

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: P333007-840

Luminaire Tested: **S124RDIP-S1195D1035U840-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P333007-840
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: S124RDIP-S1195D1035U840-4F0-1E-UDD-F1
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1195 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 1035 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8485.7 lumens
Efficiency: N/A
Efficacy: 127.0 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

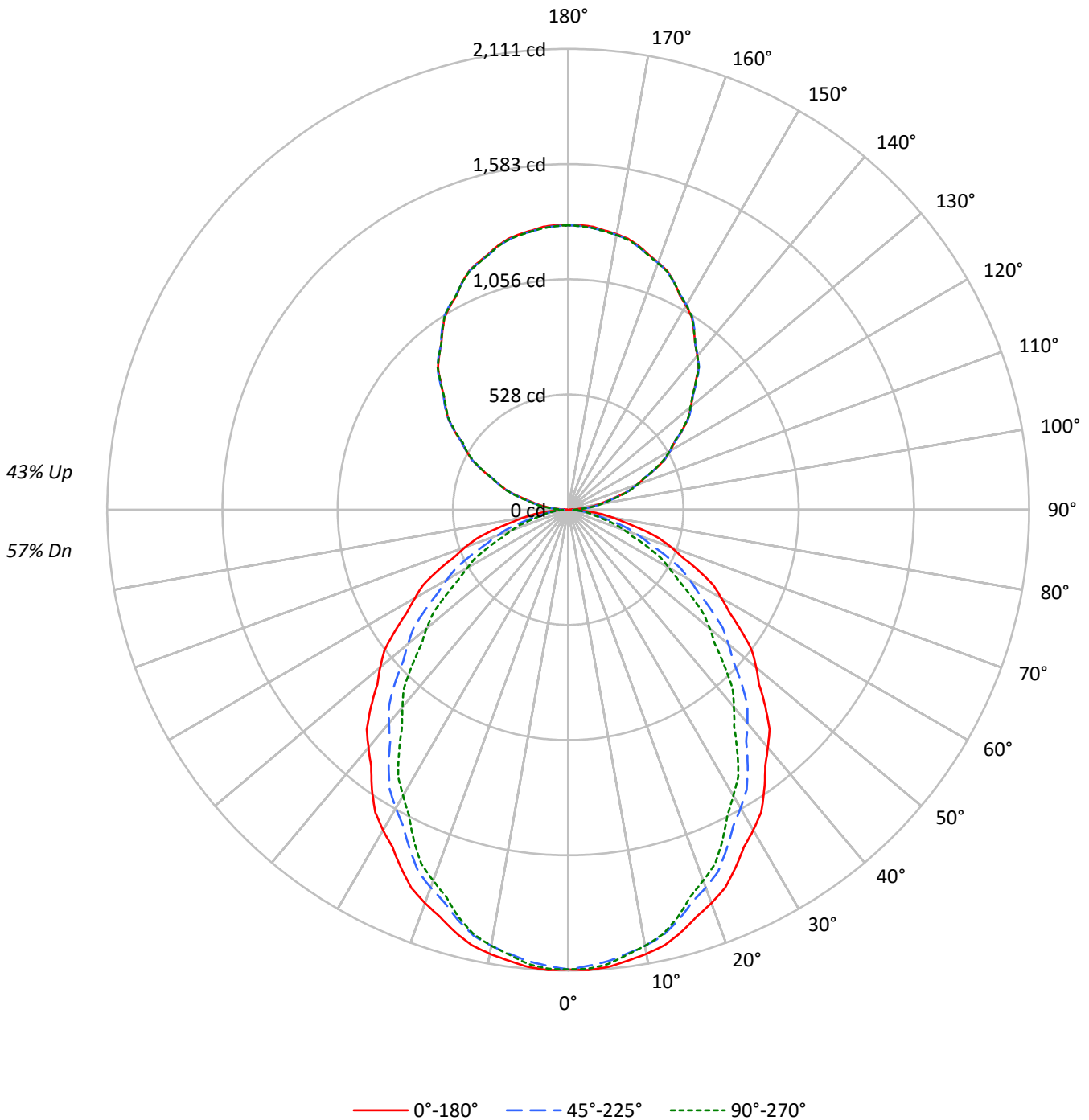
Input Watts (W): 66.8
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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	0
RCR																		
0	109	109	109	109	101	101	101	101	87	87	87	75	75	75	63	63	63	57
1	100	95	92	88	93	89	86	83	77	75	73	66	64	63	56	55	54	49
2	91	84	78	73	85	78	73	68	68	64	61	59	56	53	50	48	46	41
3	83	74	67	61	77	69	63	58	60	55	51	52	48	45	44	42	39	35
4	76	66	58	52	71	61	54	49	54	48	44	46	42	39	40	37	34	31
5	70	59	51	45	65	55	48	42	48	42	38	42	37	34	36	33	30	27
6	65	53	45	39	60	50	42	37	44	38	33	38	33	30	33	29	26	24
7	60	48	40	34	56	45	38	33	40	34	30	35	30	27	30	26	24	21
8	56	43	36	30	52	41	34	29	36	30	26	32	27	24	28	24	21	19
9	52	40	32	27	48	38	31	26	33	28	24	29	25	21	26	22	19	17
10	49	37	29	24	45	35	28	23	31	25	21	27	23	19	24	20	18	16

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	17002	17002	17002
5°	17040	16832	16936
10°	16934	16629	16629
15°	16739	16280	16160
20°	16472	15821	15530
25°	16131	15284	14895
30°	15800	14716	14100
35°	15431	14128	13302
40°	14989	13460	12440
45°	14582	12795	11562
50°	14117	12031	10633
55°	13619	11234	9623
60°	13070	10362	8591
65°	12567	9270	7578
70°	11837	8068	6434
75°	10914	6691	5231
80°	9521	5100	4798
85°	8068	4631	4335



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	197.8	2.3
10°-20°	551.7	6.5
20°-30°	796.6	9.4
30°-40°	903.0	10.6
40°-50°	872.0	10.3
50°-60°	725.1	8.5
60°-70°	500.7	5.9
70°-80°	253.8	3.0
80°-90°	69.0	0.8
90°-100°	86.0	1.0
100°-110°	254.7	3.0
110°-120°	432.2	5.1
120°-130°	569.9	6.7
130°-140°	640.1	7.5
140°-150°	629.0	7.4
150°-160°	529.0	6.2
160°-170°	352.0	4.1
170°-180°	123.2	1.5
0°-30°	1546.1	18.2
0°-40°	2449.1	28.9
0°-60°	4046.2	47.7
0°-90°	4869.7	57.4
90°-120°	772.9	9.1
90°-150°	2611.8	30.8
90°-180°	3616.0	42.6
0°-180°	8485.7	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2106	2106	2106	2106	2106	
5°	2103	2096	2077	2092	2090	199
15°	2003	1987	1948	1944	1934	564
25°	1811	1780	1716	1689	1672	834
35°	1566	1513	1434	1380	1350	978
45°	1277	1215	1121	1044	1013	984
55°	968	901	798	717	684	865
65°	658	587	485	419	397	649
75°	350	289	214	179	168	369
85°	87	56	50	47	47	98
90°	3	14	22	28	30	8
95°	60	69	77	80	80	67
105°	235	236	240	243	246	249
115°	440	439	438	436	436	433
125°	640	640	639	637	635	570
135°	826	831	832	830	827	638
145°	1003	1007	1008	1007	1004	627
155°	1149	1149	1148	1152	1148	528
165°	1251	1248	1246	1251	1248	352
175°	1301	1297	1295	1302	1295	123
180°	1303	1303	1303	1303	1303	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
0°	2106.0	2106.0	2106.0	2106.0	2106.0	2106.0	2106.0	2106.0	2106.0	2106.0	2106.0
2.5°	2111.1	2110.0	2108.9	2107.7	2106.6	2104.5	2101.3	2098.1	2095.0	2091.8	2095.0
5°	2102.7	2101.3	2099.9	2098.5	2097.1	2094.2	2089.9	2085.6	2081.3	2077.0	2080.5
7.5°	2083.8	2082.2	2080.7	2079.2	2077.7	2074.2	2068.6	2063.1	2057.4	2051.8	2054.2
10°	2065.7	2063.9	2062.1	2060.3	2058.5	2054.4	2048.0	2041.5	2035.1	2028.6	2030.0
12.5°	2042.5	2040.4	2038.3	2036.2	2034.2	2029.3	2021.7	2014.2	2006.5	1998.9	1999.8
15°	2002.8	1999.5	1996.4	1993.2	1989.9	1983.8	1974.9	1965.9	1956.9	1947.9	1947.2
17.5°	1954.8	1950.0	1945.4	1940.8	1936.1	1928.4	1917.6	1906.9	1896.1	1885.4	1883.4
20°	1917.3	1912.7	1908.0	1903.4	1898.7	1890.3	1878.1	1865.9	1853.7	1841.6	1838.7
22.5°	1876.0	1870.9	1865.6	1860.4	1855.1	1846.0	1832.9	1819.9	1806.9	1793.8	1789.5
25°	1810.9	1804.4	1798.0	1791.6	1785.1	1774.5	1759.9	1745.1	1730.5	1715.8	1709.7
27.5°	1742.5	1734.4	1726.4	1718.3	1710.1	1698.3	1682.5	1666.9	1651.1	1635.5	1627.9
30°	1694.9	1685.9	1676.9	1667.9	1659.0	1646.1	1629.2	1612.4	1595.6	1578.7	1569.7
32.5°	1644.5	1634.4	1624.3	1614.2	1604.1	1590.3	1572.9	1555.5	1538.0	1520.7	1510.3
35°	1565.8	1554.3	1542.9	1531.4	1519.9	1505.2	1487.3	1469.5	1451.5	1433.6	1421.4
37.5°	1481.7	1469.8	1457.9	1446.1	1434.3	1418.5	1398.7	1378.8	1359.0	1339.1	1325.4
40°	1422.3	1410.5	1398.7	1386.8	1374.9	1358.9	1338.5	1318.0	1297.6	1277.2	1262.1
42.5°	1365.5	1353.1	1340.7	1328.3	1316.0	1299.1	1277.8	1256.5	1235.3	1214.0	1198.6
45°	1277.2	1263.8	1250.6	1237.4	1224.2	1206.7	1185.3	1163.8	1142.3	1120.7	1103.2
47.5°	1185.9	1172.2	1158.5	1144.8	1131.1	1113.1	1090.8	1068.3	1046.0	1023.7	1005.4
50°	1124.0	1109.9	1096.0	1082.1	1068.0	1049.6	1026.6	1003.7	980.8	957.9	940.0
52.5°	1060.8	1047.0	1033.4	1019.7	1006.0	987.3	963.9	940.4	916.9	893.3	875.1
55°	967.6	953.2	938.9	924.5	910.2	891.4	868.1	844.9	821.5	798.2	779.6
57.5°	875.3	860.4	845.5	830.6	815.7	796.8	773.9	750.8	727.9	705.0	686.1
60°	809.5	795.2	780.8	766.5	752.1	733.6	710.6	687.7	664.7	641.8	623.2
62.5°	750.1	735.3	720.3	705.5	690.5	671.4	647.8	624.3	600.8	577.3	560.1
65°	657.9	642.5	627.1	611.7	596.3	577.1	554.2	531.3	508.4	485.3	470.0
67.5°	562.1	547.3	532.6	517.9	503.1	485.0	463.7	442.5	421.2	399.9	386.7
70°	501.5	486.5	471.4	456.4	441.3	423.5	403.1	382.7	362.3	341.8	330.0
72.5°	437.0	423.4	409.8	396.2	382.5	366.1	346.8	327.5	308.2	288.9	278.8
75°	349.9	336.7	323.4	310.1	296.9	281.9	265.0	248.1	231.4	214.5	206.2
77.5°	261.6	250.3	239.0	227.8	216.5	204.1	190.5	176.9	163.3	149.7	144.8
80°	204.8	194.4	184.0	173.6	163.2	152.7	141.9	131.2	120.4	109.7	108.6
82.5°	155.8	146.2	136.7	127.1	117.6	109.8	103.6	97.5	91.3	85.1	84.3
85°	87.1	79.9	72.7	65.5	58.4	54.3	53.2	52.1	51.1	50.0	49.3
87.5°	30.3	28.5	26.7	24.8	23.0	22.2	22.3	22.3	22.4	22.5	22.5
90°	3.0	5.5	8.0	10.4	12.9	15.0	16.8	18.6	20.4	22.2	23.5
92.5°	21.6	24.4	27.2	30.0	32.8	34.9	36.2	37.4	38.7	39.9	40.7
95°	60.5	62.5	64.5	66.6	68.6	70.3	71.9	73.5	75.0	76.6	77.3
97.5°	105.6	107.2	108.9	110.5	112.1	113.8	115.6	117.4	119.4	121.2	122.0
100°	141.1	142.0	142.9	143.8	144.7	146.1	148.1	150.2	152.2	154.2	154.7
102.5°	178.2	178.5	178.9	179.3	179.7	180.8	182.6	184.4	186.2	188.1	188.7
105°	234.9	235.1	235.3	235.5	235.8	236.3	237.2	238.1	239.0	239.9	240.5
107.5°	294.4	294.6	294.9	295.2	295.4	295.6	295.8	295.9	296.0	296.2	296.8
110°	334.7	335.1	335.6	336.0	336.5	336.6	336.6	336.1	335.9	335.7	335.2



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	376.6	376.7	376.8	376.9	377.0	376.8	376.4	376.0	375.6	375.2	375.1
115°	439.5	439.5	439.5	439.5	439.5	439.3	438.8	438.4	437.9	437.5	437.3
117.5°	498.8	499.0	499.1	499.3	499.5	499.4	499.1	498.8	498.5	498.2	497.4
120°	538.3	539.2	540.1	541.0	541.9	542.0	541.3	540.6	540.0	539.3	538.2
122.5°	579.4	579.8	580.1	580.5	580.8	580.9	580.6	580.2	579.9	579.6	578.9
125°	640.1	640.1	640.1	640.1	640.1	640.0	639.7	639.5	639.2	639.0	638.6
127.5°	695.1	695.8	696.4	697.1	697.8	697.9	697.6	697.2	696.9	696.5	696.1
130°	733.8	734.5	735.2	735.8	736.5	736.8	736.8	736.8	736.8	736.8	736.4
132.5°	773.4	773.9	774.3	774.8	775.3	775.5	775.3	775.1	774.9	774.8	774.3
135°	825.6	826.9	828.2	829.6	830.9	831.6	831.6	831.6	831.6	831.6	831.1
137.5°	882.4	883.0	883.6	884.2	884.9	885.3	885.8	886.2	886.5	886.9	886.3
140°	920.3	920.7	921.2	921.6	922.1	922.3	922.3	922.3	922.3	922.3	922.1
142.5°	954.9	955.4	955.8	956.3	956.7	956.8	956.7	956.5	956.3	956.1	956.1
145°	1002.9	1003.8	1004.7	1005.6	1006.5	1007.0	1007.3	1007.5	1007.7	1007.9	1007.7
147.5°	1050.6	1051.6	1052.7	1053.8	1054.8	1055.3	1055.1	1054.9	1054.7	1054.6	1054.4
150°	1079.5	1080.5	1081.4	1082.3	1083.2	1083.6	1083.6	1083.6	1083.6	1083.6	1083.6
152.5°	1107.0	1107.5	1108.0	1108.6	1109.1	1109.4	1109.6	1109.8	1110.0	1110.1	1110.8
155°	1149.1	1149.1	1149.1	1149.1	1149.1	1149.0	1148.7	1148.5	1148.3	1148.1	1149.0
157.5°	1184.6	1184.2	1183.8	1183.4	1183.0	1182.8	1182.7	1182.7	1182.7	1182.6	1183.3
160°	1205.6	1205.3	1205.1	1204.9	1204.7	1204.5	1204.2	1204.0	1203.8	1203.6	1204.2
162.5°	1224.9	1224.4	1223.8	1223.1	1222.5	1222.1	1221.9	1221.7	1221.5	1221.2	1222.4
165°	1250.9	1250.2	1249.6	1248.9	1248.2	1247.7	1247.2	1246.8	1246.3	1245.9	1247.2
167.5°	1270.9	1269.9	1269.0	1268.1	1267.1	1266.7	1266.7	1266.8	1266.8	1266.9	1268.2
170°	1282.1	1281.0	1279.9	1278.8	1277.7	1277.2	1277.5	1277.7	1277.9	1278.1	1279.5
172.5°	1290.2	1289.3	1288.4	1287.4	1286.5	1286.0	1286.1	1286.1	1286.2	1286.2	1287.7
175°	1301.3	1300.2	1299.1	1298.0	1296.9	1296.2	1296.0	1295.7	1295.5	1295.3	1296.9
177.5°	1304.9	1304.0	1303.1	1302.2	1301.3	1300.9	1300.9	1300.9	1300.9	1300.9	1302.1
180°	1303.3	1303.3	1303.3	1303.3	1303.3	1303.3	1303.3	1303.3	1303.3	1303.3	1303.3



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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	2106.0	2106.0	2106.0	2106.0	2106.0	2106.0	2106.0	2106.0
2.5°	2098.1	2101.3	2104.5	2105.9	2105.6	2105.3	2105.0	2104.8
5°	2084.2	2087.7	2091.3	2092.7	2092.0	2091.3	2090.6	2089.9
7.5°	2056.4	2058.7	2061.0	2061.5	2060.4	2059.3	2058.1	2057.0
10°	2031.4	2032.9	2034.4	2034.4	2032.9	2031.4	2030.0	2028.6
12.5°	2000.6	2001.6	2002.4	2001.8	1999.8	1997.8	1995.8	1993.8
15°	1946.5	1945.8	1945.1	1943.5	1941.0	1938.4	1936.0	1933.5
17.5°	1881.4	1879.4	1877.3	1874.5	1870.7	1866.8	1863.1	1859.3
20°	1835.8	1832.9	1830.1	1826.3	1821.7	1817.1	1812.3	1807.7
22.5°	1785.2	1780.9	1776.7	1772.6	1768.8	1764.9	1761.2	1757.4
25°	1703.5	1697.5	1691.4	1686.6	1682.9	1679.4	1675.8	1672.2
27.5°	1620.4	1612.9	1605.4	1599.0	1593.9	1588.7	1583.6	1578.4
30°	1560.7	1551.9	1542.9	1535.5	1529.7	1524.1	1518.3	1512.6
32.5°	1499.9	1489.4	1479.0	1471.2	1465.7	1460.3	1454.8	1449.4
35°	1409.2	1397.0	1384.8	1375.5	1369.1	1362.6	1356.1	1349.7
37.5°	1311.8	1298.2	1284.6	1274.6	1268.1	1261.6	1255.3	1248.8
40°	1247.1	1232.0	1217.0	1206.2	1199.7	1193.3	1186.9	1180.4
42.5°	1183.3	1167.9	1152.6	1141.6	1134.8	1128.1	1121.4	1114.6
45°	1085.6	1068.0	1050.5	1038.4	1032.1	1025.6	1019.2	1012.7
47.5°	987.2	969.1	950.9	938.2	931.1	924.0	916.9	909.8
50°	922.0	904.1	886.2	873.8	867.1	860.2	853.4	846.6
52.5°	857.0	838.8	820.5	807.9	800.8	793.8	786.6	779.5
55°	760.9	742.4	723.7	710.9	704.2	697.3	690.5	683.7
57.5°	667.2	648.2	629.3	617.3	612.2	606.9	601.8	596.6
60°	604.5	585.9	567.2	555.1	549.4	543.6	537.9	532.1
62.5°	542.9	525.7	508.5	497.6	493.0	488.5	483.8	479.3
65°	454.5	439.2	423.7	413.8	409.6	405.3	401.0	396.7
67.5°	373.4	360.1	346.9	337.9	333.2	328.4	323.7	318.9
70°	318.2	306.4	294.6	286.9	283.3	279.7	276.1	272.6
72.5°	268.7	258.6	248.5	241.9	238.5	235.3	232.0	228.6
75°	198.0	189.8	181.5	176.3	174.2	172.0	169.9	167.7
77.5°	140.1	135.2	130.5	127.7	127.0	126.4	125.8	125.1
80°	107.6	106.4	105.3	104.6	104.3	103.9	103.6	103.2
82.5°	83.6	82.8	82.0	81.4	81.1	80.7	80.4	80.0
85°	48.6	47.9	47.2	46.8	46.8	46.8	46.8	46.8
87.5°	22.4	22.4	22.4	22.6	23.0	23.3	23.7	24.1
90°	24.8	26.3	27.6	28.5	28.9	29.4	29.8	30.2
92.5°	41.5	42.3	43.1	43.7	43.9	44.2	44.5	44.7
95°	78.0	78.7	79.3	79.7	79.7	79.7	79.7	79.7
97.5°	122.8	123.6	124.4	124.8	124.8	124.8	124.8	124.8
100°	155.1	155.5	156.0	156.2	156.2	156.2	156.2	156.2
102.5°	189.3	190.0	190.6	191.0	191.2	191.4	191.6	191.7
105°	241.3	242.0	242.6	243.3	243.9	244.6	245.3	245.9
107.5°	297.4	298.0	298.6	298.9	298.9	298.8	298.8	298.7
110°	334.8	334.3	333.9	334.0	334.7	335.3	336.0	336.7



TEST NUMBER: P333007-840

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	375.0	374.9	374.9	374.9	375.0	375.1	375.3	375.4
115°	437.0	436.8	436.6	436.4	436.2	435.9	435.7	435.5
117.5°	496.7	495.8	495.1	494.5	494.0	493.6	493.1	492.7
120°	537.0	535.9	534.8	534.4	534.9	535.3	535.8	536.2
122.5°	578.0	577.3	576.5	575.7	574.9	574.1	573.3	572.5
125°	638.1	637.7	637.2	636.8	636.4	635.9	635.5	635.0
127.5°	695.6	695.2	694.7	694.3	694.0	693.6	693.3	692.9
130°	736.0	735.5	735.1	734.4	733.5	732.6	731.6	730.7
132.5°	773.9	773.4	773.0	772.5	772.1	771.8	771.4	771.1
135°	830.7	830.2	829.8	829.2	828.6	827.9	827.2	826.6
137.5°	885.7	885.0	884.5	884.2	884.4	884.5	884.6	884.8
140°	921.9	921.6	921.4	921.2	921.0	920.7	920.5	920.3
142.5°	956.0	956.0	956.0	955.9	955.9	955.8	955.8	955.7
145°	1007.5	1007.3	1007.0	1006.6	1005.9	1005.3	1004.6	1003.9
147.5°	1054.2	1054.0	1053.8	1053.6	1053.4	1053.2	1053.0	1052.8
150°	1083.6	1083.6	1083.6	1083.5	1083.3	1083.0	1082.8	1082.6
152.5°	1111.3	1111.8	1112.4	1112.4	1111.8	1111.2	1110.5	1109.9
155°	1149.9	1150.7	1151.7	1151.7	1150.7	1149.9	1149.0	1148.1
157.5°	1183.9	1184.6	1185.3	1185.2	1184.5	1183.7	1183.0	1182.1
160°	1204.9	1205.6	1206.2	1206.0	1204.9	1203.8	1202.6	1201.5
162.5°	1223.7	1224.9	1226.1	1226.2	1225.1	1224.0	1222.8	1221.6
165°	1248.6	1249.9	1251.2	1251.4	1250.6	1249.7	1248.8	1247.9
167.5°	1269.5	1270.9	1272.2	1272.2	1270.8	1269.4	1268.0	1266.7
170°	1280.8	1282.1	1283.5	1283.3	1281.8	1280.2	1278.7	1277.1
172.5°	1289.2	1290.7	1292.3	1292.2	1290.7	1289.1	1287.6	1286.0
175°	1298.4	1300.0	1301.5	1301.5	1300.0	1298.4	1296.9	1295.3
177.5°	1303.4	1304.6	1306.0	1305.9	1304.4	1302.9	1301.5	1300.1
180°	1303.3	1303.3	1303.3	1303.3	1303.3	1303.3	1303.3	1303.3

(END OF REPORT)