

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: P333106-930

Luminaire Tested: **S124RDIW-S1195D1050U930-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P333106-930
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-10,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124RDIW-S1195D1050U930-4F0-1E-UDD-F1
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1195 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 1050 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6894.4 lumens
Efficiency: N/A
Efficacy: 102.3 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.09 / 1.24
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')
CIE Type: General Diffuse

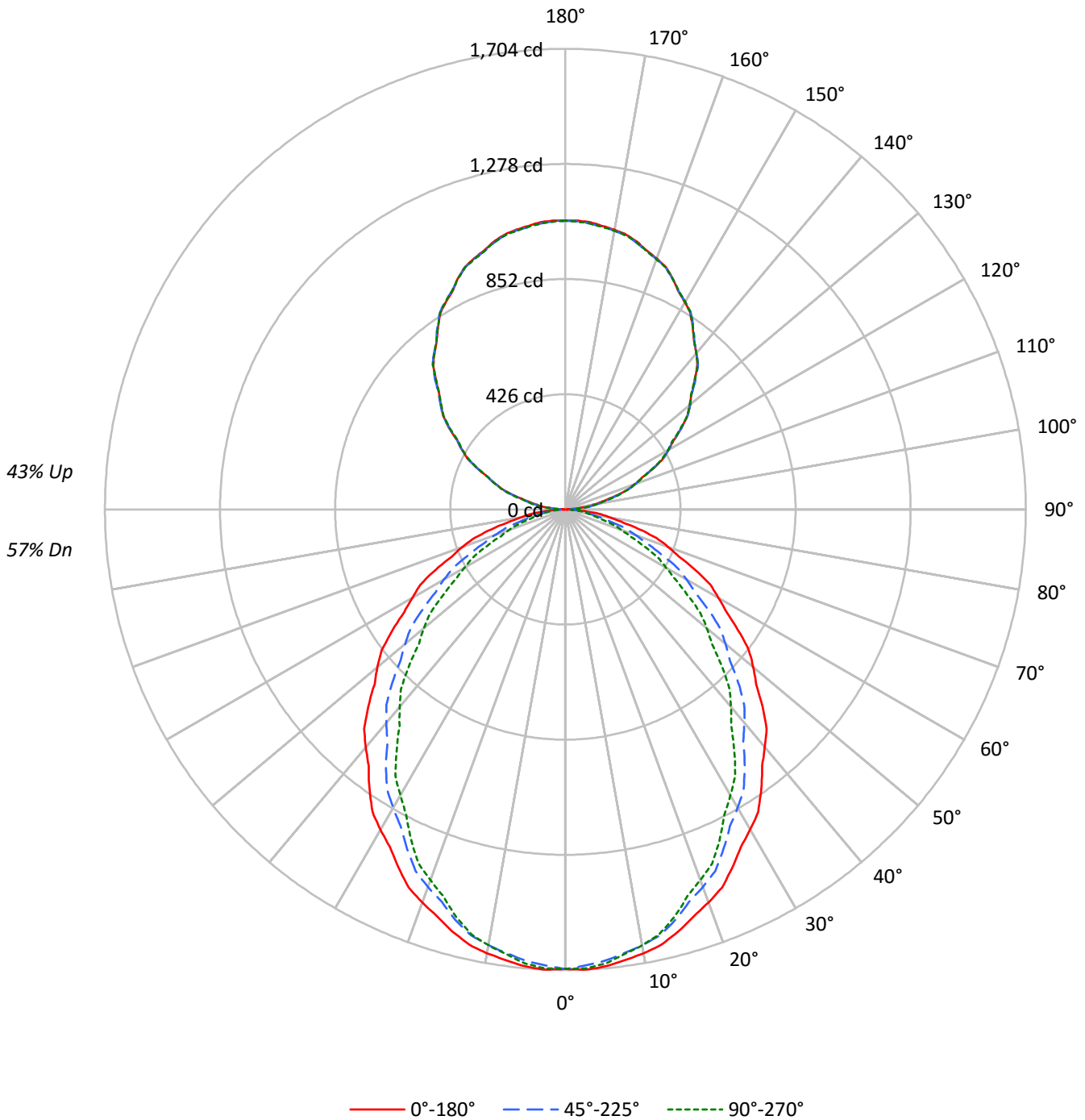
Input Watts (W): 67.4
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	109	109	109	109	101	101	101	101	87	87	87	74	74	74	63	63	63	57
1	100	95	92	88	93	89	86	83	77	75	72	66	64	63	56	55	53	49
2	91	84	78	73	85	78	73	68	68	64	60	58	55	53	49	47	45	41
3	83	74	67	61	77	69	63	57	60	55	51	52	48	45	44	41	39	35
4	76	66	58	52	71	61	54	49	54	48	44	46	42	39	40	36	34	30
5	70	59	50	44	65	55	48	42	48	42	38	42	37	34	36	32	30	27
6	65	53	45	39	60	49	42	37	43	38	33	38	33	30	33	29	26	24
7	60	48	40	34	56	45	38	33	40	34	29	35	30	26	30	26	23	21
8	56	43	36	30	52	41	34	29	36	30	26	32	27	24	27	24	21	19
9	52	40	32	27	48	37	31	26	33	28	24	29	25	21	25	22	19	17
10	49	36	29	24	45	34	28	23	31	25	21	27	23	19	24	20	17	16

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	13726	13726	13726
5°	13757	13588	13674
10°	13671	13426	13426
15°	13514	13143	13046
20°	13298	12773	12538
25°	13023	12339	12026
30°	12755	11882	11384
35°	12458	11406	10738
40°	12101	10866	10043
45°	11772	10330	9334
50°	11396	9712	8584
55°	10994	9070	7769
60°	10551	8365	6936
65°	10147	7484	6117
70°	9557	6515	5193
75°	8812	5402	4223
80°	7685	4114	3873
85°	6512	3742	3492



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	159.7	2.3
10°-20°	445.4	6.5
20°-30°	643.1	9.3
30°-40°	729.0	10.6
40°-50°	704.0	10.2
50°-60°	585.4	8.5
60°-70°	404.2	5.9
70°-80°	204.9	3.0
80°-90°	55.8	0.8
90°-100°	70.4	1.0
100°-110°	208.7	3.0
110°-120°	354.2	5.1
120°-130°	467.0	6.8
130°-140°	524.5	7.6
140°-150°	515.4	7.5
150°-160°	433.5	6.3
160°-170°	288.4	4.2
170°-180°	101.0	1.5
0°-30°	1248.2	18.1
0°-40°	1977.3	28.7
0°-60°	3266.6	47.4
0°-90°	3931.5	57.0
90°-120°	633.2	9.2
90°-150°	2140.1	31.0
90°-180°	2963.0	43.0
0°-180°	6894.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1700	1700	1700	1700	1700	
5°	1698	1692	1677	1689	1687	161
15°	1617	1604	1573	1570	1561	455
25°	1462	1437	1385	1364	1350	673
35°	1264	1221	1157	1114	1090	790
45°	1031	981	905	843	818	795
55°	781	727	644	579	552	698
65°	531	474	392	338	320	524
75°	282	234	173	144	135	298
85°	70	46	40	38	38	79
90°	2	11	18	23	25	6
95°	50	57	63	65	65	55
105°	192	193	197	199	202	204
115°	360	360	358	358	357	355
125°	524	524	524	522	520	467
135°	676	681	681	680	677	523
145°	822	825	826	825	823	514
155°	942	942	941	944	941	433
165°	1025	1023	1021	1025	1022	289
175°	1066	1062	1061	1066	1061	101
180°	1068	1068	1068	1068	1068	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1700.2	1700.2	1700.2	1700.2	1700.2	1700.2	1700.2	1700.2	1700.2	1700.2	1700.2
2.5°	1704.4	1703.5	1702.6	1701.6	1700.7	1699.0	1696.5	1693.9	1691.3	1688.8	1691.3
5°	1697.6	1696.5	1695.3	1694.2	1693.1	1690.7	1687.3	1683.8	1680.3	1676.8	1679.7
7.5°	1682.3	1681.1	1679.8	1678.6	1677.4	1674.5	1670.1	1665.6	1661.0	1656.5	1658.4
10°	1667.7	1666.2	1664.8	1663.4	1661.9	1658.6	1653.4	1648.2	1643.0	1637.8	1638.9
12.5°	1648.9	1647.3	1645.6	1643.9	1642.3	1638.3	1632.2	1626.1	1619.9	1613.8	1614.5
15°	1616.9	1614.3	1611.8	1609.2	1606.5	1601.6	1594.4	1587.1	1579.9	1572.6	1572.1
17.5°	1578.2	1574.3	1570.6	1566.8	1563.1	1556.9	1548.2	1539.5	1530.8	1522.2	1520.5
20°	1547.9	1544.2	1540.4	1536.7	1532.9	1526.1	1516.3	1506.4	1496.6	1486.8	1484.4
22.5°	1514.6	1510.4	1506.2	1501.9	1497.7	1490.4	1479.8	1469.3	1458.7	1448.2	1444.7
25°	1462.0	1456.8	1451.6	1446.4	1441.2	1432.6	1420.8	1408.9	1397.1	1385.2	1380.3
27.5°	1406.8	1400.3	1393.8	1387.2	1380.6	1371.1	1358.4	1345.7	1333.0	1320.4	1314.3
30°	1368.3	1361.1	1353.8	1346.5	1339.4	1328.9	1315.3	1301.7	1288.2	1274.6	1267.3
32.5°	1327.6	1319.5	1311.3	1303.2	1295.0	1283.9	1269.8	1255.8	1241.7	1227.7	1219.3
35°	1264.1	1254.8	1245.6	1236.3	1227.1	1215.2	1200.8	1186.3	1171.8	1157.4	1147.5
37.5°	1196.2	1186.6	1177.0	1167.5	1158.0	1145.2	1129.2	1113.1	1097.1	1081.1	1070.1
40°	1148.3	1138.7	1129.2	1119.7	1110.0	1097.1	1080.6	1064.0	1047.6	1031.1	1019.0
42.5°	1102.4	1092.4	1082.4	1072.4	1062.4	1048.8	1031.6	1014.4	997.3	980.1	967.7
45°	1031.1	1020.3	1009.7	999.0	988.3	974.2	956.9	939.6	922.2	904.8	890.6
47.5°	957.4	946.3	935.3	924.2	913.2	898.6	880.6	862.5	844.5	826.5	811.7
50°	907.4	896.1	884.8	873.6	862.3	847.3	828.8	810.3	791.8	773.3	758.9
52.5°	856.4	845.3	834.3	823.2	812.2	797.1	778.2	759.2	740.2	721.2	706.5
55°	781.1	769.6	758.0	746.4	734.8	719.7	700.8	682.1	663.2	644.4	629.4
57.5°	706.6	694.6	682.6	670.6	658.5	643.3	624.8	606.2	587.7	569.2	553.9
60°	653.5	642.0	630.4	618.8	607.2	592.2	573.7	555.2	536.6	518.1	503.1
62.5°	605.6	593.6	581.6	569.6	557.5	542.0	523.0	504.0	485.0	466.1	452.2
65°	531.2	518.7	506.3	493.8	481.4	465.9	447.4	428.9	410.4	391.8	379.4
67.5°	453.8	441.9	430.0	418.1	406.2	391.6	374.4	357.3	340.1	322.9	312.2
70°	404.9	392.7	380.6	368.4	356.3	341.9	325.5	309.0	292.5	276.0	266.4
72.5°	352.8	341.9	330.8	319.8	308.8	295.5	280.0	264.4	248.8	233.3	225.1
75°	282.5	271.8	261.1	250.4	239.7	227.6	213.9	200.3	186.8	173.2	166.5
77.5°	211.2	202.1	193.0	183.9	174.8	164.8	153.8	142.8	131.8	120.8	116.9
80°	165.3	156.9	148.5	140.1	131.8	123.3	114.5	105.9	97.2	88.5	87.6
82.5°	125.8	118.1	110.4	102.6	95.0	88.6	83.6	78.7	73.7	68.7	68.1
85°	70.3	64.5	58.7	52.9	47.1	43.9	43.0	42.1	41.3	40.4	39.8
87.5°	24.5	23.0	21.5	20.1	18.7	17.9	18.0	18.1	18.2	18.2	18.2
90°	2.4	4.5	6.5	8.6	10.5	12.3	13.8	15.2	16.7	18.2	19.2
92.5°	17.7	20.0	22.3	24.6	26.9	28.6	29.6	30.7	31.7	32.7	33.3
95°	49.6	51.2	52.8	54.5	56.2	57.6	58.9	60.2	61.5	62.8	63.3
97.5°	86.6	87.9	89.2	90.5	91.9	93.3	94.7	96.3	97.8	99.3	100.0
100°	115.6	116.3	117.1	117.8	118.5	119.8	121.4	123.0	124.7	126.4	126.7
102.5°	146.0	146.3	146.6	146.9	147.2	148.1	149.6	151.1	152.6	154.1	154.7
105°	192.4	192.7	192.8	193.0	193.1	193.6	194.4	195.1	195.8	196.6	197.1
107.5°	241.2	241.4	241.6	241.8	242.1	242.2	242.3	242.5	242.6	242.6	243.2
110°	274.2	274.6	274.9	275.3	275.7	275.7	275.6	275.4	275.2	275.0	274.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	308.6	308.7	308.8	308.8	308.8	308.8	308.4	308.1	307.8	307.4	307.4
115°	360.1	360.1	360.1	360.1	360.1	360.0	359.5	359.2	358.8	358.5	358.2
117.5°	408.7	408.8	409.0	409.1	409.3	409.2	409.0	408.7	408.5	408.1	407.6
120°	441.1	441.8	442.5	443.3	444.0	444.1	443.5	443.0	442.5	441.9	441.0
122.5°	474.7	475.1	475.3	475.6	475.9	476.0	475.6	475.4	475.2	474.9	474.3
125°	524.5	524.5	524.5	524.5	524.5	524.4	524.2	524.0	523.8	523.7	523.3
127.5°	569.6	570.1	570.6	571.2	571.8	571.9	571.6	571.3	571.0	570.7	570.4
130°	601.3	601.9	602.3	602.9	603.5	603.7	603.7	603.7	603.7	603.7	603.4
132.5°	633.7	634.1	634.5	634.9	635.3	635.4	635.3	635.1	635.0	634.8	634.5
135°	676.5	677.5	678.7	679.7	680.9	681.4	681.4	681.4	681.4	681.4	681.0
137.5°	723.0	723.5	724.1	724.6	725.0	725.5	725.8	726.1	726.4	726.7	726.2
140°	754.1	754.5	754.8	755.2	755.5	755.7	755.7	755.7	755.7	755.7	755.5
142.5°	782.5	782.9	783.3	783.6	784.0	784.1	783.9	783.7	783.7	783.5	783.4
145°	821.8	822.6	823.3	824.0	824.8	825.2	825.4	825.6	825.7	825.9	825.7
147.5°	860.8	861.7	862.6	863.4	864.3	864.7	864.5	864.4	864.2	864.1	864.0
150°	884.6	885.3	886.1	886.8	887.5	887.9	887.9	887.9	887.9	887.9	887.9
152.5°	907.0	907.5	907.9	908.3	908.8	909.1	909.2	909.4	909.5	909.7	910.1
155°	941.6	941.6	941.6	941.6	941.6	941.5	941.3	941.1	940.9	940.8	941.5
157.5°	970.6	970.3	970.0	969.6	969.3	969.1	969.1	969.1	969.0	969.0	969.6
160°	987.8	987.7	987.4	987.2	987.1	986.9	986.7	986.5	986.3	986.2	986.7
162.5°	1003.6	1003.2	1002.7	1002.2	1001.8	1001.4	1001.3	1001.1	1000.9	1000.7	1001.7
165°	1025.0	1024.4	1023.9	1023.4	1022.8	1022.3	1022.0	1021.6	1021.2	1020.8	1022.0
167.5°	1041.3	1040.6	1039.8	1039.0	1038.3	1037.9	1038.0	1038.0	1038.0	1038.0	1039.1
170°	1050.6	1049.7	1048.7	1047.8	1046.9	1046.5	1046.8	1046.9	1047.1	1047.3	1048.4
172.5°	1057.2	1056.4	1055.6	1054.9	1054.1	1053.8	1053.8	1053.9	1053.9	1053.9	1055.2
175°	1066.2	1065.4	1064.5	1063.6	1062.6	1062.1	1061.8	1061.7	1061.5	1061.4	1062.6
177.5°	1069.3	1068.5	1067.8	1067.1	1066.3	1065.9	1065.9	1065.9	1065.9	1065.9	1067.0
180°	1068.0	1068.0	1068.0	1068.0	1068.0	1068.0	1068.0	1068.0	1068.0	1068.0	1068.0



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1700.2	1700.2	1700.2	1700.2	1700.2	1700.2	1700.2	1700.2
2.5°	1693.9	1696.5	1699.0	1700.1	1699.9	1699.7	1699.4	1699.2
5°	1682.6	1685.5	1688.4	1689.5	1689.0	1688.4	1687.8	1687.3
7.5°	1660.2	1662.1	1663.9	1664.4	1663.5	1662.6	1661.6	1660.7
10°	1640.1	1641.2	1642.4	1642.4	1641.2	1640.1	1638.9	1637.8
12.5°	1615.2	1615.9	1616.6	1616.1	1614.5	1612.9	1611.3	1609.6
15°	1571.5	1570.9	1570.3	1569.0	1567.0	1565.0	1563.0	1561.0
17.5°	1518.9	1517.3	1515.6	1513.4	1510.3	1507.2	1504.1	1501.0
20°	1482.1	1479.8	1477.5	1474.5	1470.7	1467.0	1463.1	1459.4
22.5°	1441.3	1437.8	1434.4	1431.1	1428.0	1424.9	1421.9	1418.8
25°	1375.3	1370.4	1365.5	1361.6	1358.7	1355.8	1352.9	1350.1
27.5°	1308.2	1302.1	1296.1	1290.9	1286.8	1282.6	1278.5	1274.3
30°	1260.0	1252.9	1245.6	1239.7	1235.0	1230.4	1225.8	1221.2
32.5°	1210.9	1202.5	1194.1	1187.7	1183.3	1178.9	1174.5	1170.1
35°	1137.7	1127.9	1118.0	1110.5	1105.3	1100.1	1094.9	1089.6
37.5°	1059.1	1048.1	1037.1	1029.0	1023.8	1018.6	1013.4	1008.2
40°	1006.8	994.7	982.5	973.8	968.6	963.4	958.2	953.0
42.5°	955.3	942.9	930.5	921.6	916.2	910.8	905.3	899.8
45°	876.4	862.3	848.1	838.4	833.2	828.0	822.8	817.6
47.5°	797.0	782.4	767.7	757.4	751.7	746.0	740.2	734.5
50°	744.4	729.9	715.4	705.5	700.0	694.5	689.0	683.5
52.5°	691.9	677.2	662.4	652.2	646.5	640.8	635.0	629.3
55°	614.3	599.3	584.2	574.0	568.5	563.0	557.5	552.0
57.5°	538.7	523.3	508.1	498.4	494.2	490.0	485.8	481.7
60°	488.0	473.0	458.0	448.2	443.5	438.9	434.2	429.6
62.5°	438.3	424.4	410.5	401.7	398.0	394.4	390.6	386.9
65°	367.0	354.6	342.1	334.1	330.7	327.2	323.8	320.2
67.5°	301.5	290.7	280.1	272.8	269.0	265.1	261.3	257.5
70°	256.9	247.4	237.8	231.6	228.7	225.8	222.9	220.0
72.5°	217.0	208.8	200.6	195.3	192.6	190.0	187.3	184.6
75°	159.9	153.2	146.5	142.4	140.6	138.8	137.1	135.4
77.5°	113.1	109.2	105.3	103.1	102.6	102.1	101.6	101.0
80°	86.8	85.9	85.0	84.5	84.2	83.9	83.6	83.3
82.5°	67.5	66.9	66.2	65.7	65.5	65.1	64.9	64.6
85°	39.2	38.6	38.1	37.7	37.7	37.7	37.7	37.7
87.5°	18.2	18.2	18.2	18.3	18.6	18.9	19.2	19.6
90°	20.4	21.4	22.6	23.3	23.6	24.1	24.4	24.8
92.5°	34.0	34.7	35.4	35.8	36.0	36.2	36.4	36.7
95°	63.8	64.4	65.0	65.2	65.2	65.2	65.2	65.2
97.5°	100.6	101.3	101.9	102.2	102.2	102.2	102.2	102.2
100°	127.1	127.4	127.8	128.0	128.0	128.0	128.0	128.0
102.5°	155.2	155.6	156.2	156.5	156.6	156.8	156.9	157.1
105°	197.7	198.2	198.8	199.3	199.9	200.4	201.0	201.5
107.5°	243.7	244.2	244.8	244.9	244.9	244.9	244.8	244.8
110°	274.3	273.9	273.5	273.7	274.2	274.8	275.3	275.9



TEST NUMBER: P333106-930

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	307.3	307.2	307.1	307.1	307.3	307.4	307.4	307.6
115°	358.1	357.9	357.8	357.5	357.3	357.2	357.0	356.8
117.5°	406.9	406.3	405.7	405.2	404.8	404.5	404.1	403.7
120°	440.0	439.1	438.2	437.9	438.3	438.6	439.0	439.4
122.5°	473.7	473.0	472.4	471.7	471.1	470.4	469.8	469.1
125°	522.9	522.5	522.2	521.8	521.5	521.1	520.7	520.3
127.5°	570.0	569.6	569.2	568.9	568.6	568.3	568.0	567.8
130°	603.0	602.7	602.3	601.8	601.0	600.3	599.6	598.8
132.5°	634.1	633.7	633.3	633.0	632.8	632.4	632.1	631.9
135°	680.7	680.3	680.0	679.5	678.9	678.3	677.8	677.3
137.5°	725.7	725.2	724.7	724.6	724.6	724.8	724.9	725.0
140°	755.4	755.2	755.0	754.8	754.6	754.5	754.2	754.1
142.5°	783.4	783.3	783.3	783.3	783.3	783.3	783.2	783.2
145°	825.6	825.4	825.2	824.8	824.3	823.7	823.2	822.6
147.5°	863.8	863.6	863.5	863.3	863.2	863.0	862.7	862.6
150°	887.9	887.9	887.9	887.8	887.6	887.5	887.2	887.0
152.5°	910.5	911.0	911.4	911.4	910.9	910.4	910.0	909.5
155°	942.2	943.0	943.7	943.7	943.0	942.2	941.5	940.8
157.5°	970.1	970.6	971.2	971.2	970.5	969.9	969.3	968.7
160°	987.2	987.8	988.4	988.1	987.2	986.3	985.5	984.5
162.5°	1002.7	1003.6	1004.7	1004.7	1003.8	1002.9	1001.9	1001.0
165°	1023.0	1024.2	1025.2	1025.4	1024.7	1023.9	1023.2	1022.5
167.5°	1040.2	1041.3	1042.4	1042.4	1041.3	1040.2	1039.0	1037.9
170°	1049.5	1050.6	1051.7	1051.6	1050.4	1049.0	1047.7	1046.4
172.5°	1056.4	1057.6	1058.9	1058.8	1057.6	1056.3	1055.0	1053.7
175°	1063.9	1065.2	1066.5	1066.5	1065.2	1063.9	1062.6	1061.4
177.5°	1068.0	1069.0	1070.1	1070.0	1068.8	1067.6	1066.5	1065.3
180°	1068.0	1068.0	1068.0	1068.0	1068.0	1068.0	1068.0	1068.0

(END OF REPORT)