

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: P332858-930

Luminaire Tested: **S124DIW-S1195D1340U930-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332858-930
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: S124DIW-S1195D1340U930-4F0-1E-UDD-F1
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1195 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 1340 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7966.5 lumens
Efficiency: N/A
Efficacy: 104.5 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.17 / 1.3
Luminous Opening: Rectangular (W 0.33' x L: 4' x H: 0')
CIE Type: General Diffuse

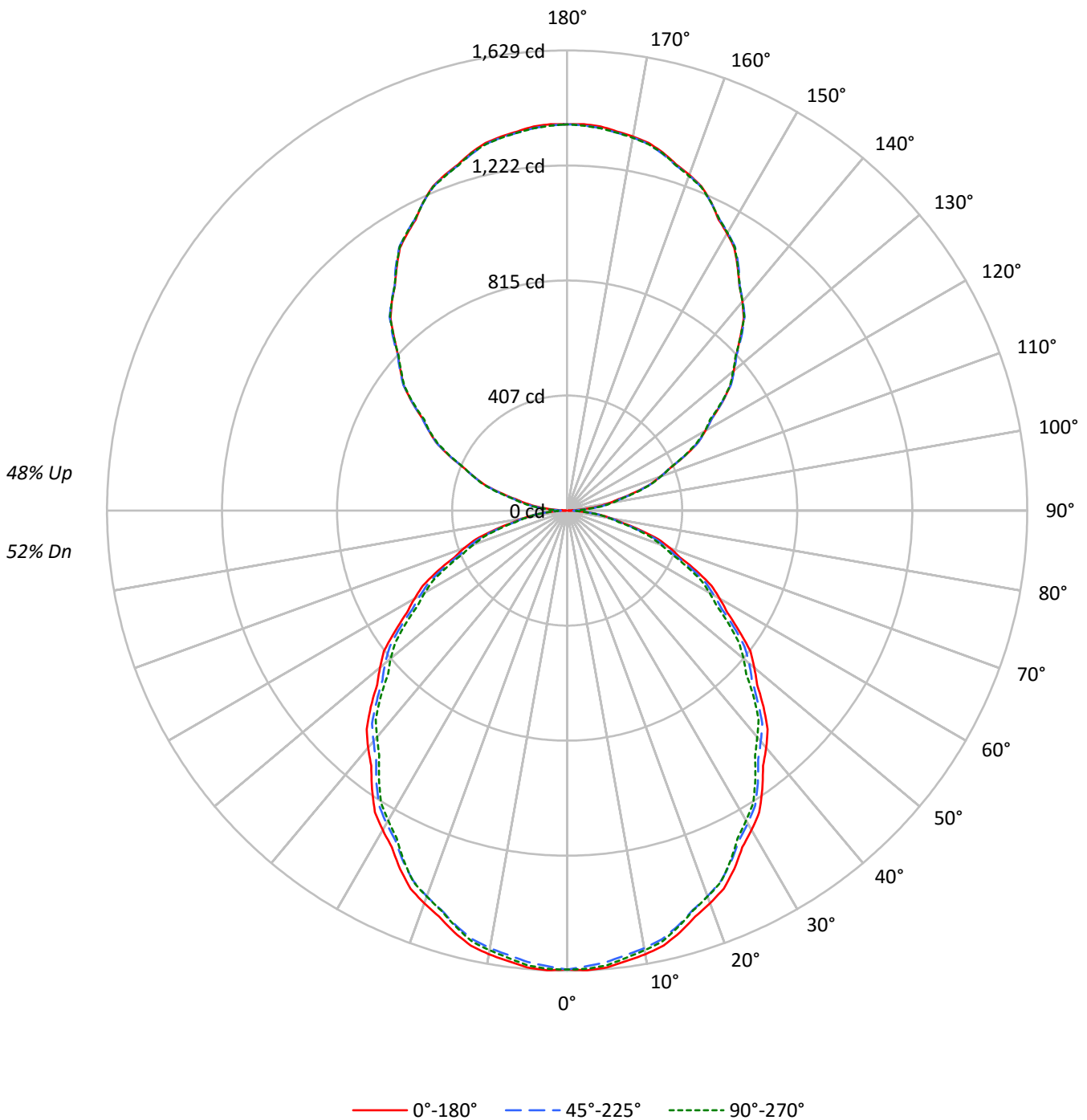
Input Watts (W): 76.2
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	108	108	108	108	100	100	100	100	85	85	85	71	71	71	58	58	58	52
1	98	94	90	86	91	87	84	81	74	72	69	62	61	59	51	50	49	44
2	89	82	76	71	83	76	71	66	65	61	57	55	52	49	45	43	41	37
3	82	72	65	59	75	67	60	55	57	52	48	48	45	42	40	37	35	31
4	75	64	56	50	69	59	52	47	51	45	41	43	39	36	36	33	30	27
5	69	57	49	43	63	53	46	40	46	40	36	39	34	31	32	29	26	23
6	63	51	43	37	58	48	40	35	41	35	31	35	31	27	29	26	23	20
7	58	46	38	32	54	43	36	31	37	32	27	32	27	24	27	23	21	18
8	54	42	34	29	50	39	32	27	34	28	24	29	25	21	25	21	19	16
9	50	38	31	26	47	36	29	24	31	26	22	27	22	19	23	19	17	15
10	47	35	28	23	44	33	26	22	29	23	20	25	20	17	21	18	15	13

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	13116	13116	13116
5°	13156	12998	13092
10°	13073	12892	12956
15°	12915	12709	12741
20°	12706	12482	12493
25°	12466	12222	12188
30°	12172	11918	11808
35°	11869	11599	11445
40°	11552	11236	11031
45°	11222	10880	10671
50°	10857	10562	10236
55°	10463	10151	9821
60°	10069	9689	9397
65°	9626	9251	8879
70°	9128	8665	8327
75°	8366	7960	7757
80°	7443	7141	6960
85°	6512	6271	6150



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	153.0	1.9
10°-20°	431.1	5.4
20°-30°	634.5	8.0
30°-40°	737.7	9.3
40°-50°	737.7	9.3
50°-60°	645.3	8.1
60°-70°	479.2	6.0
70°-80°	272.3	3.4
80°-90°	82.7	1.0
90°-100°	90.2	1.1
100°-110°	267.1	3.4
110°-120°	453.4	5.7
120°-130°	597.8	7.5
130°-140°	671.4	8.4
140°-150°	659.8	8.3
150°-160°	554.9	7.0
160°-170°	369.2	4.6
170°-180°	129.3	1.6
0°-30°	1218.6	15.3
0°-40°	1956.3	24.6
0°-60°	3339.3	41.9
0°-90°	4173.4	52.4
90°-120°	810.7	10.2
90°-150°	2739.7	34.4
90°-180°	3793.0	47.6
0°-180°	7966.5	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1625	1625	1625	1625	1625	
5°	1623	1618	1604	1617	1616	154
15°	1545	1539	1521	1528	1524	435
25°	1400	1390	1372	1373	1368	644
35°	1204	1195	1177	1168	1161	753
45°	983	973	953	939	935	757
55°	743	739	721	706	698	666
65°	504	497	484	472	465	499
75°	268	262	255	250	249	285
85°	70	70	68	68	66	77
90°	3	15	23	29	32	8
95°	63	73	80	83	84	71
105°	246	248	252	255	258	261
115°	461	461	459	458	457	454
125°	671	671	670	668	666	598
135°	866	872	872	870	867	670
145°	1052	1056	1057	1056	1053	658
155°	1205	1205	1204	1208	1204	554
165°	1312	1309	1307	1313	1309	370
175°	1365	1360	1359	1365	1359	130
180°	1367	1367	1367	1367	1367	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1624.7	1624.7	1624.7	1624.7	1624.7	1624.7	1624.7	1624.7	1624.7	1624.7	1624.7
2.5°	1628.9	1628.2	1627.5	1626.8	1626.1	1624.5	1622.0	1619.4	1616.9	1614.4	1616.7
5°	1623.4	1622.3	1621.1	1620.0	1618.9	1616.7	1613.5	1610.3	1607.1	1603.9	1607.1
7.5°	1608.3	1607.2	1606.1	1604.8	1603.7	1601.4	1597.8	1594.3	1590.8	1587.2	1589.8
10°	1594.8	1593.7	1592.5	1591.3	1590.2	1587.7	1584.0	1580.2	1576.5	1572.7	1575.0
12.5°	1577.1	1576.0	1574.8	1573.6	1572.5	1569.9	1565.9	1562.0	1558.0	1554.0	1556.5
15°	1545.3	1544.2	1543.0	1541.9	1540.7	1538.0	1533.6	1529.3	1524.9	1520.6	1522.3
17.5°	1507.1	1505.6	1504.1	1502.8	1501.3	1498.5	1494.4	1490.3	1486.2	1482.1	1483.2
20°	1479.0	1477.5	1476.0	1474.6	1473.2	1470.2	1465.9	1461.6	1457.3	1452.9	1453.8
22.5°	1448.7	1446.8	1445.0	1443.0	1441.1	1437.9	1433.6	1429.3	1425.0	1420.6	1422.2
25°	1399.5	1397.5	1395.5	1393.4	1391.4	1388.4	1384.3	1380.3	1376.2	1372.1	1372.5
27.5°	1343.3	1341.2	1339.1	1337.0	1335.0	1332.0	1328.3	1324.5	1320.8	1317.0	1316.3
30°	1305.8	1303.5	1301.1	1298.9	1296.6	1293.5	1289.7	1286.0	1282.2	1278.5	1277.3
32.5°	1266.2	1264.1	1262.1	1260.0	1257.8	1254.8	1250.8	1246.8	1242.8	1238.8	1237.5
35°	1204.3	1202.2	1200.2	1198.2	1196.1	1193.1	1189.0	1185.0	1181.0	1176.9	1174.8
37.5°	1138.9	1137.0	1135.2	1133.3	1131.5	1128.4	1124.1	1119.7	1115.3	1111.0	1108.8
40°	1096.2	1093.9	1091.5	1089.2	1087.0	1083.6	1079.3	1074.9	1070.6	1066.2	1063.3
42.5°	1050.4	1049.0	1047.6	1046.2	1044.8	1041.7	1036.9	1032.1	1027.3	1022.5	1019.1
45°	982.9	980.9	978.8	976.8	974.9	971.5	966.9	962.2	957.6	953.0	949.8
47.5°	912.3	910.9	909.5	908.2	906.8	904.0	899.7	895.4	891.1	886.9	883.3
50°	864.5	863.3	862.1	861.0	859.8	857.2	853.1	849.1	845.1	841.0	837.0
52.5°	817.6	816.2	814.8	813.4	812.0	809.2	804.9	800.6	796.4	792.1	788.5
55°	743.4	742.5	741.7	740.8	739.9	737.4	733.4	729.4	725.3	721.2	717.8
57.5°	672.5	671.6	670.6	669.6	668.6	666.1	662.1	658.1	654.1	650.1	646.9
60°	623.6	622.2	620.7	619.3	617.8	615.2	611.5	607.7	603.9	600.1	597.5
62.5°	575.7	574.5	573.2	572.0	570.9	568.3	564.3	560.3	556.3	552.3	549.9
65°	503.9	502.4	500.9	499.5	498.1	495.9	493.0	490.1	487.2	484.3	481.4
67.5°	431.5	430.2	428.8	427.5	426.2	424.0	421.3	418.5	415.7	412.9	410.2
70°	386.7	384.7	382.6	380.6	378.5	376.4	374.1	371.8	369.4	367.1	364.8
72.5°	338.8	336.7	334.7	332.6	330.7	328.7	326.9	325.0	323.2	321.3	319.4
75°	268.2	266.8	265.3	263.8	262.4	261.0	259.5	258.0	256.7	255.2	254.0
77.5°	200.7	200.1	199.5	198.9	198.2	197.2	196.0	194.7	193.5	192.2	191.8
80°	160.1	159.2	158.4	157.5	156.7	156.0	155.4	154.7	154.2	153.6	153.0
82.5°	120.6	120.2	119.8	119.4	119.0	118.7	118.5	118.5	118.3	118.2	117.9
85°	70.3	70.3	70.3	70.3	70.3	70.0	69.5	68.9	68.2	67.7	67.7
87.5°	27.7	28.0	28.3	28.5	28.9	29.1	29.2	29.4	29.5	29.7	29.9
90°	3.2	5.8	8.3	10.9	13.5	15.7	17.6	19.5	21.4	23.2	24.7
92.5°	22.7	25.6	28.5	31.5	34.5	36.6	37.9	39.2	40.5	41.9	42.7
95°	63.4	65.6	67.7	69.8	71.9	73.8	75.4	77.0	78.7	80.4	81.0
97.5°	110.8	112.5	114.2	115.9	117.6	119.4	121.3	123.3	125.1	127.1	127.9
100°	148.1	149.0	149.9	150.8	151.8	153.3	155.4	157.5	159.6	161.8	162.2
102.5°	186.9	187.4	187.7	188.1	188.4	189.6	191.5	193.5	195.3	197.3	198.0
105°	246.4	246.6	246.9	247.0	247.3	247.9	248.8	249.8	250.7	251.7	252.3
107.5°	308.8	309.0	309.3	309.6	309.9	310.1	310.2	310.4	310.5	310.6	311.3
110°	351.1	351.5	352.0	352.5	352.9	353.0	352.8	352.5	352.4	352.1	351.6



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	395.0	395.1	395.2	395.3	395.4	395.3	394.8	394.4	394.0	393.5	393.5
115°	461.0	461.0	461.0	461.0	461.0	460.8	460.3	459.8	459.3	458.9	458.7
117.5°	523.2	523.3	523.6	523.7	523.9	523.8	523.5	523.2	522.9	522.5	521.7
120°	564.6	565.6	566.5	567.4	568.3	568.5	567.8	567.1	566.4	565.7	564.5
122.5°	607.7	608.1	608.5	608.9	609.3	609.3	608.9	608.6	608.3	608.0	607.2
125°	671.4	671.4	671.4	671.4	671.4	671.3	671.1	670.8	670.6	670.3	669.8
127.5°	729.1	729.9	730.6	731.2	732.0	732.1	731.7	731.4	731.0	730.6	730.2
130°	769.7	770.5	771.2	771.8	772.6	772.9	772.9	772.9	772.9	772.9	772.4
132.5°	811.2	811.7	812.2	812.8	813.3	813.4	813.3	813.0	812.9	812.7	812.2
135°	865.9	867.4	868.8	870.2	871.6	872.3	872.3	872.3	872.3	872.3	871.9
137.5°	925.6	926.3	926.9	927.6	928.2	928.8	929.1	929.5	929.8	930.3	929.6
140°	965.4	965.8	966.3	966.8	967.3	967.4	967.4	967.4	967.4	967.4	967.3
142.5°	1001.8	1002.2	1002.7	1003.1	1003.6	1003.7	1003.6	1003.4	1003.2	1003.0	1003.0
145°	1052.1	1053.0	1053.9	1054.9	1055.8	1056.4	1056.6	1056.9	1057.1	1057.4	1057.1
147.5°	1102.0	1103.1	1104.2	1105.4	1106.4	1106.9	1106.8	1106.6	1106.4	1106.2	1106.0
150°	1132.5	1133.3	1134.3	1135.2	1136.2	1136.6	1136.6	1136.6	1136.6	1136.6	1136.6
152.5°	1161.1	1161.7	1162.3	1162.9	1163.4	1163.8	1164.0	1164.2	1164.4	1164.6	1165.1
155°	1205.3	1205.3	1205.3	1205.3	1205.3	1205.3	1205.0	1204.8	1204.5	1204.4	1205.3
157.5°	1242.6	1242.2	1241.8	1241.3	1240.9	1240.6	1240.6	1240.6	1240.6	1240.5	1241.2
160°	1264.6	1264.4	1264.1	1263.9	1263.6	1263.4	1263.1	1263.0	1262.7	1262.5	1263.1
162.5°	1284.9	1284.3	1283.7	1283.0	1282.5	1282.1	1281.8	1281.6	1281.3	1281.1	1282.4
165°	1312.1	1311.5	1310.8	1310.0	1309.4	1308.8	1308.3	1307.8	1307.3	1306.8	1308.3
167.5°	1333.1	1332.1	1331.1	1330.2	1329.2	1328.7	1328.8	1328.8	1328.9	1328.9	1330.3
170°	1344.9	1343.8	1342.6	1341.4	1340.3	1339.8	1340.0	1340.3	1340.5	1340.7	1342.1
172.5°	1353.4	1352.4	1351.4	1350.5	1349.5	1349.0	1349.1	1349.1	1349.2	1349.2	1350.8
175°	1365.1	1363.8	1362.7	1361.5	1360.3	1359.6	1359.4	1359.2	1358.9	1358.7	1360.3
177.5°	1368.8	1367.9	1366.9	1366.0	1365.1	1364.6	1364.6	1364.6	1364.6	1364.6	1366.0
180°	1367.2	1367.2	1367.2	1367.2	1367.2	1367.2	1367.2	1367.2	1367.2	1367.2	1367.2



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1624.7	1624.7	1624.7	1624.7	1624.7	1624.7	1624.7	1624.7
2.5°	1618.9	1621.3	1623.6	1624.6	1624.4	1624.2	1623.9	1623.7
5°	1610.3	1613.5	1616.7	1618.0	1617.4	1616.8	1616.2	1615.6
7.5°	1592.4	1594.9	1597.4	1598.6	1598.2	1597.8	1597.5	1597.2
10°	1577.3	1579.6	1581.9	1582.8	1582.3	1581.7	1581.0	1580.5
12.5°	1559.0	1561.5	1564.2	1565.0	1564.2	1563.3	1562.5	1561.7
15°	1524.0	1525.8	1527.5	1528.0	1527.1	1526.2	1525.3	1524.5
17.5°	1484.3	1485.4	1486.5	1486.7	1486.1	1485.6	1485.0	1484.4
20°	1454.7	1455.5	1456.4	1456.5	1456.0	1455.4	1454.8	1454.2
22.5°	1423.8	1425.3	1426.9	1427.1	1426.1	1425.1	1424.0	1422.9
25°	1372.8	1373.0	1373.4	1372.9	1371.7	1370.6	1369.5	1368.3
27.5°	1315.6	1314.9	1314.2	1313.1	1311.7	1310.3	1308.8	1307.3
30°	1276.1	1275.0	1273.8	1272.5	1271.1	1269.7	1268.2	1266.7
32.5°	1236.1	1234.7	1233.3	1231.9	1230.4	1229.0	1227.6	1226.1
35°	1172.9	1170.9	1168.8	1167.1	1165.6	1164.2	1162.7	1161.3
37.5°	1106.6	1104.4	1102.2	1100.2	1098.3	1096.3	1094.5	1092.5
40°	1060.5	1057.5	1054.7	1052.5	1051.1	1049.6	1048.1	1046.7
42.5°	1015.8	1012.4	1009.1	1006.9	1005.9	1004.9	1004.0	1003.0
45°	946.6	943.5	940.3	938.2	937.3	936.5	935.6	934.7
47.5°	879.7	876.1	872.5	869.6	867.4	865.2	863.0	860.8
50°	832.9	828.8	824.8	821.9	820.2	818.5	816.7	815.0
52.5°	784.9	781.3	777.7	774.9	772.7	770.5	768.3	766.1
55°	714.3	710.9	707.4	704.7	703.0	701.3	699.5	697.8
57.5°	643.6	640.3	637.0	634.5	632.8	631.1	629.4	627.8
60°	594.9	592.4	589.8	587.7	586.3	584.8	583.4	582.0
62.5°	547.5	545.1	542.7	540.9	539.4	537.9	536.5	535.1
65°	478.5	475.6	472.7	470.6	469.1	467.7	466.2	464.8
67.5°	407.4	404.6	401.9	400.2	399.8	399.4	399.0	398.6
70°	362.5	360.2	357.8	356.3	355.4	354.6	353.7	352.8
72.5°	317.6	315.8	313.9	312.5	311.7	310.8	309.9	309.1
75°	252.8	251.7	250.5	249.8	249.6	249.2	248.9	248.7
77.5°	191.4	191.1	190.8	190.2	189.5	188.7	187.9	187.2
80°	152.5	151.9	151.3	150.9	150.6	150.3	150.0	149.7
82.5°	117.5	117.2	116.8	116.5	116.2	115.9	115.6	115.4
85°	67.7	67.7	67.7	67.6	67.3	66.9	66.7	66.4
87.5°	30.2	30.5	30.7	31.0	31.1	31.1	31.2	31.3
90°	26.1	27.5	28.9	29.8	30.3	30.8	31.2	31.7
92.5°	43.5	44.4	45.2	45.8	46.1	46.4	46.6	47.0
95°	81.8	82.5	83.2	83.6	83.6	83.6	83.6	83.6
97.5°	128.8	129.6	130.4	130.9	130.9	130.9	130.9	130.9
100°	162.7	163.2	163.6	163.9	163.9	163.9	163.9	163.9
102.5°	198.6	199.3	199.9	200.3	200.6	200.7	200.9	201.1
105°	253.1	253.8	254.5	255.2	255.8	256.6	257.3	258.0
107.5°	311.9	312.6	313.3	313.6	313.6	313.5	313.5	313.4
110°	351.1	350.7	350.3	350.3	351.1	351.7	352.5	353.2



TEST NUMBER: P332858-930

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	393.4	393.3	393.1	393.2	393.3	393.5	393.6	393.8
115°	458.4	458.2	458.0	457.7	457.5	457.2	457.0	456.8
117.5°	521.0	520.2	519.3	518.7	518.2	517.8	517.3	516.8
120°	563.4	562.1	561.0	560.6	561.1	561.6	562.1	562.5
122.5°	606.3	605.6	604.8	604.0	603.1	602.3	601.4	600.5
125°	669.4	669.0	668.5	668.0	667.6	667.1	666.6	666.1
127.5°	729.7	729.2	728.7	728.3	728.0	727.6	727.2	726.8
130°	772.0	771.5	771.0	770.4	769.4	768.4	767.5	766.5
132.5°	811.7	811.3	810.8	810.4	810.0	809.6	809.3	808.9
135°	871.4	870.9	870.4	869.8	869.1	868.5	867.7	867.0
137.5°	929.0	928.5	927.8	927.6	927.7	927.9	928.0	928.1
140°	967.0	966.8	966.5	966.3	966.0	965.8	965.6	965.4
142.5°	1002.9	1002.9	1002.8	1002.7	1002.7	1002.7	1002.7	1002.6
145°	1056.9	1056.6	1056.4	1056.0	1055.2	1054.5	1053.9	1053.1
147.5°	1105.8	1105.6	1105.5	1105.2	1105.0	1104.7	1104.6	1104.3
150°	1136.6	1136.6	1136.6	1136.5	1136.3	1136.0	1135.8	1135.6
152.5°	1165.7	1166.3	1166.9	1166.8	1166.2	1165.6	1165.0	1164.3
155°	1206.2	1207.1	1208.1	1208.1	1207.1	1206.2	1205.3	1204.4
157.5°	1241.9	1242.6	1243.3	1243.2	1242.4	1241.6	1240.9	1240.1
160°	1263.9	1264.6	1265.3	1265.0	1263.9	1262.7	1261.5	1260.4
162.5°	1283.6	1284.9	1286.1	1286.2	1285.0	1283.9	1282.7	1281.5
165°	1309.7	1311.1	1312.6	1312.8	1311.8	1310.8	1309.9	1309.0
167.5°	1331.7	1333.1	1334.5	1334.5	1333.0	1331.5	1330.2	1328.7
170°	1343.5	1344.9	1346.4	1346.2	1344.6	1343.0	1341.3	1339.7
172.5°	1352.3	1354.0	1355.6	1355.5	1353.9	1352.3	1350.6	1349.0
175°	1362.0	1363.6	1365.3	1365.3	1363.6	1362.0	1360.3	1358.7
177.5°	1367.3	1368.6	1369.9	1369.8	1368.3	1366.8	1365.3	1363.8
180°	1367.2	1367.2	1367.2	1367.2	1367.2	1367.2	1367.2	1367.2

(END OF REPORT)