.5	646.9
115°	687.8	694.9	702.1	706.6	708.6	710.6	712.6	714.5
117.5°	761.5	768.3	775.0	779.0	780.3	781.7	783.0	784.3
120°	811.2	817.4	823.6	827.4	828.8	830.1	831.5	832.8
122.5°	861.4	866.9	872.4	875.7	876.8	877.9	879.0	880.1
125°	935.9	940.7	945.4	948.1	948.9	949.6	950.4	951.0
127.5°	1009.6	1013.4	1017.3	1019.5	1020.0	1020.5	1021.0	1021.4
130°	1058.5	1062.6	1066.8	1068.6	1068.1	1067.6	1067.1	1066.6
132.5°	1105.8	1109.5	1113.1	1115.1	1115.3	1115.6	1115.8	1116.1
135°	1177.2	1181.1	1185.0	1187.3	1188.1	1188.9	1189.7	1190.4
137.5°	1247.3	1250.5	1253.7	1255.4	1255.6	1255.8	1256.0	1256.2
140°	1293.6	1297.6	1301.6	1303.2	1302.4	1301.6	1300.8	1300.0
142.5°	1336.4	1339.9	1343.4	1345.0	1344.7	1344.4	1344.2	1343.9
145°	1402.5	1404.5	1406.5	1407.3	1407.2	1407.1	1406.9	1406.8
147.5°	1465.6	1466.3	1467.0	1466.9	1466.0	1465.1	1464.2	1463.4
150°	1505.1	1505.1	1505.1	1504.5	1503.2	1501.8	1500.5	1499.2
152.5°	1542.6	1543.0	1543.6	1543.0	1541.5	1540.0	1538.5	1536.9
155°	1597.2	1598.5	1599.8	1599.3	1597.0	1594.9	1592.6	1590.4
157.5°	1644.3	1645.6	1646.9	1646.7	1644.9	1643.1	1641.3	1639.6
160°	1673.2	1674.8	1676.3	1676.5	1675.3	1674.0	1672.7	1671.4
162.5°	1700.4	1702.0	1703.6	1703.5	1701.4	1699.4	1697.3	1695.4
165°	1734.9	1736.8	1738.7	1738.6	1736.4	1734.2	1731.9	1729.8
167.5°	1762.9	1764.9	1766.8	1766.8	1764.9	1762.9	1761.0	1759.0
170°	1778.2	1780.5	1782.6	1782.6	1780.5	1778.2	1776.0	1773.8
172.5°	1790.2	1792.2	1794.1	1794.0	1791.8	1789.6	1787.3	1785.2
175°	1803.2	1805.1	1806.9	1806.8	1804.6	1802.3	1800.2	1798.0
177.5°	1808.9	1810.4	1811.9	1811.8	1810.1	1808.3	1806.6	1804.8
180°	1809.3	1809.3	1809.3	1809.3	1809.3	1809.3	1809.3	1809.3

(END OF REPORT)