

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: P333013-840

Luminaire Tested: **S124RDIP-S1195D1205U840-4F0-1E-UDD-F1**

Issue Date: 3/3/2020

Test Information

Test Method: LM-79-08
Report Number: P333013-840
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-S1195D1205U840-4F0-1E-UDD-F1
Description: DEFINE 4 DIRECT-INDIRECT PENDANT LED LUMINAIRE
DOWNLIGHT 1195 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER, REGRESSED
HOUSING
UPLIGHT 1205 LUMENS PER FOOT, FLUSH SATIN WHITE DIFFUSER
Light Source: -
Ballast/Driver: ELECTRONIC DRIVER

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9079.2 lumens
Efficiency: N/A
Efficacy: 126.6 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

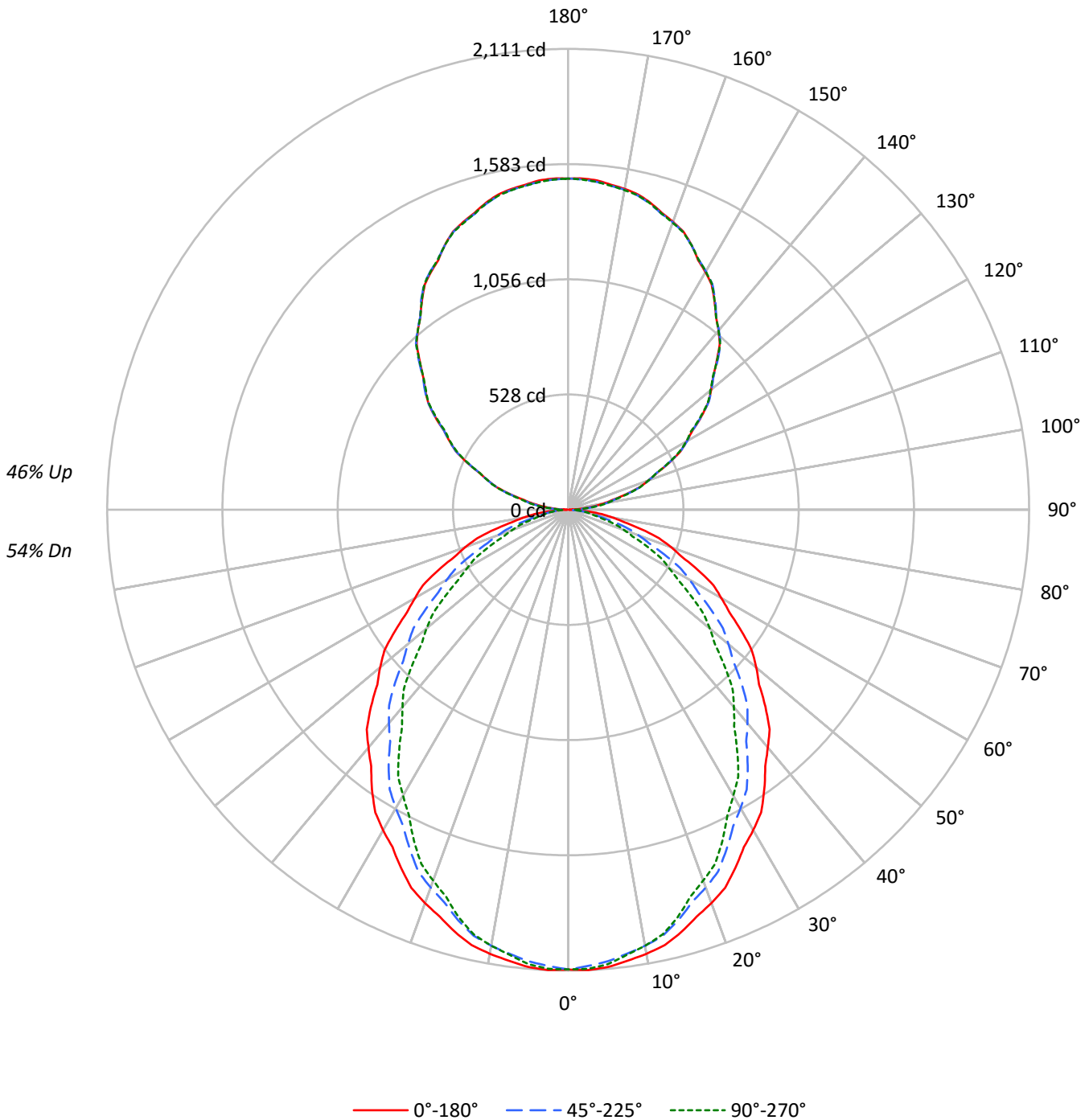
Input Watts (W): 71.7
Input Voltage (V): 120
Input Current (A_{in}): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 25 FT



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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
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10
RCR																	
0	108	108	108	108	100	100	100	100	85	85	85	72	72	72	59	59	59
1	99	95	91	87	92	88	85	82	75	73	71	64	62	60	53	52	51
2	90	83	77	72	83	77	72	67	66	62	59	56	53	51	47	45	43
3	83	73	66	60	76	68	62	57	59	54	50	50	46	43	42	39	37
4	76	65	57	51	70	61	54	48	52	47	43	45	41	37	38	35	32
5	70	58	50	44	64	54	47	42	47	41	37	40	36	33	34	31	28
6	64	52	44	38	59	49	42	36	42	37	32	36	32	29	31	28	25
7	59	47	39	34	55	44	37	32	39	33	29	33	29	25	28	25	22
8	55	43	35	30	51	40	33	28	35	30	26	30	26	23	26	23	20
9	51	39	32	27	48	37	30	25	32	27	23	28	24	21	24	21	18
10	48	36	29	24	45	34	27	23	30	24	21	26	22	19	22	19	17

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	2.2
10°-20°	551.7	6.1
20°-30°	796.6	8.8
30°-40°	903.0	9.9
40°-50°	872.0	9.6
50°-60°	725.1	8.0
60°-70°	500.7	5.5
70°-80°	253.8	2.8
80°-90°	69.6	0.8
90°-100°	100.1	1.1
100°-110°	296.4	3.3
110°-120°	503.1	5.5
120°-130°	663.4	7.3
130°-140°	745.0	8.2
140°-150°	732.1	8.1
150°-160°	615.7	6.8
160°-170°	409.7	4.5
170°-180°	143.5	1.6
0°-30°	1546.1	17.0
0°-40°	2449.1	27.0
0°-60°	4046.2	44.6
0°-90°	4870.3	53.6
90°-120°	899.6	9.9
90°-150°	3040.1	33.5
90°-180°	4209.0	46.4
0°-180°	9079.2	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°	4	16	26	33	35	9
95°	70	81	89	92	93	78
105°	273	275	279	283	286	290
115°	512	511	509	508	507	504
125°	745	745	744	741	739	664
135°	961	968	968	966	962	743
145°	1167	1172	1173	1172	1169	730
155°	1338	1337	1336	1340	1336	615
165°	1456	1453	1450	1456	1452	410
175°	1515	1509	1508	1515	1508	144
180°	1517	1517	1517	1517	1517	



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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°	30.4	28.7	27.0	25.2	23.5	22.7	22.8	22.9	23.1	23.2	23.2
90°	3.5	6.4	9.3	12.1	14.9	17.5	19.6	21.6	23.7	25.9	27.4
92.5°	25.1	28.4	31.7	34.9	38.3	40.6	42.1	43.5	45.0	46.5	47.4
95°	70.4	72.7	75.1	77.5	79.8	81.9	83.7	85.5	87.4	89.2	90.0
97.5°	123.0	124.8	126.7	128.6	130.5	132.5	134.6	136.7	138.9	141.0	142.0
100°	164.3	165.3	166.3	167.3	168.4	170.2	172.5	174.8	177.1	179.6	180.1
102.5°	207.4	207.8	208.2	208.6	209.1	210.4	212.5	214.7	216.8	218.9	219.6
105°	273.4	273.7	273.9	274.2	274.4	275.1	276.1	277.1	278.2	279.2	280.0
107.5°	342.5	343.0	343.3	343.6	343.9	344.1	344.3	344.4	344.6	344.7	345.5
110°	389.5	390.0	390.5	391.1	391.6	391.7	391.5	391.2	390.9	390.7	390.2



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	438.3	438.5	438.6	438.7	438.8	438.6	438.1	437.7	437.2	436.7	436.6
115°	511.5	511.5	511.5	511.5	511.5	511.3	510.8	510.3	509.7	509.2	509.0
117.5°	580.6	580.8	581.0	581.2	581.4	581.3	580.9	580.6	580.2	579.9	579.0
120°	626.5	627.5	628.6	629.7	630.7	630.9	630.1	629.2	628.4	627.7	626.4
122.5°	674.4	674.8	675.2	675.6	676.1	676.1	675.7	675.4	675.0	674.6	673.8
125°	745.0	745.0	745.0	745.0	745.0	744.9	744.7	744.4	744.1	743.9	743.4
127.5°	809.1	809.9	810.6	811.4	812.2	812.4	811.9	811.5	811.1	810.7	810.2
130°	854.1	855.0	855.7	856.5	857.3	857.7	857.7	857.7	857.7	857.7	857.2
132.5°	900.1	900.7	901.3	901.8	902.4	902.6	902.4	902.2	902.0	901.8	901.2
135°	960.9	962.5	964.0	965.6	967.1	968.0	968.0	968.0	968.0	968.0	967.5
137.5°	1027.0	1027.8	1028.5	1029.3	1030.0	1030.6	1031.0	1031.4	1031.8	1032.2	1031.6
140°	1071.2	1071.7	1072.3	1072.8	1073.3	1073.5	1073.5	1073.5	1073.5	1073.5	1073.3
142.5°	1111.6	1112.1	1112.6	1113.1	1113.7	1113.8	1113.6	1113.4	1113.2	1113.0	1112.9
145°	1167.4	1168.4	1169.5	1170.5	1171.5	1172.3	1172.5	1172.8	1173.0	1173.3	1173.0
147.5°	1222.7	1224.1	1225.3	1226.5	1227.8	1228.3	1228.1	1227.9	1227.7	1227.5	1227.3
150°	1256.6	1257.6	1258.7	1259.7	1260.7	1261.2	1261.2	1261.2	1261.2	1261.2	1261.2
152.5°	1288.5	1289.1	1289.7	1290.3	1291.0	1291.4	1291.6	1291.8	1292.0	1292.2	1292.8
155°	1337.5	1337.5	1337.5	1337.5	1337.5	1337.4	1337.2	1336.9	1336.6	1336.4	1337.4
157.5°	1378.8	1378.4	1377.9	1377.5	1377.0	1376.6	1376.6	1376.5	1376.5	1376.4	1377.3
160°	1403.2	1403.0	1402.7	1402.4	1402.2	1401.9	1401.7	1401.4	1401.1	1400.9	1401.7
162.5°	1425.7	1425.0	1424.4	1423.7	1423.0	1422.6	1422.3	1422.1	1421.8	1421.5	1422.9
165°	1456.0	1455.2	1454.4	1453.7	1452.9	1452.2	1451.7	1451.2	1450.7	1450.2	1451.7
167.5°	1479.3	1478.1	1477.0	1475.9	1474.9	1474.3	1474.4	1474.4	1474.5	1474.5	1476.1
170°	1492.4	1491.1	1489.8	1488.4	1487.1	1486.6	1486.9	1487.1	1487.4	1487.7	1489.2
172.5°	1501.8	1500.7	1499.5	1498.4	1497.4	1496.8	1496.9	1497.0	1497.0	1497.1	1498.8
175°	1514.7	1513.4	1512.1	1510.8	1509.4	1508.6	1508.4	1508.1	1507.9	1507.6	1509.4
177.5°	1518.9	1517.8	1516.8	1515.8	1514.7	1514.2	1514.2	1514.2	1514.2	1514.2	1515.7
180°	1517.0	1517.0	1517.0	1517.0	1517.0	1517.0	1517.0	1517.0	1517.0	1517.0	1517.0



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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°	23.2	23.3	23.3	23.5	23.9	24.3	24.7	25.1
90°	29.0	30.5	32.1	33.1	33.6	34.1	34.6	35.2
92.5°	48.4	49.3	50.2	50.8	51.2	51.5	51.8	52.1
95°	90.7	91.5	92.3	92.7	92.7	92.7	92.7	92.7
97.5°	142.9	143.8	144.8	145.2	145.2	145.2	145.2	145.2
100°	180.6	181.1	181.6	181.9	181.9	181.9	181.9	181.9
102.5°	220.4	221.2	221.9	222.3	222.6	222.8	223.0	223.2
105°	280.8	281.6	282.4	283.2	284.0	284.7	285.5	286.3
107.5°	346.2	346.9	347.6	348.0	347.9	347.9	347.8	347.8
110°	389.6	389.1	388.6	388.7	389.5	390.3	391.1	391.8



TEST NUMBER: P333013-840

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CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	436.5	436.4	436.3	436.3	436.5	436.6	436.8	437.0
115°	508.7	508.4	508.2	507.9	507.7	507.4	507.2	506.9
117.5°	578.0	577.1	576.2	575.6	575.0	574.5	574.0	573.5
120°	625.1	623.8	622.5	622.1	622.6	623.1	623.7	624.2
122.5°	672.9	672.0	671.1	670.1	669.2	668.3	667.3	666.4
125°	742.8	742.3	741.7	741.2	740.7	740.2	739.6	739.1
127.5°	809.7	809.2	808.6	808.2	807.8	807.3	806.9	806.5
130°	856.6	856.1	855.6	854.7	853.7	852.7	851.6	850.6
132.5°	900.7	900.2	899.7	899.2	898.8	898.4	898.0	897.6
135°	966.9	966.3	965.8	965.2	964.4	963.6	962.8	962.1
137.5°	1030.9	1030.2	1029.6	1029.3	1029.5	1029.6	1029.8	1029.9
140°	1073.0	1072.8	1072.5	1072.3	1072.0	1071.7	1071.5	1071.2
142.5°	1112.9	1112.8	1112.8	1112.7	1112.7	1112.6	1112.6	1112.5
145°	1172.8	1172.5	1172.3	1171.6	1170.9	1170.1	1169.3	1168.6
147.5°	1227.1	1226.9	1226.6	1226.4	1226.2	1225.9	1225.6	1225.4
150°	1261.2	1261.2	1261.2	1261.1	1260.8	1260.6	1260.3	1260.1
152.5°	1293.4	1294.1	1294.7	1294.7	1294.0	1293.3	1292.6	1292.0
155°	1338.5	1339.5	1340.5	1340.5	1339.5	1338.5	1337.4	1336.4
157.5°	1378.1	1378.8	1379.6	1379.6	1378.7	1377.8	1376.8	1376.0
160°	1402.4	1403.2	1404.0	1403.7	1402.4	1401.1	1399.9	1398.6
162.5°	1424.3	1425.7	1427.1	1427.2	1425.9	1424.6	1423.3	1422.0
165°	1453.3	1454.8	1456.4	1456.6	1455.6	1454.6	1453.5	1452.5
167.5°	1477.6	1479.3	1480.8	1480.8	1479.1	1477.5	1475.9	1474.3
170°	1490.9	1492.4	1494.0	1493.8	1492.0	1490.2	1488.3	1486.5
172.5°	1500.7	1502.4	1504.2	1504.2	1502.3	1500.5	1498.6	1496.8
175°	1511.3	1513.1	1514.9	1514.9	1513.1	1511.3	1509.4	1507.6
177.5°	1517.1	1518.6	1520.0	1519.9	1518.2	1516.6	1514.9	1513.3
180°	1517.0	1517.0	1517.0	1517.0	1517.0	1517.0	1517.0	1517.0

(END OF REPORT)