

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: P332803-840

Luminaire Tested: **S124DIW-S795D1560U840-4F0-1E-UDD-F**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P332803-840
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-S795D1560U840-4F0-1E-UDD-F
Description: DEFINE 4 DIRECT-INDIRECT WALL MOUNT LED LUMINAIRE
DOWNLIGHT 795 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
UPLIGHT 1560 LUMENS PER FOOT, NO LENS
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9744.4 lumens
Efficiency: N/A
Efficacy: 143.1 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: Semi-Indirect

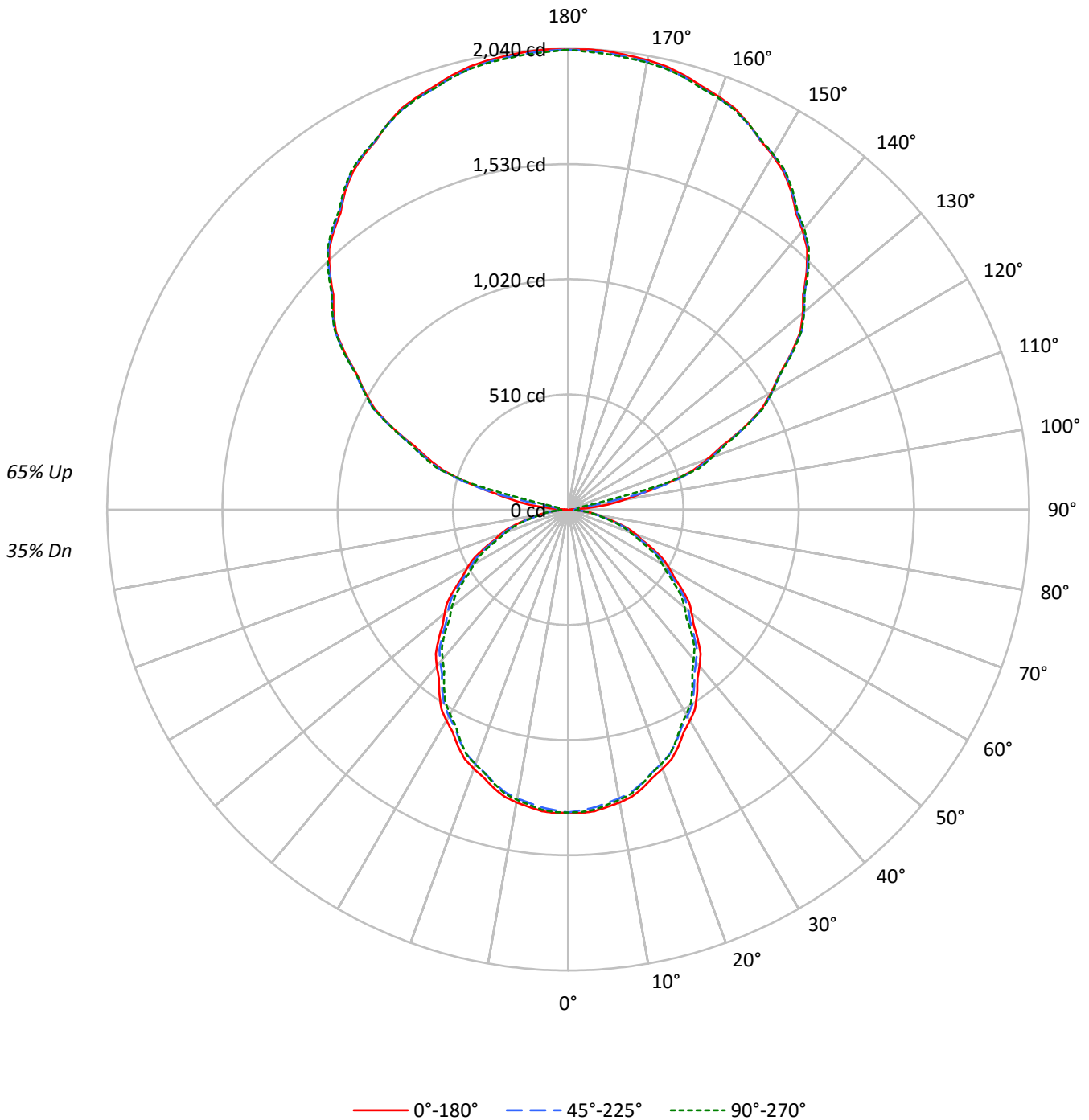
Input Watts (W): 68.1
Input Voltage (V): 120
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	104	104	104	104	94	94	94	94	75	75	75	58	58	58	43	43	43	35
1	94	90	86	83	85	82	78	76	66	64	62	51	50	48	38	37	36	30
2	86	79	73	68	77	71	66	62	58	54	51	45	42	40	33	32	30	25
3	78	69	62	56	71	63	57	52	51	46	43	40	37	34	29	27	26	21
4	72	61	53	48	65	56	49	44	45	40	36	35	32	29	26	24	22	18
5	66	54	46	41	59	49	43	37	40	35	31	32	28	25	24	21	19	16
6	60	49	41	35	54	44	37	32	36	31	27	29	25	22	21	19	17	14
7	56	44	36	31	50	40	33	28	33	28	24	26	22	19	19	17	15	12
8	52	40	32	27	47	36	30	25	30	25	21	24	20	17	18	15	13	11
9	48	36	29	24	43	33	27	22	27	22	19	22	18	15	16	14	12	10
10	45	33	26	21	41	30	24	20	25	20	17	20	16	14	15	13	11	9

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	10823	10823	10823
5°	10855	10724	10802
10°	10787	10637	10690
15°	10657	10486	10513
20°	10483	10299	10308
25°	10286	10085	10056
30°	10043	9833	9743
35°	9792	9570	9443
40°	9531	9271	9101
45°	9259	8977	8805
50°	8959	8715	8446
55°	8633	8376	8103
60°	8307	7995	7753
65°	7941	7633	7324
70°	7530	7152	6871
75°	6903	6569	6400
80°	6141	5890	5742
85°	5372	5169	5067



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	126.2	1.3
10°-20°	355.7	3.7
20°-30°	523.5	5.4
30°-40°	608.6	6.2
40°-50°	608.7	6.2
50°-60°	532.4	5.5
60°-70°	395.4	4.1
70°-80°	224.6	2.3
80°-90°	70.7	0.7
90°-100°	69.6	0.7
100°-110°	444.0	4.6
110°-120°	849.4	8.7
120°-130°	1078.3	11.1
130°-140°	1153.7	11.8
140°-150°	1078.8	11.1
150°-160°	870.0	8.9
160°-170°	561.1	5.8
170°-180°	193.4	2.0
0°-30°	1005.5	10.3
0°-40°	1614.1	16.6
0°-60°	2755.2	28.3
0°-90°	3445.9	35.4
90°-120°	1363.1	14.0
90°-150°	4673.9	48.0
90°-180°	6298.0	64.6
0°-180°	9744.4	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1341	1341	1341	1341	1341	
5°	1340	1335	1323	1334	1333	127
15°	1275	1270	1255	1260	1258	359
25°	1155	1147	1132	1133	1129	531
35°	994	986	971	964	958	621
45°	811	803	786	775	771	625
55°	613	609	595	583	576	549
65°	416	410	400	389	383	411
75°	221	216	211	206	205	235
85°	58	58	56	56	55	64
90°	4	21	34	42	46	7
95°	84	35	34	42	44	108
105°	458	468	475	485	434	480
115°	856	860	859	862	862	842
125°	1203	1209	1206	1211	1212	1074
135°	1492	1491	1497	1500	1503	1149
145°	1721	1725	1726	1727	1730	1075
155°	1887	1888	1884	1889	1885	870
165°	1990	1983	1983	1994	1981	562
175°	2036	2028	2028	2040	2024	194
180°	2036	2036	2036	2036	2036	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	1340.6	1340.6	1340.6	1340.6	1340.6	1340.6	1340.6	1340.6	1340.6	1340.6	1340.6
2.5°	1344.0	1343.4	1342.8	1342.3	1341.7	1340.4	1338.3	1336.2	1334.0	1332.0	1333.8
5°	1339.5	1338.6	1337.6	1336.7	1335.6	1333.8	1331.2	1328.6	1326.0	1323.3	1326.0
7.5°	1327.1	1326.1	1325.1	1324.1	1323.2	1321.3	1318.4	1315.5	1312.5	1309.6	1311.7
10°	1315.9	1314.9	1313.9	1313.0	1312.0	1310.0	1306.9	1303.8	1300.7	1297.6	1299.5
12.5°	1301.2	1300.3	1299.3	1298.4	1297.5	1295.3	1292.0	1288.7	1285.5	1282.1	1284.2
15°	1275.1	1274.0	1273.1	1272.1	1271.2	1269.0	1265.4	1261.8	1258.2	1254.7	1256.1
17.5°	1243.4	1242.2	1241.0	1239.9	1238.7	1236.4	1233.0	1229.6	1226.2	1222.8	1223.8
20°	1220.2	1219.0	1217.9	1216.7	1215.5	1213.0	1209.5	1205.9	1202.3	1198.8	1199.5
22.5°	1195.4	1193.8	1192.1	1190.6	1189.0	1186.5	1182.9	1179.3	1175.7	1172.2	1173.5
25°	1154.7	1153.1	1151.3	1149.7	1148.0	1145.5	1142.2	1138.8	1135.5	1132.2	1132.4
27.5°	1108.3	1106.6	1104.9	1103.2	1101.5	1099.0	1095.9	1092.9	1089.7	1086.6	1086.0
30°	1077.4	1075.5	1073.6	1071.7	1069.8	1067.2	1064.1	1061.1	1057.9	1054.8	1053.9
32.5°	1044.7	1043.0	1041.3	1039.6	1037.8	1035.3	1032.1	1028.7	1025.5	1022.2	1021.1
35°	993.6	991.9	990.3	988.6	986.9	984.4	981.1	977.8	974.4	971.1	969.4
37.5°	939.7	938.2	936.6	935.1	933.5	931.0	927.5	923.8	920.3	916.7	914.8
40°	904.4	902.5	900.6	898.7	896.8	894.0	890.5	886.9	883.3	879.7	877.4
42.5°	866.7	865.5	864.3	863.2	862.0	859.5	855.6	851.6	847.6	843.6	840.9
45°	811.0	809.3	807.7	806.0	804.4	801.5	797.8	794.0	790.1	786.3	783.7
47.5°	752.8	751.6	750.5	749.3	748.2	745.9	742.4	738.8	735.3	731.7	728.7
50°	713.3	712.3	711.3	710.3	709.4	707.3	704.0	700.6	697.2	693.9	690.5
52.5°	674.6	673.5	672.3	671.2	669.9	667.6	664.1	660.6	657.0	653.5	650.6
55°	613.4	612.6	611.9	611.2	610.5	608.4	605.1	601.8	598.4	595.1	592.2
57.5°	554.9	554.1	553.3	552.5	551.7	549.6	546.3	543.0	539.8	536.4	533.7
60°	514.5	513.3	512.1	511.0	509.8	507.6	504.5	501.4	498.3	495.2	493.0
62.5°	475.0	474.0	473.0	472.0	471.0	468.9	465.5	462.2	459.0	455.7	453.7
65°	415.7	414.5	413.3	412.1	410.9	409.1	406.8	404.3	401.9	399.6	397.2
67.5°	356.0	354.9	353.8	352.6	351.6	349.9	347.6	345.3	343.1	340.7	338.4
70°	319.0	317.4	315.7	314.0	312.4	310.5	308.6	306.7	304.8	303.0	301.0
72.5°	279.5	277.8	276.2	274.5	272.8	271.2	269.7	268.1	266.6	265.1	263.6
75°	221.3	220.0	218.9	217.7	216.5	215.3	214.1	212.9	211.8	210.6	209.5
77.5°	165.6	165.1	164.6	164.1	163.5	162.8	161.7	160.7	159.6	158.5	158.2
80°	132.1	131.4	130.7	130.0	129.3	128.7	128.2	127.7	127.2	126.7	126.2
82.5°	99.5	99.2	98.8	98.5	98.2	98.0	97.9	97.8	97.7	97.6	97.3
85°	58.0	58.0	58.0	58.0	58.0	57.8	57.3	56.9	56.4	55.8	55.8
87.5°	23.2	23.8	24.3	24.9	25.4	26.0	26.3	26.7	27.0	27.4	27.8
90°	4.5	8.3	12.0	15.8	19.5	22.7	25.3	28.1	30.8	33.5	35.5
92.5°	19.2	19.4	19.6	19.8	20.0	21.4	24.1	26.9	29.6	32.3	34.3
95°	83.7	72.2	60.8	49.3	37.8	32.1	32.5	32.8	33.1	33.5	35.5
97.5°	177.8	185.0	192.2	199.4	206.6	191.3	153.5	115.7	78.0	40.2	40.4
100°	249.7	255.9	262.0	268.0	274.1	253.8	207.1	160.4	113.7	67.1	61.3
102.5°	330.1	334.7	339.1	343.6	348.0	347.2	341.1	335.1	328.9	322.9	260.7
105°	458.4	460.4	462.4	464.5	466.6	468.4	470.1	471.8	473.4	475.1	478.2
107.5°	577.4	578.6	579.6	580.6	581.6	583.2	585.5	587.8	590.1	592.4	593.9
110°	657.9	658.9	659.9	661.0	662.0	663.5	665.5	667.5	669.5	671.6	672.3



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	735.9	737.7	739.5	741.3	743.2	744.6	745.5	746.5	747.4	748.4	748.2
115°	855.9	856.9	857.9	858.9	859.9	860.3	859.9	859.6	859.3	858.9	859.6
117.5°	964.0	965.3	966.7	968.1	969.5	970.5	971.2	972.0	972.7	973.4	973.3
120°	1037.1	1038.4	1039.9	1041.2	1042.5	1043.0	1042.7	1042.4	1042.0	1041.7	1042.4
122.5°	1105.3	1106.1	1106.9	1107.7	1108.6	1109.2	1109.7	1110.1	1110.6	1111.2	1111.6
125°	1203.2	1204.5	1205.8	1207.2	1208.5	1208.8	1208.2	1207.5	1206.8	1206.2	1207.2
127.5°	1295.7	1296.1	1296.4	1296.7	1297.1	1298.0	1299.6	1301.1	1302.6	1304.2	1304.0
130°	1355.4	1355.7	1356.0	1356.5	1356.8	1357.5	1358.5	1359.5	1360.5	1361.5	1361.8
132.5°	1410.2	1410.8	1411.5	1412.1	1412.7	1413.6	1414.9	1416.1	1417.4	1418.8	1419.1
135°	1492.5	1492.1	1491.8	1491.5	1491.1	1491.6	1493.0	1494.3	1495.7	1497.0	1497.7
137.5°	1565.3	1565.4	1565.5	1565.7	1565.8	1566.6	1568.1	1569.6	1571.0	1572.6	1573.3
140°	1612.8	1613.5	1614.2	1614.8	1615.5	1616.2	1616.8	1617.5	1618.2	1618.8	1619.9
142.5°	1655.4	1656.6	1657.9	1659.1	1660.3	1661.1	1661.5	1661.9	1662.3	1662.7	1663.4
145°	1720.9	1721.9	1722.9	1723.9	1725.0	1725.5	1725.5	1725.5	1725.5	1725.5	1725.8
147.5°	1773.0	1774.8	1776.8	1778.7	1780.6	1781.3	1781.0	1780.7	1780.3	1780.0	1780.3
150°	1810.8	1812.1	1813.4	1814.8	1816.1	1816.6	1816.3	1816.0	1815.6	1815.3	1815.3
152.5°	1842.4	1843.5	1844.6	1845.6	1846.7	1847.0	1846.3	1845.7	1845.1	1844.5	1845.1
155°	1886.9	1887.2	1887.5	1887.9	1888.2	1887.9	1886.9	1885.9	1884.9	1883.8	1885.2
157.5°	1924.4	1924.2	1924.0	1923.8	1923.6	1922.9	1921.7	1920.6	1919.5	1918.2	1920.1
160°	1946.3	1945.3	1944.3	1943.3	1942.3	1941.6	1941.2	1940.9	1940.6	1940.2	1942.3
162.5°	1965.8	1964.5	1963.2	1962.0	1960.7	1959.8	1959.4	1959.1	1958.8	1958.4	1960.5
165°	1990.4	1988.7	1987.1	1985.4	1983.7	1982.9	1982.9	1982.9	1982.9	1982.9	1985.5
167.5°	2009.9	2008.2	2006.4	2004.7	2002.9	2002.0	2001.8	2001.6	2001.4	2001.1	2004.1
170°	2020.9	2018.9	2016.8	2014.8	2012.8	2012.0	2012.3	2012.7	2013.0	2013.3	2016.0
172.5°	2028.2	2026.2	2024.2	2022.2	2020.1	2019.2	2019.6	2019.9	2020.2	2020.6	2023.3
175°	2036.1	2034.1	2032.1	2030.0	2028.0	2027.2	2027.5	2027.8	2028.2	2028.5	2031.5
177.5°	2039.8	2037.9	2036.0	2034.1	2032.3	2031.5	2032.1	2032.7	2033.2	2033.7	2035.9
180°	2036.1	2036.1	2036.1	2036.1	2036.1	2036.1	2036.1	2036.1	2036.1	2036.1	2036.1



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1340.6	1340.6	1340.6	1340.6	1340.6	1340.6	1340.6	1340.6
2.5°	1335.7	1337.7	1339.6	1340.5	1340.3	1340.1	1339.9	1339.7
5°	1328.6	1331.2	1333.8	1334.9	1334.4	1334.0	1333.5	1333.0
7.5°	1313.8	1316.0	1318.0	1318.9	1318.7	1318.4	1318.1	1317.8
10°	1301.4	1303.3	1305.3	1306.0	1305.5	1304.9	1304.5	1304.0
12.5°	1286.4	1288.4	1290.5	1291.2	1290.6	1289.9	1289.2	1288.6
15°	1257.5	1258.9	1260.3	1260.7	1260.0	1259.3	1258.6	1257.9
17.5°	1224.7	1225.6	1226.5	1226.7	1226.2	1225.7	1225.3	1224.8
20°	1200.2	1200.9	1201.6	1201.7	1201.2	1200.8	1200.3	1199.8
22.5°	1174.7	1176.0	1177.3	1177.5	1176.6	1175.8	1174.9	1174.1
25°	1132.7	1132.9	1133.2	1132.8	1131.9	1130.8	1129.9	1128.9
27.5°	1085.5	1084.9	1084.3	1083.5	1082.3	1081.1	1079.8	1078.6
30°	1052.9	1052.0	1051.0	1050.0	1048.7	1047.5	1046.3	1045.2
32.5°	1019.9	1018.8	1017.6	1016.4	1015.2	1014.0	1012.8	1011.7
35°	967.8	966.0	964.3	962.9	961.7	960.6	959.4	958.2
37.5°	913.0	911.2	909.5	907.8	906.2	904.6	903.0	901.4
40°	874.9	872.6	870.2	868.4	867.2	866.1	864.8	863.6
42.5°	838.1	835.4	832.5	830.8	830.0	829.2	828.4	827.6
45°	781.0	778.4	775.8	774.2	773.4	772.6	771.9	771.2
47.5°	725.8	722.9	719.8	717.5	715.7	713.9	712.1	710.2
50°	687.2	683.9	680.5	678.1	676.7	675.3	673.9	672.5
52.5°	647.6	644.6	641.7	639.3	637.5	635.7	633.9	632.1
55°	589.4	586.5	583.6	581.5	580.1	578.7	577.1	575.7
57.5°	531.0	528.3	525.5	523.5	522.1	520.7	519.4	518.0
60°	490.9	488.8	486.6	484.9	483.7	482.5	481.3	480.2
62.5°	451.7	449.8	447.9	446.3	445.0	443.8	442.7	441.5
65°	394.9	392.4	390.0	388.3	387.1	385.9	384.7	383.4
67.5°	336.2	333.9	331.5	330.2	329.9	329.6	329.2	328.9
70°	299.1	297.2	295.3	294.0	293.3	292.6	291.9	291.1
72.5°	262.1	260.5	259.0	257.9	257.1	256.4	255.7	255.0
75°	208.6	207.6	206.7	206.1	205.9	205.6	205.4	205.2
77.5°	157.9	157.6	157.4	156.9	156.3	155.7	155.1	154.5
80°	125.8	125.3	124.8	124.5	124.2	124.0	123.8	123.5
82.5°	96.9	96.6	96.3	96.1	95.9	95.6	95.4	95.1
85°	55.8	55.8	55.8	55.7	55.5	55.2	55.0	54.7
87.5°	28.2	28.6	29.0	29.2	29.4	29.5	29.6	29.8
90°	37.6	39.6	41.6	43.0	43.6	44.3	45.0	45.6
92.5°	36.4	38.4	40.4	41.5	41.6	41.8	41.9	42.0
95°	37.6	39.6	41.6	42.8	43.1	43.5	43.8	44.1
97.5°	40.6	40.8	41.0	41.3	41.6	42.0	42.3	42.6
100°	55.5	49.8	44.0	41.3	41.6	42.0	42.3	42.6
102.5°	198.7	136.6	74.6	43.6	43.6	43.7	43.8	43.8
105°	481.2	484.3	487.4	482.7	470.6	458.4	446.3	434.0
107.5°	595.4	596.9	598.3	599.8	601.1	602.3	603.6	604.9
110°	673.0	673.7	674.3	675.2	676.2	677.2	678.2	679.2



TEST NUMBER: P332803-840

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	748.1	747.9	747.8	748.4	749.7	750.9	752.2	753.6
115°	860.3	860.9	861.6	862.0	862.0	862.0	862.0	862.0
117.5°	973.2	973.0	972.9	972.8	972.6	972.5	972.4	972.2
120°	1043.0	1043.7	1044.4	1044.4	1043.7	1043.0	1042.4	1041.7
122.5°	1112.0	1112.4	1112.8	1112.6	1112.0	1111.3	1110.5	1109.9
125°	1208.2	1209.2	1210.2	1210.9	1211.2	1211.5	1211.9	1212.2
127.5°	1303.8	1303.6	1303.4	1303.1	1302.9	1302.6	1302.3	1302.1
130°	1362.2	1362.5	1362.8	1363.0	1363.0	1363.0	1363.0	1363.0
132.5°	1419.5	1419.8	1420.1	1420.2	1419.9	1419.6	1419.4	1419.1
135°	1498.3	1499.0	1499.8	1500.5	1501.1	1501.8	1502.5	1503.1
137.5°	1574.1	1574.8	1575.6	1575.8	1575.6	1575.4	1575.2	1575.0
140°	1620.9	1621.9	1623.0	1623.6	1624.0	1624.3	1624.6	1625.0
142.5°	1664.3	1665.0	1665.7	1666.1	1666.2	1666.3	1666.3	1666.4
145°	1726.2	1726.5	1726.8	1727.4	1728.0	1728.7	1729.4	1730.0
147.5°	1780.5	1780.8	1781.1	1781.4	1781.7	1782.0	1782.4	1782.7
150°	1815.3	1815.3	1815.3	1815.5	1815.8	1816.1	1816.5	1816.8
152.5°	1845.6	1846.1	1846.7	1846.8	1846.6	1846.4	1846.2	1846.0
155°	1886.5	1887.9	1889.3	1889.5	1888.4	1887.4	1886.4	1885.4
157.5°	1921.8	1923.6	1925.3	1925.3	1923.6	1921.8	1920.1	1918.2
160°	1944.3	1946.3	1948.3	1948.3	1946.3	1944.3	1942.3	1940.2
162.5°	1962.6	1964.6	1966.6	1966.4	1964.2	1961.9	1959.5	1957.2
165°	1988.2	1990.9	1993.7	1993.5	1990.4	1987.4	1984.4	1981.4
167.5°	2007.1	2010.0	2013.1	2012.9	2009.4	2006.1	2002.7	1999.3
170°	2018.7	2021.4	2024.2	2023.8	2020.4	2017.0	2013.7	2010.2
172.5°	2026.0	2028.7	2031.4	2030.9	2027.3	2023.7	2020.0	2016.3
175°	2034.6	2037.7	2040.7	2040.2	2036.1	2032.1	2028.0	2024.0
177.5°	2038.0	2040.2	2042.4	2041.8	2038.6	2035.3	2032.1	2028.8
180°	2036.1	2036.1	2036.1	2036.1	2036.1	2036.1	2036.1	2036.1

(END OF REPORT)