

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: P332857-927

Luminaire Tested: **S124DIW-S1195D1340U927-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332857-927
REPORT IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1807-864-6,
Test Lab: INNOVATION CENTER
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: NEO-RAY
Catalog Number: S124DIW-S1195D1340U927-4F0-1E-UDD-F
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 1195 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 1340 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8304.6 lumens
Efficiency: N/A
Efficacy: 109.0 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

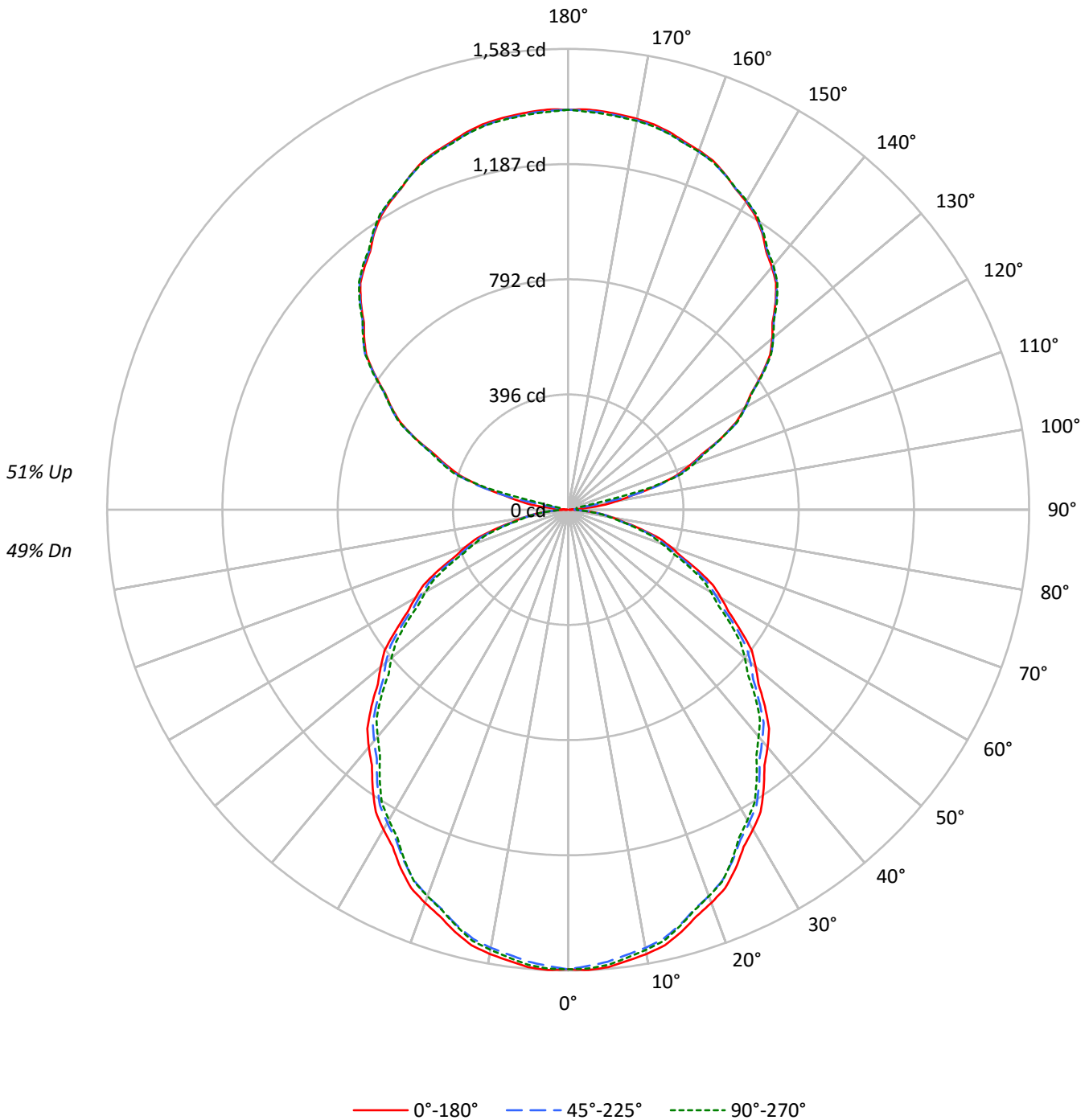
Input Watts (W): 76.2
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	50	30	10	50	30	10	0		
RCR																										
0	107	107	107	107	98	98	98	98	83	83	83	68	68	68	55	55	55	49					49			
1	97	93	89	86	90	86	83	80	72	70	68	60	58	57	49	47	46	41					41			
2	89	81	75	70	81	75	70	65	63	60	56	53	50	47	43	41	39	34					34			
3	81	71	64	58	74	66	60	55	56	51	47	47	43	40	38	35	33	29					29			
4	74	63	55	49	68	59	52	46	50	44	40	41	38	34	34	31	29	25					25			
5	68	56	48	42	62	52	45	40	44	39	35	37	33	30	30	27	25	22					22			
6	63	51	42	37	57	47	40	34	40	34	30	34	29	26	28	24	22	19					19			
7	58	46	38	32	53	42	35	30	36	31	27	31	26	23	25	22	20	17					17			
8	54	41	34	28	49	39	32	27	33	28	24	28	24	21	23	20	17	15					15			
9	50	38	30	25	46	35	28	24	30	25	21	26	22	18	21	18	16	14					14			
10	47	35	27	23	43	32	26	21	28	23	19	24	20	17	20	17	14	12					12			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	12745	12745	12745
5°	12783	12630	12721
10°	12703	12527	12588
15°	12549	12349	12380
20°	12345	12128	12138
25°	12113	11875	11843
30°	11828	11580	11473
35°	11532	11269	11121
40°	11225	10918	10718
45°	10904	10572	10369
50°	10550	10262	9946
55°	10166	9864	9543
60°	9783	9415	9131
65°	9352	8990	8627
70°	8868	8419	8091
75°	8125	7735	7536
80°	7234	6936	6760
85°	6326	6095	5974



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	148.7	1.8
10°-20°	418.9	5.0
20°-30°	616.5	7.4
30°-40°	716.7	8.6
40°-50°	716.8	8.6
50°-60°	627.0	7.5
60°-70°	465.6	5.6
70°-80°	264.5	3.2
80°-90°	80.3	1.0
90°-100°	47.0	0.6
100°-110°	299.6	3.6
110°-120°	573.1	6.9
120°-130°	727.5	8.8
130°-140°	778.4	9.4
140°-150°	727.9	8.8
150°-160°	587.0	7.1
160°-170°	378.6	4.6
170°-180°	130.5	1.6
0°-30°	1184.1	14.3
0°-40°	1900.8	22.9
0°-60°	3244.6	39.1
0°-90°	4055.1	48.8
90°-120°	919.7	11.1
90°-150°	3153.4	38.0
90°-180°	4250.0	51.2
0°-180°	8304.6	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1579	1579	1579	1579	1579	
5°	1577	1572	1558	1571	1570	150
15°	1502	1496	1478	1484	1481	423
25°	1360	1350	1333	1334	1330	625
35°	1170	1161	1144	1135	1128	731
45°	955	946	926	913	908	736
55°	722	718	701	686	678	647
65°	490	483	471	458	452	485
75°	260	254	248	243	242	277
85°	68	68	66	66	64	75
90°	3	14	23	29	31	6
95°	56	24	23	28	30	73
105°	309	315	321	327	293	324
115°	577	580	580	581	582	568
125°	812	816	814	817	818	724
135°	1007	1006	1010	1012	1014	776
145°	1161	1164	1164	1165	1167	725
155°	1273	1274	1271	1275	1272	587
165°	1343	1338	1338	1345	1337	379
175°	1374	1368	1369	1377	1366	131
180°	1374	1374	1374	1374	1374	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1578.7	1578.7	1578.7	1578.7	1578.7	1578.7	1578.7	1578.7	1578.7	1578.7	1578.7
2.5°	1582.7	1582.1	1581.4	1580.7	1580.0	1578.4	1576.0	1573.5	1571.1	1568.6	1570.8
5°	1577.4	1576.3	1575.2	1574.1	1573.0	1570.8	1567.7	1564.6	1561.5	1558.5	1561.5
7.5°	1562.7	1561.6	1560.5	1559.3	1558.2	1556.0	1552.5	1549.1	1545.7	1542.2	1544.8
10°	1549.6	1548.5	1547.4	1546.2	1545.1	1542.7	1539.1	1535.4	1531.8	1528.1	1530.3
12.5°	1532.4	1531.3	1530.1	1529.0	1527.9	1525.3	1521.5	1517.7	1513.8	1509.9	1512.4
15°	1501.5	1500.4	1499.3	1498.2	1497.0	1494.4	1490.1	1485.9	1481.7	1477.5	1479.2
17.5°	1464.3	1462.9	1461.5	1460.2	1458.7	1456.0	1452.0	1448.0	1444.1	1440.0	1441.1
20°	1437.0	1435.6	1434.2	1432.8	1431.4	1428.5	1424.3	1420.1	1415.9	1411.7	1412.5
22.5°	1407.6	1405.8	1404.0	1402.1	1400.3	1397.2	1393.0	1388.8	1384.6	1380.3	1381.9
25°	1359.9	1357.9	1355.9	1353.9	1351.9	1349.0	1345.0	1341.2	1337.2	1333.2	1333.6
27.5°	1305.2	1303.1	1301.2	1299.1	1297.1	1294.3	1290.6	1287.0	1283.3	1279.6	1279.0
30°	1268.8	1266.5	1264.2	1262.0	1259.8	1256.8	1253.2	1249.5	1245.9	1242.2	1241.1
32.5°	1230.3	1228.3	1226.3	1224.2	1222.2	1219.2	1215.4	1211.5	1207.6	1203.7	1202.4
35°	1170.1	1168.2	1166.2	1164.2	1162.2	1159.3	1155.3	1151.4	1147.5	1143.5	1141.5
37.5°	1106.6	1104.8	1103.0	1101.2	1099.4	1096.4	1092.2	1088.0	1083.7	1079.5	1077.4
40°	1065.1	1062.9	1060.6	1058.4	1056.1	1052.9	1048.7	1044.4	1040.2	1036.0	1033.2
42.5°	1020.6	1019.2	1017.9	1016.5	1015.2	1012.2	1007.5	1002.8	998.1	993.5	990.2
45°	955.1	953.1	951.1	949.1	947.2	944.0	939.4	934.9	930.4	926.0	922.9
47.5°	886.5	885.1	883.8	882.4	881.1	878.4	874.2	870.1	865.9	861.7	858.3
50°	840.0	838.8	837.7	836.5	835.4	832.9	828.9	825.1	821.1	817.1	813.3
52.5°	794.4	793.1	791.7	790.4	789.0	786.2	782.1	777.9	773.8	769.6	766.1
55°	722.3	721.4	720.6	719.8	718.9	716.5	712.6	708.7	704.7	700.8	697.4
57.5°	653.5	652.5	651.6	650.6	649.7	647.2	643.3	639.4	635.6	631.7	628.5
60°	605.9	604.5	603.1	601.7	600.3	597.8	594.1	590.5	586.8	583.1	580.6
62.5°	559.4	558.2	557.0	555.8	554.7	552.2	548.3	544.4	540.5	536.6	534.3
65°	489.6	488.1	486.7	485.3	483.9	481.8	479.0	476.2	473.4	470.6	467.8
67.5°	419.2	418.0	416.6	415.3	414.1	412.0	409.3	406.6	403.9	401.2	398.5
70°	375.7	373.8	371.8	369.8	367.8	365.8	363.5	361.2	358.9	356.7	354.5
72.5°	329.2	327.2	325.2	323.2	321.3	319.4	317.6	315.8	314.0	312.2	310.4
75°	260.5	259.2	257.8	256.4	254.9	253.6	252.2	250.7	249.4	248.0	246.8
77.5°	195.0	194.4	193.8	193.2	192.6	191.6	190.4	189.2	188.0	186.7	186.4
80°	155.6	154.7	153.9	153.0	152.3	151.5	151.0	150.4	149.8	149.2	148.7
82.5°	117.2	116.8	116.4	116.0	115.6	115.3	115.2	115.1	114.9	114.9	114.5
85°	68.3	68.3	68.3	68.3	68.3	68.0	67.5	66.9	66.3	65.8	65.8
87.5°	26.9	27.2	27.5	27.7	28.0	28.3	28.4	28.5	28.7	28.8	29.1
90°	3.1	5.6	8.1	10.6	13.2	15.3	17.1	18.9	20.8	22.6	24.0
92.5°	12.9	13.1	13.2	13.4	13.5	14.5	16.3	18.1	20.0	21.8	23.1
95°	56.5	48.7	41.0	33.2	25.4	21.7	21.9	22.2	22.3	22.6	24.0
97.5°	120.0	124.8	129.7	134.5	139.3	129.0	103.5	78.1	52.6	27.1	27.3
100°	168.5	172.6	176.7	180.9	185.0	171.3	139.7	108.2	76.7	45.2	41.4
102.5°	222.8	225.8	228.8	231.8	234.8	234.2	230.1	226.1	222.0	217.9	175.9
105°	309.3	310.6	312.0	313.4	314.7	316.0	317.2	318.3	319.4	320.6	322.7
107.5°	389.6	390.3	391.0	391.7	392.4	393.5	395.1	396.6	398.2	399.7	400.7
110°	443.9	444.6	445.3	445.9	446.6	447.7	449.0	450.4	451.8	453.1	453.6



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	496.5	497.7	499.0	500.2	501.5	502.3	503.0	503.7	504.3	504.9	504.9
115°	577.4	578.1	578.8	579.5	580.2	580.4	580.2	580.0	579.7	579.5	580.0
117.5°	650.4	651.3	652.2	653.2	654.0	654.7	655.3	655.8	656.2	656.8	656.7
120°	699.7	700.6	701.6	702.5	703.4	703.7	703.5	703.3	703.1	702.8	703.3
122.5°	745.8	746.3	746.9	747.4	748.0	748.4	748.7	749.0	749.3	749.6	750.0
125°	811.7	812.6	813.6	814.4	815.4	815.6	815.2	814.7	814.2	813.8	814.4
127.5°	874.2	874.4	874.6	874.9	875.1	875.8	876.8	877.8	878.9	880.0	879.8
130°	914.5	914.7	915.0	915.1	915.4	915.8	916.6	917.2	917.9	918.6	918.9
132.5°	951.5	951.9	952.3	952.7	953.1	953.8	954.7	955.5	956.3	957.2	957.4
135°	1006.9	1006.7	1006.5	1006.3	1006.1	1006.4	1007.3	1008.2	1009.2	1010.0	1010.5
137.5°	1056.1	1056.1	1056.2	1056.4	1056.5	1057.0	1058.0	1059.0	1060.0	1061.0	1061.5
140°	1088.1	1088.6	1089.0	1089.5	1090.0	1090.4	1090.8	1091.3	1091.8	1092.3	1092.9
142.5°	1116.9	1117.7	1118.6	1119.4	1120.2	1120.7	1121.0	1121.3	1121.6	1121.8	1122.4
145°	1161.1	1161.7	1162.4	1163.2	1163.8	1164.2	1164.2	1164.2	1164.2	1164.2	1164.4
147.5°	1196.2	1197.5	1198.8	1200.1	1201.3	1201.9	1201.7	1201.4	1201.2	1200.9	1201.1
150°	1221.7	1222.7	1223.5	1224.5	1225.3	1225.7	1225.5	1225.3	1225.0	1224.8	1224.8
152.5°	1243.1	1243.8	1244.5	1245.2	1246.0	1246.2	1245.8	1245.3	1244.9	1244.5	1244.9
155°	1273.1	1273.3	1273.5	1273.7	1274.0	1273.7	1273.1	1272.4	1271.7	1271.1	1271.9
157.5°	1298.4	1298.2	1298.1	1297.9	1297.8	1297.4	1296.6	1295.8	1295.1	1294.3	1295.5
160°	1313.1	1312.5	1311.8	1311.1	1310.4	1310.0	1309.7	1309.5	1309.2	1309.1	1310.4
162.5°	1326.3	1325.4	1324.6	1323.7	1322.9	1322.3	1322.1	1321.8	1321.6	1321.4	1322.7
165°	1343.0	1341.8	1340.7	1339.5	1338.4	1337.8	1337.8	1337.8	1337.8	1337.8	1339.7
167.5°	1356.1	1354.9	1353.8	1352.6	1351.4	1350.7	1350.6	1350.4	1350.3	1350.1	1352.2
170°	1363.5	1362.2	1360.7	1359.4	1358.0	1357.5	1357.6	1357.9	1358.1	1358.4	1360.2
172.5°	1368.4	1367.1	1365.7	1364.3	1362.9	1362.4	1362.6	1362.9	1363.0	1363.3	1365.1
175°	1373.8	1372.4	1371.0	1369.7	1368.3	1367.7	1367.9	1368.2	1368.4	1368.7	1370.7
177.5°	1376.3	1375.0	1373.6	1372.4	1371.1	1370.6	1371.0	1371.4	1371.7	1372.1	1373.6
180°	1373.8	1373.8	1373.8	1373.8	1373.8	1373.8	1373.8	1373.8	1373.8	1373.8	1373.8



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1578.7	1578.7	1578.7	1578.7	1578.7	1578.7	1578.7	1578.7
2.5°	1573.0	1575.3	1577.6	1578.6	1578.3	1578.1	1577.9	1577.6
5°	1564.6	1567.7	1570.8	1572.1	1571.5	1571.0	1570.4	1569.8
7.5°	1547.2	1549.7	1552.1	1553.2	1552.9	1552.5	1552.2	1551.9
10°	1532.6	1534.9	1537.1	1537.9	1537.4	1536.8	1536.2	1535.6
12.5°	1514.8	1517.3	1519.8	1520.6	1519.8	1519.0	1518.2	1517.4
15°	1480.8	1482.6	1484.2	1484.6	1483.8	1483.0	1482.1	1481.3
17.5°	1442.2	1443.3	1444.3	1444.5	1444.0	1443.4	1442.9	1442.3
20°	1413.4	1414.2	1415.1	1415.2	1414.7	1414.1	1413.6	1412.9
22.5°	1383.4	1384.9	1386.4	1386.6	1385.7	1384.7	1383.6	1382.6
25°	1333.9	1334.1	1334.4	1334.0	1332.8	1331.7	1330.6	1329.5
27.5°	1278.3	1277.6	1276.9	1275.9	1274.5	1273.1	1271.7	1270.3
30°	1239.9	1238.8	1237.7	1236.4	1235.0	1233.7	1232.2	1230.8
32.5°	1201.0	1199.7	1198.3	1197.0	1195.6	1194.1	1192.8	1191.4
35°	1139.6	1137.7	1135.7	1134.0	1132.6	1131.2	1129.7	1128.4
37.5°	1075.2	1073.1	1071.0	1069.0	1067.1	1065.2	1063.4	1061.5
40°	1030.4	1027.5	1024.8	1022.6	1021.3	1019.9	1018.4	1017.0
42.5°	987.0	983.7	980.5	978.3	977.4	976.4	975.5	974.5
45°	919.8	916.7	913.6	911.6	910.8	909.9	909.1	908.2
47.5°	854.8	851.3	847.8	844.9	842.8	840.7	838.5	836.4
50°	809.3	805.3	801.5	798.6	796.9	795.3	793.5	791.9
52.5°	762.6	759.1	755.7	752.9	750.8	748.6	746.5	744.3
55°	694.0	690.7	687.3	684.8	683.1	681.4	679.7	678.0
57.5°	625.3	622.1	618.9	616.5	614.9	613.2	611.6	610.0
60°	578.1	575.6	573.1	571.1	569.7	568.2	566.9	565.5
62.5°	532.0	529.7	527.4	525.5	524.1	522.7	521.3	519.9
65°	464.9	462.2	459.3	457.2	455.8	454.4	453.0	451.6
67.5°	395.9	393.2	390.5	388.9	388.5	388.1	387.7	387.3
70°	352.2	350.0	347.7	346.2	345.3	344.5	343.6	342.8
72.5°	308.6	306.8	305.0	303.6	302.9	302.0	301.1	300.3
75°	245.7	244.5	243.4	242.7	242.5	242.2	241.9	241.6
77.5°	186.0	185.7	185.4	184.8	184.1	183.4	182.6	181.9
80°	148.1	147.6	147.0	146.6	146.3	146.0	145.8	145.4
82.5°	114.2	113.8	113.5	113.2	112.9	112.6	112.3	112.1
85°	65.8	65.8	65.8	65.7	65.4	65.0	64.8	64.5
87.5°	29.4	29.6	29.9	30.1	30.2	30.3	30.3	30.4
90°	25.3	26.7	28.1	29.0	29.5	29.9	30.3	30.8
92.5°	24.6	25.9	27.3	28.0	28.1	28.2	28.3	28.4
95°	25.3	26.7	28.1	28.9	29.1	29.3	29.5	29.8
97.5°	27.4	27.6	27.6	27.9	28.1	28.3	28.5	28.8
100°	37.5	33.6	29.7	27.9	28.1	28.3	28.5	28.8
102.5°	134.1	92.2	50.3	29.4	29.5	29.5	29.5	29.6
105°	324.7	326.8	328.8	325.7	317.5	309.3	301.0	292.9
107.5°	401.7	402.7	403.7	404.6	405.5	406.4	407.3	408.1
110°	454.1	454.5	455.0	455.5	456.2	456.9	457.6	458.3



TEST NUMBER: P332857-927

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	504.7	504.6	504.5	504.9	505.8	506.7	507.6	508.4
115°	580.4	580.9	581.3	581.5	581.5	581.5	581.5	581.5
117.5°	656.6	656.5	656.4	656.3	656.2	656.2	656.1	655.9
120°	703.7	704.2	704.6	704.6	704.2	703.7	703.3	702.8
122.5°	750.2	750.5	750.8	750.7	750.2	749.7	749.3	748.8
125°	815.2	815.9	816.5	817.0	817.2	817.5	817.7	817.9
127.5°	879.7	879.6	879.4	879.2	879.1	878.8	878.7	878.5
130°	919.0	919.2	919.5	919.6	919.6	919.6	919.6	919.6
132.5°	957.7	957.9	958.1	958.1	958.0	957.8	957.6	957.4
135°	1011.0	1011.4	1011.9	1012.3	1012.8	1013.2	1013.7	1014.2
137.5°	1062.0	1062.5	1063.0	1063.2	1063.0	1063.0	1062.8	1062.6
140°	1093.6	1094.3	1095.0	1095.4	1095.7	1095.9	1096.1	1096.4
142.5°	1122.8	1123.3	1123.9	1124.1	1124.2	1124.2	1124.3	1124.3
145°	1164.6	1164.8	1165.1	1165.5	1165.9	1166.3	1166.8	1167.3
147.5°	1201.3	1201.5	1201.7	1201.9	1202.1	1202.4	1202.5	1202.8
150°	1224.8	1224.8	1224.8	1224.9	1225.1	1225.3	1225.6	1225.8
152.5°	1245.2	1245.6	1245.9	1246.1	1245.9	1245.8	1245.7	1245.5
155°	1272.9	1273.7	1274.7	1274.8	1274.1	1273.4	1272.7	1272.1
157.5°	1296.6	1297.8	1299.0	1299.0	1297.8	1296.6	1295.5	1294.3
160°	1311.8	1313.1	1314.5	1314.5	1313.1	1311.8	1310.4	1309.1
162.5°	1324.1	1325.5	1326.8	1326.7	1325.2	1323.7	1322.1	1320.6
165°	1341.5	1343.3	1345.1	1345.0	1343.0	1340.9	1338.9	1336.8
167.5°	1354.2	1356.1	1358.2	1358.0	1355.7	1353.4	1351.2	1348.9
170°	1362.0	1363.8	1365.6	1365.4	1363.2	1360.9	1358.6	1356.3
172.5°	1366.9	1368.8	1370.6	1370.3	1367.8	1365.3	1362.9	1360.4
175°	1372.8	1374.8	1376.9	1376.5	1373.8	1371.0	1368.3	1365.6
177.5°	1375.1	1376.5	1378.0	1377.6	1375.4	1373.2	1371.0	1368.8
180°	1373.8	1373.8	1373.8	1373.8	1373.8	1373.8	1373.8	1373.8

(END OF REPORT)