

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: P332468-930

Luminaire Tested: **S123RDIW-S1000D1535U930-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332468-930
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-5,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S123RDIW-S1000D1535U930-4F0-1E-UDD-F
Description: DEFINE 3 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1000 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 1535 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8098.5 lumens
Efficiency: N/A
Efficacy: 105.7 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.06 / 1.22
Luminous Opening: Rectangular (W 0.25' x L: 4' x H: 0')
CIE Type: Semi-Indirect

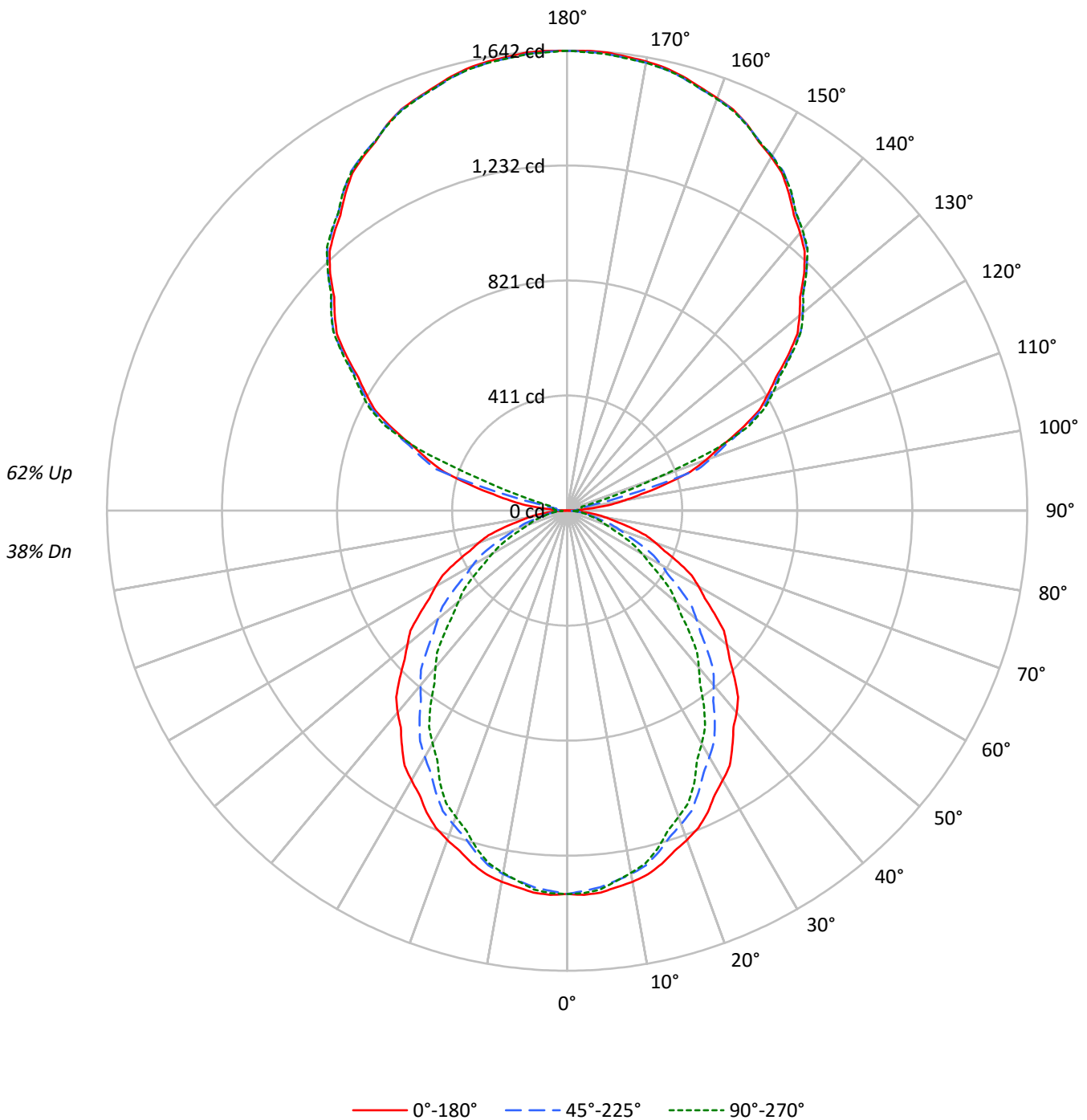
Input Watts (W): 76.6
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	50	30	10	0		
RCR																										
0	104	104	104	104	95	95	95	95	77	77	77	60	60	60	45	45	45	38								
1	95	91	88	84	86	83	80	77	68	65	63	53	52	51	40	40	39	33								
2	87	80	74	69	79	73	68	64	59	56	53	47	45	43	36	34	33	28								
3	80	70	63	58	72	64	58	53	53	48	45	42	39	36	32	30	28	24								
4	73	62	55	49	66	57	50	45	47	42	38	37	34	31	29	26	25	21								
5	67	56	48	42	61	51	44	39	42	37	33	34	30	27	26	23	22	18								
6	62	50	42	36	56	46	39	34	38	33	29	30	27	24	24	21	19	16								
7	57	45	37	32	52	41	35	30	34	29	25	28	24	21	22	19	17	14								
8	53	41	33	28	48	38	31	26	31	26	23	25	22	19	20	17	15	13								
9	49	37	30	25	45	34	28	23	29	24	20	23	20	17	18	16	14	12								
10	46	34	27	22	42	31	25	21	26	22	18	22	18	15	17	14	13	11								

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	14727	14727	14727
5°	14783	14579	14664
10°	14700	14397	14348
15°	14542	14060	13912
20°	14325	13639	13321
25°	14101	13166	12744
30°	13806	12621	11931
35°	13502	12073	11184
40°	13222	11428	10260
45°	12855	10794	9426
50°	12450	10071	8492
55°	12037	9246	7621
60°	11657	8361	6665
65°	11163	7404	5708
70°	10546	6216	4611
75°	9649	4891	4338
80°	8598	4333	3986
85°	7262	3841	3569



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	128.5	1.6
10°-20°	357.5	4.4
20°-30°	514.7	6.4
30°-40°	579.8	7.2
40°-50°	554.7	6.8
50°-60°	454.2	5.6
60°-70°	306.5	3.8
70°-80°	154.2	1.9
80°-90°	45.4	0.6
90°-100°	59.6	0.7
100°-110°	284.3	3.5
110°-120°	682.8	8.4
120°-130°	869.5	10.7
130°-140°	929.1	11.5
140°-150°	868.8	10.7
150°-160°	700.8	8.7
160°-170°	452.3	5.6
170°-180°	155.9	1.9
0°-30°	1000.7	12.4
0°-40°	1580.5	19.5
0°-60°	2589.5	32.0
0°-90°	3095.5	38.2
90°-120°	1026.8	12.7
90°-150°	3694.1	45.6
90°-180°	5003.0	61.8
0°-180°	8098.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1368	1368	1368	1368	1368	
5°	1368	1362	1349	1359	1357	130
15°	1305	1292	1262	1256	1248	367
25°	1187	1158	1109	1086	1073	546
35°	1028	986	919	873	851	643
45°	844	793	709	648	619	651
55°	641	585	493	431	406	575
65°	438	376	291	239	224	434
75°	232	178	118	107	104	247
85°	59	36	31	29	29	66
90°	1	14	29	34	36	6
95°	74	28	38	46	46	92
105°	363	370	267	63	54	385
115°	681	689	700	711	717	672
125°	960	970	975	978	980	857
135°	1196	1203	1208	1211	1208	920
145°	1380	1388	1391	1393	1393	863
155°	1520	1518	1519	1524	1518	700
165°	1603	1599	1598	1607	1599	453
175°	1640	1635	1636	1643	1634	156
180°	1640	1640	1640	1640	1640	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1368.2	1368.2	1368.2	1368.2	1368.2	1368.2	1368.2	1368.2	1368.2	1368.2	1368.2
2.5°	1372.6	1371.8	1371.1	1370.3	1369.5	1367.9	1365.5	1363.2	1360.8	1358.5	1360.6
5°	1368.2	1366.9	1365.7	1364.5	1363.3	1361.1	1358.2	1355.3	1352.3	1349.3	1351.5
7.5°	1355.5	1354.2	1352.9	1351.5	1350.2	1347.6	1343.8	1339.9	1336.1	1332.3	1333.5
10°	1344.9	1343.2	1341.4	1339.7	1338.0	1334.9	1330.5	1326.0	1321.6	1317.2	1317.4
12.5°	1329.8	1327.9	1326.0	1324.0	1322.1	1318.4	1313.0	1307.6	1302.2	1296.7	1296.6
15°	1305.0	1302.3	1299.5	1296.8	1294.1	1289.3	1282.4	1275.5	1268.6	1261.7	1260.5
17.5°	1273.7	1270.5	1267.4	1264.2	1261.0	1255.1	1246.3	1237.5	1228.7	1219.9	1217.3
20°	1250.6	1246.7	1242.7	1238.8	1234.8	1228.2	1218.8	1209.4	1200.0	1190.7	1187.5
22.5°	1224.8	1220.3	1215.8	1211.2	1206.7	1199.5	1189.4	1179.5	1169.5	1159.6	1155.6
25°	1187.3	1181.2	1175.0	1168.8	1162.7	1153.9	1142.6	1131.2	1119.9	1108.6	1103.3
27.5°	1141.8	1135.1	1128.2	1121.4	1114.6	1104.9	1092.3	1079.6	1067.0	1054.4	1047.2
30°	1110.8	1103.3	1096.0	1088.6	1081.2	1070.6	1056.8	1042.9	1029.2	1015.4	1007.0
32.5°	1079.7	1071.3	1062.9	1054.5	1046.2	1034.7	1020.1	1005.5	990.8	976.2	967.1
35°	1027.5	1018.6	1009.7	1000.9	992.1	979.9	964.7	949.3	934.1	918.8	908.2
37.5°	974.7	964.8	955.0	945.1	935.2	922.2	905.9	889.5	873.2	856.9	844.8
40°	941.0	930.2	919.2	908.4	897.6	883.4	865.9	848.4	830.9	813.3	800.5
42.5°	902.8	891.9	881.1	870.3	859.4	845.0	826.9	808.8	790.7	772.6	758.6
45°	844.5	833.3	822.2	811.1	800.1	785.1	766.1	747.1	728.1	709.1	695.0
47.5°	786.1	773.9	761.7	749.5	737.4	721.8	702.8	683.8	664.8	645.8	630.6
50°	743.5	731.9	720.3	708.7	697.1	681.3	661.4	641.4	621.4	601.4	586.1
52.5°	705.3	692.8	680.1	667.6	655.0	638.8	619.1	599.2	579.5	559.7	543.8
55°	641.4	629.3	617.2	605.1	593.0	576.5	555.5	534.6	513.6	492.7	478.4
57.5°	582.4	569.2	556.0	542.8	529.7	512.6	491.5	470.4	449.4	428.4	414.8
60°	541.5	528.0	514.4	500.8	487.2	470.3	449.8	429.3	408.9	388.4	375.0
62.5°	500.7	487.1	473.5	460.0	446.5	429.4	409.0	388.5	368.0	347.6	335.0
65°	438.3	424.8	411.2	397.6	384.1	367.7	348.5	329.2	310.0	290.7	278.7
67.5°	375.9	362.2	348.5	334.8	321.1	305.0	286.6	268.2	249.7	231.2	222.3
70°	335.1	321.8	308.5	295.1	281.8	266.6	249.3	232.0	214.7	197.5	188.9
72.5°	294.2	281.2	268.1	254.9	241.8	227.4	211.7	196.1	180.3	164.7	157.6
75°	232.0	220.0	208.2	196.4	184.6	171.9	158.3	144.7	131.2	117.6	115.1
77.5°	175.1	164.4	153.7	143.0	132.3	122.5	113.8	105.1	96.4	87.6	86.3
80°	138.7	128.6	118.5	108.4	98.2	90.7	85.4	80.2	75.1	69.9	69.1
82.5°	104.1	95.4	86.7	77.9	69.1	63.6	61.1	58.8	56.3	53.9	53.2
85°	58.8	53.4	47.9	42.6	37.1	34.0	33.3	32.5	31.8	31.1	30.6
87.5°	21.5	19.9	18.3	16.6	15.0	14.6	15.2	16.0	16.7	17.4	17.4
90°	1.2	3.9	6.6	9.4	12.1	15.2	18.7	22.2	25.8	29.3	30.3
92.5°	22.7	21.9	21.1	20.4	19.6	20.5	23.2	25.9	28.5	31.2	32.9
95°	74.4	63.3	52.2	41.0	29.9	25.8	28.9	31.8	34.8	37.7	39.7
97.5°	149.4	144.5	139.5	134.4	129.5	117.2	97.8	78.3	58.8	39.2	41.4
100°	206.0	211.4	216.8	222.3	227.6	209.2	167.0	124.7	82.5	40.2	42.4
102.5°	270.4	274.3	278.2	282.0	285.9	264.8	218.7	172.5	126.4	80.2	73.5
105°	363.2	366.2	369.2	372.2	375.1	364.4	340.1	315.7	291.3	266.9	219.0
107.5°	461.2	463.6	465.9	468.4	470.8	473.9	477.7	481.6	485.4	489.3	454.1
110°	526.5	528.7	530.8	533.0	535.2	537.8	540.8	543.7	546.7	549.7	540.8



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	589.0	590.9	592.9	594.8	596.7	599.2	602.2	605.2	608.1	611.1	611.3
115°	681.3	683.0	684.6	686.2	687.9	689.9	692.4	694.7	697.2	699.6	702.3
117.5°	770.8	772.8	774.8	776.8	778.9	780.5	781.7	782.9	784.2	785.5	787.6
120°	826.4	828.8	831.3	833.7	836.2	837.8	838.5	839.4	840.2	841.0	843.2
122.5°	883.0	884.9	887.0	888.9	891.0	892.5	893.5	894.5	895.5	896.6	898.1
125°	960.4	962.6	964.8	966.9	969.1	970.8	971.8	972.9	974.0	975.1	975.7
127.5°	1035.5	1037.7	1039.9	1042.0	1044.2	1045.9	1047.3	1048.6	1049.9	1051.2	1052.0
130°	1082.3	1084.5	1086.7	1088.8	1091.0	1092.7	1093.7	1094.8	1095.9	1097.0	1098.0
132.5°	1127.2	1129.4	1131.6	1133.7	1135.9	1137.4	1138.2	1139.1	1140.0	1140.8	1141.9
135°	1195.7	1197.3	1199.0	1200.6	1202.2	1203.5	1204.6	1205.7	1206.8	1207.9	1208.7
137.5°	1254.2	1256.3	1258.3	1260.4	1262.4	1263.8	1264.4	1264.9	1265.6	1266.2	1267.5
140°	1293.2	1294.9	1296.5	1298.1	1299.8	1300.9	1301.7	1302.5	1303.3	1304.2	1305.3
142.5°	1329.3	1330.9	1332.5	1334.2	1335.8	1337.0	1337.8	1338.6	1339.5	1340.3	1341.1
145°	1379.7	1381.6	1383.6	1385.4	1387.3	1388.5	1389.1	1389.6	1390.2	1390.7	1391.2
147.5°	1427.3	1428.6	1429.8	1431.0	1432.2	1433.1	1433.7	1434.3	1434.8	1435.3	1435.9
150°	1456.5	1457.3	1458.2	1459.0	1459.8	1460.4	1461.0	1461.6	1462.1	1462.6	1463.1
152.5°	1482.9	1483.3	1483.6	1484.0	1484.4	1484.7	1485.1	1485.4	1485.7	1486.0	1487.0
155°	1519.9	1519.4	1518.8	1518.3	1517.8	1517.6	1517.9	1518.2	1518.4	1518.7	1520.0
157.5°	1548.7	1548.7	1548.6	1548.5	1548.5	1548.3	1548.0	1547.8	1547.5	1547.2	1548.8
160°	1566.3	1565.9	1565.7	1565.5	1565.1	1564.9	1564.6	1564.3	1564.1	1563.8	1565.5
162.5°	1582.8	1582.1	1581.4	1580.7	1580.0	1579.5	1579.2	1579.0	1578.7	1578.4	1580.3
165°	1602.8	1602.0	1601.2	1600.4	1599.5	1599.0	1598.7	1598.5	1598.2	1597.9	1600.1
167.5°	1618.4	1617.3	1616.2	1615.2	1614.0	1613.6	1613.6	1613.6	1613.6	1613.6	1615.7
170°	1627.2	1626.1	1625.0	1623.9	1622.9	1622.3	1622.3	1622.3	1622.3	1622.3	1624.5
172.5°	1633.0	1631.7	1630.4	1629.1	1627.8	1627.3	1627.5	1627.7	1627.9	1628.2	1630.4
175°	1640.5	1639.2	1637.9	1636.6	1635.2	1634.6	1634.9	1635.2	1635.4	1635.7	1637.6
177.5°	1642.5	1641.4	1640.4	1639.3	1638.2	1637.8	1638.0	1638.2	1638.4	1638.7	1640.4
180°	1640.5	1640.5	1640.5	1640.5	1640.5	1640.5	1640.5	1640.5	1640.5	1640.5	1640.5



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1368.2	1368.2	1368.2	1368.2	1368.2	1368.2	1368.2	1368.2
2.5°	1362.8	1365.0	1367.1	1368.0	1367.6	1367.3	1366.8	1366.4
5°	1353.8	1356.0	1358.2	1359.1	1358.6	1358.1	1357.6	1357.1
7.5°	1334.7	1335.9	1337.2	1337.4	1336.5	1335.7	1334.9	1334.0
10°	1317.7	1317.9	1318.2	1317.7	1316.4	1315.2	1313.9	1312.7
12.5°	1296.4	1296.3	1296.2	1295.3	1294.0	1292.5	1291.1	1289.6
15°	1259.2	1258.0	1256.8	1255.2	1253.5	1251.8	1250.1	1248.4
17.5°	1214.7	1212.1	1209.5	1206.9	1204.4	1201.8	1199.2	1196.6
20°	1184.2	1181.0	1177.9	1174.8	1171.8	1168.8	1165.9	1162.9
22.5°	1151.6	1147.6	1143.6	1140.2	1137.5	1134.7	1132.0	1129.2
25°	1098.2	1093.0	1087.9	1083.9	1081.2	1078.5	1075.8	1073.0
27.5°	1040.0	1032.8	1025.6	1019.9	1015.8	1011.6	1007.5	1003.4
30°	998.6	990.2	981.8	975.7	971.7	967.8	963.8	959.9
32.5°	957.9	948.8	939.6	932.9	928.8	924.6	920.5	916.3
35°	897.6	887.0	876.4	868.9	864.5	860.0	855.6	851.1
37.5°	832.8	820.8	808.8	800.0	794.5	789.0	783.6	778.1
40°	787.7	774.9	762.1	752.8	747.1	741.5	735.8	730.2
42.5°	744.5	730.5	716.5	706.9	701.9	696.8	691.7	686.6
45°	680.9	666.9	652.8	642.9	636.9	631.0	625.1	619.2
47.5°	615.2	600.0	584.7	574.4	569.1	563.9	558.6	553.3
50°	570.9	555.5	540.3	529.8	524.2	518.4	512.8	507.1
52.5°	528.0	512.1	496.2	485.7	480.6	475.6	470.5	465.4
55°	464.1	449.8	435.5	425.8	420.9	416.0	411.1	406.1
57.5°	401.3	387.8	374.3	365.4	361.3	357.0	352.9	348.6
60°	361.7	348.5	335.1	326.4	322.2	318.0	313.8	309.6
62.5°	322.5	310.0	297.4	288.9	284.6	280.2	275.8	271.4
65°	266.6	254.5	242.4	235.0	232.3	229.6	226.9	224.1
67.5°	213.2	204.2	195.2	189.1	186.3	183.4	180.4	177.6
70°	180.3	171.6	163.0	157.4	154.6	151.9	149.2	146.5
72.5°	150.6	143.5	136.5	132.4	131.3	130.1	129.0	127.8
75°	112.7	110.2	107.8	106.3	105.8	105.3	104.8	104.3
77.5°	85.0	83.6	82.3	81.4	81.0	80.5	80.0	79.5
80°	68.4	67.7	66.9	66.4	65.9	65.4	64.8	64.3
82.5°	52.4	51.7	51.0	50.5	50.5	50.4	50.2	50.1
85°	30.1	29.6	29.1	28.9	28.9	28.9	28.9	28.9
87.5°	17.4	17.4	17.4	17.4	17.4	17.3	17.2	17.0
90°	31.4	32.5	33.6	34.4	35.0	35.5	36.0	36.5
92.5°	34.7	36.4	38.2	39.1	39.5	39.8	40.1	40.4
95°	41.6	43.5	45.3	46.3	46.3	46.3	46.3	46.3
97.5°	43.6	45.7	47.9	49.2	49.4	49.7	50.0	50.2
100°	44.5	46.7	48.9	50.1	50.4	50.6	51.0	51.2
102.5°	66.8	60.1	53.3	50.2	50.7	51.2	51.7	52.2
105°	171.0	123.1	75.2	51.4	52.0	52.6	53.1	53.6
107.5°	418.9	383.8	348.6	313.0	276.9	240.7	204.6	168.4
110°	531.8	522.9	514.0	490.1	451.3	412.6	373.9	335.2



TEST NUMBER: P332468-930

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	611.5	611.6	611.8	607.8	599.6	591.4	583.3	575.0
115°	705.1	707.8	710.5	712.3	713.5	714.5	715.6	716.7
117.5°	789.8	791.9	794.1	795.3	795.5	795.7	796.0	796.1
120°	845.4	847.5	849.7	850.8	850.8	850.8	850.8	850.8
122.5°	899.6	901.2	902.7	903.5	903.8	903.9	904.2	904.4
125°	976.2	976.7	977.2	977.8	978.4	978.8	979.4	980.0
127.5°	1052.9	1053.8	1054.6	1054.8	1054.3	1053.7	1053.1	1052.6
130°	1099.1	1100.2	1101.3	1101.6	1101.1	1100.5	1099.9	1099.4
132.5°	1143.0	1144.1	1145.2	1145.3	1144.6	1143.9	1143.0	1142.3
135°	1209.5	1210.3	1211.1	1211.1	1210.3	1209.5	1208.7	1207.9
137.5°	1268.8	1270.1	1271.4	1271.7	1271.2	1270.6	1270.1	1269.6
140°	1306.4	1307.4	1308.5	1308.8	1308.2	1307.7	1307.2	1306.6
142.5°	1342.0	1342.9	1343.7	1343.8	1343.0	1342.2	1341.5	1340.8
145°	1391.8	1392.4	1392.9	1393.2	1393.2	1393.2	1393.2	1393.2
147.5°	1436.4	1437.0	1437.5	1437.1	1435.9	1434.7	1433.4	1432.2
150°	1463.7	1464.3	1464.8	1464.7	1463.9	1463.1	1462.2	1461.4
152.5°	1488.0	1489.0	1490.0	1489.8	1488.6	1487.3	1486.0	1484.8
155°	1521.4	1522.7	1524.1	1524.0	1522.3	1520.7	1519.1	1517.5
157.5°	1550.5	1552.1	1553.7	1553.5	1551.4	1549.2	1547.1	1545.0
160°	1567.1	1568.6	1570.3	1570.2	1568.2	1566.4	1564.5	1562.6
162.5°	1582.1	1584.0	1585.8	1585.8	1584.2	1582.5	1580.9	1579.2
165°	1602.2	1604.4	1606.6	1606.7	1604.8	1603.0	1601.0	1599.1
167.5°	1617.9	1620.0	1622.2	1622.2	1620.0	1617.9	1615.7	1613.6
170°	1626.6	1628.8	1631.0	1631.0	1628.8	1626.6	1624.5	1622.3
172.5°	1632.5	1634.7	1636.8	1636.7	1634.3	1632.0	1629.5	1627.2
175°	1639.5	1641.4	1643.3	1643.2	1641.0	1638.8	1636.6	1634.5
177.5°	1642.1	1643.8	1645.6	1645.4	1643.2	1641.0	1638.8	1636.7
180°	1640.5	1640.5	1640.5	1640.5	1640.5	1640.5	1640.5	1640.5

(END OF REPORT)