

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: FAIL-SAFE

Report Number: P709199

Luminaire Tested: **4APN-35-37L950-UNV**

Issue Date: 09/12/2023



Test Information

Test Method: LM-79-08
Report Number: P709199
Test Lab: INNOVATION CENTER(G2)
Issue Date: 09/12/2023
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 4APN-35-37L950-UNV
Description: ArcMed Patient Recessed 4 FT x6 IN Fixture Ambient and Exam Light
Light Source: 5000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

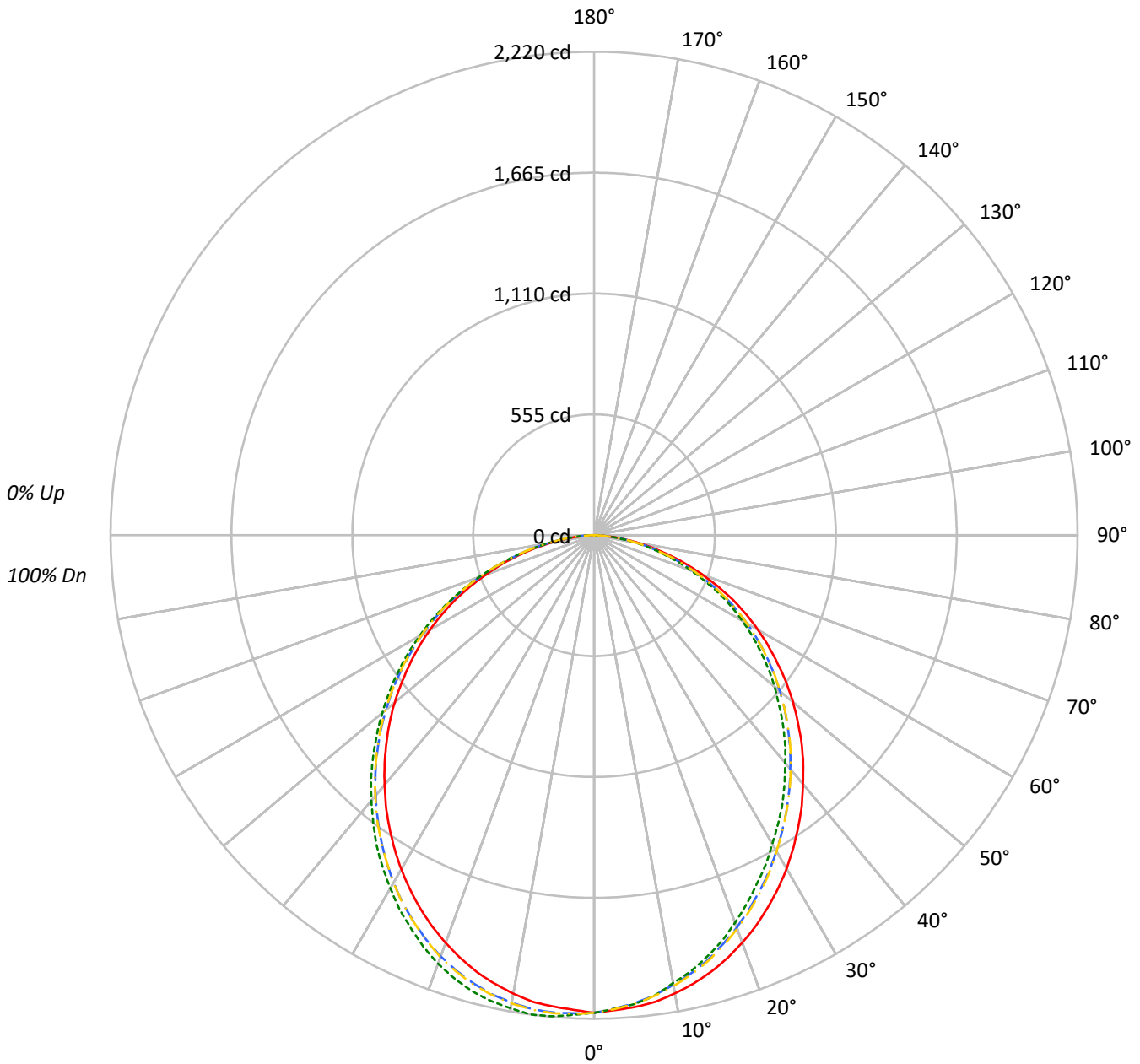
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5796.2 lumens
Efficiency: N/A
Efficacy: 71.6 lumens/watt
Spacing Criteria (0/90/45): 1.2 / 1.19 / 1.32
Luminous Opening: Rectangular (W 0.29' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 81
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



— 0°-180° - - 45°-225° - - - 90°-270° - · - 135°-315°



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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	0
RCR																					
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	102	102	102	100
1	109	104	100	96	106	102	98	95	98	95	92	94	91	89	90	88	86	86	86	86	84
2	99	91	84	79	97	89	83	78	86	80	76	82	78	74	79	76	72	72	72	72	70
3	90	80	72	66	88	78	71	65	75	69	64	73	67	63	70	66	62	62	62	62	59
4	83	71	62	56	81	70	62	55	67	60	54	65	59	54	63	57	53	53	53	53	51
5	76	64	55	48	74	62	54	48	60	53	47	58	52	47	56	51	46	46	46	46	44
6	71	57	48	42	69	56	48	42	55	47	41	53	46	41	51	45	41	41	41	41	39
7	65	52	43	37	64	51	43	37	50	42	37	48	41	36	47	41	36	36	36	36	34
8	61	48	39	33	59	47	39	33	45	38	33	44	38	33	43	37	32	32	32	32	31
9	57	44	35	30	56	43	35	30	42	35	30	41	34	30	40	34	29	29	29	29	28
10	53	40	32	27	52	40	32	27	39	32	27	38	31	27	37	31	27	27	27	27	25

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	20230	20230	20230	20230
5°	20141	20009	20117	20534
10°	20012	19565	20024	20663
15°	19825	19137	19838	20698
20°	19544	18583	19557	20556
25°	19203	17996	19242	20264
30°	18833	17434	18861	19931
35°	18403	16981	18447	19607
40°	17958	16438	18020	19152
45°	17573	15994	17590	18716
50°	17114	15525	17151	18222
55°	16570	15016	16631	17708
60°	16037	14493	16061	17059
65°	15376	13858	15376	16303
70°	14275	12816	14240	15144
75°	12944	11614	12851	13632
80°	11152	9989	10945	11700
85°	8585	7632	8310	9400



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	207.1	3.6
10°-20°	586.3	10.1
20°-30°	868.0	15.0
30°-40°	1018.4	17.6
40°-50°	1032.1	17.8
50°-60°	916.0	15.8
60°-70°	687.7	11.9
70°-80°	381.9	6.6
80°-90°	98.6	1.7
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	1661.4	28.7
0°-40°	2679.8	46.2
0°-60°	4628.0	79.8
0°-90°	5796.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5796.2	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	2193	2193	2193	2193	2193	
5°	2175	2160	2172	2217	2175	206
15°	2076	2004	2077	2167	2076	585
25°	1886	1768	1890	1991	1886	869
35°	1634	1508	1638	1741	1634	1023
45°	1347	1226	1348	1434	1347	1038
55°	1030	934	1034	1101	1030	922
65°	704	635	704	747	704	694
75°	363	326	360	382	363	386
85°	81	72	78	89	81	98
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	10°	20°	30°	40°	50°	60°	70°	80°	90°	100°
0°	2192.7	2192.7	2192.7	2192.7	2192.7	2192.7	2192.7	2192.7	2192.7	2192.7	2192.7
2.5°	2182.4	2187.6	2194.0	2187.6	2177.3	2172.1	2172.1	2170.8	2174.7	2176.0	2174.7
5°	2174.7	2177.3	2178.6	2170.8	2159.3	2152.8	2150.2	2149.0	2154.1	2160.5	2154.1
7.5°	2160.5	2159.3	2158.0	2147.7	2134.8	2125.8	2121.9	2120.6	2125.8	2132.2	2127.1
10°	2136.1	2134.8	2130.9	2118.1	2101.3	2089.7	2085.9	2082.0	2085.9	2088.4	2085.9
12.5°	2109.0	2103.9	2098.7	2084.6	2066.6	2053.7	2047.2	2042.1	2047.2	2051.1	2048.5
15°	2075.6	2067.8	2058.8	2043.4	2025.4	2011.2	2003.5	1998.3	2002.2	2003.5	2003.5
17.5°	2035.7	2026.6	2017.6	1998.3	1976.4	1961.0	1952.0	1945.5	1950.7	1953.2	1953.2
20°	1990.6	1980.3	1968.7	1948.1	1924.9	1908.2	1897.9	1890.2	1891.4	1892.7	1892.7
22.5°	1941.7	1928.8	1914.6	1892.7	1868.3	1850.2	1839.9	1830.9	1830.9	1832.2	1832.2
25°	1886.3	1872.1	1858.0	1836.1	1810.3	1791.0	1778.1	1769.1	1769.1	1767.8	1770.4
27.5°	1829.6	1814.2	1800.0	1776.8	1749.8	1730.5	1717.6	1708.6	1707.3	1706.0	1708.6
30°	1767.8	1749.8	1734.4	1709.9	1684.1	1664.8	1652.0	1641.7	1639.1	1636.5	1639.1
32.5°	1702.2	1685.4	1668.7	1642.9	1617.2	1597.9	1585.0	1574.7	1573.4	1572.1	1574.7
35°	1633.9	1615.9	1600.5	1576.0	1550.2	1530.9	1516.8	1507.7	1507.7	1507.7	1507.7
37.5°	1567.0	1548.9	1532.2	1507.7	1482.0	1462.7	1448.5	1439.5	1436.9	1435.6	1436.9
40°	1491.0	1475.6	1460.1	1436.9	1411.2	1391.9	1380.3	1370.0	1367.4	1364.8	1368.7
42.5°	1421.5	1406.0	1389.3	1367.4	1341.6	1322.3	1309.5	1300.4	1299.2	1297.9	1299.2
45°	1346.8	1328.8	1312.0	1291.4	1268.3	1250.2	1237.4	1228.3	1227.1	1225.8	1227.1
47.5°	1268.3	1254.1	1239.9	1219.3	1196.2	1178.1	1166.5	1156.2	1153.7	1151.1	1153.7
50°	1192.3	1176.8	1162.7	1143.4	1121.5	1104.7	1094.4	1085.4	1082.8	1081.6	1082.8
52.5°	1112.5	1098.3	1085.4	1066.1	1048.1	1031.3	1019.8	1012.0	1010.7	1009.5	1010.7
55°	1030.1	1017.2	1005.6	990.1	972.1	956.7	946.4	937.4	936.1	933.5	936.1
57.5°	950.2	939.9	928.3	911.6	894.9	880.7	871.7	864.0	862.7	861.4	862.7
60°	869.1	858.8	848.5	834.3	817.6	803.4	795.7	789.3	786.7	785.4	786.7
62.5°	788.0	777.7	770.0	755.8	740.4	728.8	721.0	714.6	712.0	710.7	712.0
65°	704.3	695.3	686.3	673.4	661.8	652.8	645.1	638.6	636.1	634.8	634.8
67.5°	615.5	607.7	601.3	589.7	576.8	567.8	560.1	554.9	552.4	551.1	552.4
70°	529.2	522.8	516.3	507.3	497.0	489.3	484.1	479.0	476.4	475.1	475.1
72.5°	446.8	441.6	435.2	427.5	419.7	412.0	406.9	403.0	400.4	399.1	399.1
75°	363.1	357.9	355.4	348.9	341.2	336.1	330.9	328.3	325.8	325.8	325.8
77.5°	284.6	282.0	279.4	273.0	267.8	262.7	258.8	257.5	254.9	254.9	254.9
80°	209.9	208.6	207.3	203.4	198.3	193.1	190.6	189.3	188.0	188.0	188.0
82.5°	141.6	141.6	140.3	136.5	132.6	131.3	128.8	127.5	127.5	127.5	127.5
85°	81.1	81.1	81.1	79.8	77.3	77.3	74.7	73.4	72.1	72.1	72.1
87.5°	32.2	33.5	34.8	33.5	30.9	30.9	30.9	30.9	30.9	30.9	30.9
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	110°	120°	130°	140°	150°	160°	170°	180°	190°	200°	210°
0°	2192.7	2192.7	2192.7	2192.7	2192.7	2192.7	2192.7	2192.7	2192.7	2192.7	2192.7
2.5°	2170.8	2173.4	2174.7	2181.1	2188.9	2194.0	2187.6	2181.1	2191.4	2203.0	2203.0
5°	2149.0	2151.5	2155.4	2163.1	2173.4	2179.9	2177.3	2172.1	2187.6	2200.5	2201.7
7.5°	2121.9	2124.5	2129.6	2137.4	2150.2	2159.3	2159.3	2160.5	2174.7	2190.2	2194.0
10°	2082.0	2088.4	2096.2	2107.8	2120.6	2132.2	2136.1	2137.4	2155.4	2172.1	2177.3
12.5°	2044.7	2051.1	2058.8	2071.7	2087.2	2100.0	2103.9	2109.0	2128.4	2147.7	2155.4
15°	2002.2	2008.6	2017.6	2030.5	2047.2	2061.4	2069.1	2076.9	2096.2	2116.8	2125.8
17.5°	1952.0	1958.4	1967.4	1982.9	2002.2	2018.9	2027.9	2036.9	2058.8	2080.7	2089.7
20°	1892.7	1901.7	1914.6	1930.1	1952.0	1971.3	1981.6	1991.9	2015.1	2036.9	2047.2
22.5°	1832.2	1842.5	1856.7	1874.7	1897.9	1918.5	1931.4	1944.2	1967.4	1989.3	2000.9
25°	1771.7	1783.3	1797.5	1816.8	1838.7	1859.3	1874.7	1890.2	1913.3	1936.5	1948.1
27.5°	1709.9	1720.2	1734.4	1753.7	1778.1	1800.0	1815.5	1832.2	1855.4	1879.9	1891.4
30°	1641.7	1653.2	1666.1	1685.4	1712.5	1736.9	1752.4	1770.4	1793.6	1818.1	1829.6
32.5°	1576.0	1586.3	1599.2	1618.5	1645.5	1671.3	1688.0	1706.0	1729.2	1753.7	1764.0
35°	1507.7	1518.0	1532.2	1551.5	1578.6	1603.0	1619.8	1637.8	1659.7	1682.9	1694.4
37.5°	1440.8	1451.1	1465.3	1484.6	1510.3	1534.8	1551.5	1569.6	1591.4	1613.3	1623.6
40°	1371.3	1381.6	1393.2	1412.5	1438.2	1462.7	1478.1	1496.2	1518.0	1541.2	1551.5
42.5°	1300.4	1310.7	1324.9	1344.2	1368.7	1390.6	1407.3	1424.1	1444.7	1465.3	1475.6
45°	1229.6	1238.6	1252.8	1270.8	1294.0	1314.6	1331.3	1348.1	1367.4	1386.7	1397.0
47.5°	1156.2	1166.5	1178.1	1196.2	1219.3	1241.2	1258.0	1273.4	1291.4	1310.7	1319.8
50°	1085.4	1094.4	1106.0	1122.8	1144.7	1165.3	1179.4	1194.9	1211.6	1229.6	1237.4
52.5°	1012.0	1021.0	1032.6	1049.4	1067.4	1086.7	1099.6	1113.7	1130.5	1147.2	1155.0
55°	937.4	943.8	954.1	969.5	988.9	1006.9	1019.8	1033.9	1048.1	1062.2	1071.3
57.5°	864.0	871.7	882.0	896.2	912.9	929.6	941.2	952.8	967.0	981.1	987.6
60°	789.3	795.7	803.4	816.3	833.1	847.2	858.8	870.4	882.0	894.9	901.3
62.5°	713.3	719.8	727.5	740.4	754.5	767.4	777.7	788.0	798.3	809.9	816.3
65°	637.3	643.8	651.5	660.5	672.1	683.7	694.0	704.3	712.0	719.8	726.2
67.5°	554.9	561.4	569.1	576.8	587.1	598.7	606.4	615.5	623.2	632.2	636.1
70°	477.7	482.8	490.6	497.0	506.0	513.7	520.2	527.9	533.1	540.8	547.2
72.5°	401.7	406.9	413.3	419.7	424.9	431.3	439.1	445.5	451.9	459.7	462.2
75°	328.3	330.9	336.1	341.2	346.4	351.5	355.4	360.5	365.7	370.8	374.7
77.5°	256.2	258.8	264.0	267.8	271.7	275.5	278.1	280.7	285.8	289.7	293.6
80°	188.0	190.6	194.4	198.3	202.1	206.0	206.0	206.0	212.4	217.6	218.9
82.5°	127.5	128.8	131.3	133.9	136.5	139.1	139.1	137.8	141.6	145.5	148.1
85°	73.4	74.7	77.3	77.3	78.5	78.5	78.5	78.5	81.1	85.0	87.6
87.5°	29.6	29.6	30.9	30.9	32.2	32.2	30.9	29.6	32.2	36.1	37.3
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



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CANDELA DISTRIBUTION (continued):

	220°	230°	240°	250°	260°	270°	280°	290°	300°	310°	320°
0°	2192.7	2192.7	2192.7	2192.7	2192.7	2192.7	2192.7	2192.7	2192.7	2192.7	2192.7
2.5°	2197.9	2196.6	2200.5	2201.7	2204.3	2204.3	2205.6	2205.6	2203.0	2199.2	2200.5
5°	2199.2	2199.2	2203.0	2206.9	2212.0	2217.2	2213.3	2209.5	2206.9	2203.0	2201.7
7.5°	2192.7	2195.3	2199.2	2205.6	2212.0	2219.8	2214.6	2209.5	2203.0	2197.9	2195.3
10°	2177.3	2179.9	2186.3	2192.7	2199.2	2205.6	2200.5	2195.3	2190.2	2183.7	2181.1
12.5°	2158.0	2161.8	2169.6	2176.0	2182.4	2190.2	2183.7	2177.3	2170.8	2164.4	2160.5
15°	2129.6	2134.8	2143.8	2151.5	2160.5	2167.0	2161.8	2156.7	2149.0	2139.9	2133.5
17.5°	2093.6	2101.3	2110.3	2119.3	2127.1	2133.5	2129.6	2124.5	2115.5	2105.2	2097.5
20°	2053.7	2061.4	2069.1	2078.1	2087.2	2093.6	2088.4	2082.0	2073.0	2065.3	2057.5
22.5°	2007.3	2015.1	2024.1	2031.8	2039.5	2046.0	2039.5	2031.8	2024.1	2016.3	2008.6
25°	1954.5	1962.3	1972.6	1980.3	1985.4	1990.6	1985.4	1979.0	1971.3	1963.5	1955.8
27.5°	1899.2	1906.9	1917.2	1924.9	1930.1	1935.2	1930.1	1923.6	1915.9	1908.2	1900.5
30°	1837.4	1845.1	1855.4	1863.1	1867.0	1870.8	1865.7	1860.5	1854.1	1846.4	1838.7
32.5°	1771.7	1779.4	1787.1	1794.9	1801.3	1806.5	1801.3	1796.2	1788.4	1778.1	1770.4
35°	1702.2	1709.9	1718.9	1726.6	1734.4	1740.8	1733.1	1724.1	1717.6	1711.2	1704.7
37.5°	1628.8	1637.8	1648.1	1657.1	1659.7	1664.8	1659.7	1654.5	1648.1	1641.7	1633.9
40°	1556.7	1564.4	1573.4	1582.4	1586.3	1590.2	1585.0	1579.9	1572.1	1565.7	1558.0
42.5°	1482.0	1489.7	1497.4	1505.2	1510.3	1515.5	1510.3	1502.6	1497.4	1492.3	1485.9
45°	1404.7	1412.5	1418.9	1426.6	1430.5	1434.4	1429.2	1422.8	1417.6	1413.8	1407.3
47.5°	1326.2	1332.6	1339.1	1345.5	1348.1	1352.0	1346.8	1342.9	1339.1	1335.2	1330.1
50°	1243.8	1250.2	1258.0	1264.4	1265.7	1269.5	1264.4	1260.5	1256.7	1252.8	1248.9
52.5°	1162.7	1167.8	1174.3	1180.7	1183.3	1185.9	1180.7	1175.6	1171.7	1169.1	1165.3
55°	1077.7	1082.8	1089.3	1094.4	1098.3	1100.9	1095.7	1090.6	1086.7	1085.4	1081.6
57.5°	992.7	997.9	1004.3	1009.5	1012.0	1014.6	1009.5	1004.3	1001.7	999.2	996.6
60°	906.5	911.6	916.8	920.6	923.2	924.5	919.3	915.5	914.2	912.9	910.3
62.5°	821.5	824.0	829.2	831.8	834.3	835.6	831.8	829.2	827.9	826.6	825.3
65°	732.6	739.1	742.9	745.5	745.5	746.8	742.9	741.6	740.4	739.1	736.5
67.5°	641.2	646.4	648.9	651.5	651.5	651.5	651.5	651.5	650.2	647.6	645.1
70°	553.7	557.5	560.1	561.4	561.4	561.4	558.8	557.5	558.8	558.8	557.5
72.5°	464.8	467.4	468.7	470.0	468.7	468.7	468.7	471.3	471.3	470.0	467.4
75°	378.5	381.1	382.4	383.7	382.4	382.4	382.4	385.0	383.7	383.7	382.4
77.5°	297.4	298.7	298.7	300.0	298.7	298.7	300.0	302.6	301.3	301.3	301.3
80°	220.2	220.2	220.2	221.5	220.2	220.2	221.5	224.0	222.7	222.7	222.7
82.5°	149.4	150.6	150.6	150.6	151.9	153.2	153.2	153.2	153.2	153.2	151.9
85°	88.8	90.1	88.8	88.8	88.8	88.8	90.1	91.4	91.4	91.4	91.4
87.5°	38.6	39.9	38.6	37.3	36.1	36.1	38.6	41.2	41.2	39.9	39.9
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P709199
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CANDELA DISTRIBUTION (continued):

	330°	340°	350°	360°
0°	2192.7	2192.7	2192.7	2192.7
2.5°	2205.6	2205.6	2194.0	2182.4
5°	2204.3	2201.7	2188.9	2174.7
7.5°	2196.6	2192.7	2176.0	2160.5
10°	2178.6	2173.4	2155.4	2136.1
12.5°	2156.7	2149.0	2128.4	2109.0
15°	2128.4	2119.3	2097.5	2075.6
17.5°	2091.0	2080.7	2058.8	2035.7
20°	2051.1	2039.5	2015.1	1990.6
22.5°	2002.2	1991.9	1966.1	1941.7
25°	1949.4	1937.8	1912.0	1886.3
27.5°	1892.7	1879.9	1854.1	1829.6
30°	1830.9	1818.1	1792.3	1767.8
32.5°	1765.3	1755.0	1729.2	1702.2
35°	1698.3	1685.4	1659.7	1633.9
37.5°	1627.5	1615.9	1591.4	1567.0
40°	1552.8	1541.2	1515.5	1491.0
42.5°	1479.4	1469.1	1444.7	1421.5
45°	1400.9	1390.6	1367.4	1346.8
47.5°	1322.3	1312.0	1290.1	1268.3
50°	1242.5	1232.2	1211.6	1192.3
52.5°	1158.8	1151.1	1131.8	1112.5
55°	1075.1	1066.1	1046.8	1030.1
57.5°	991.4	985.0	967.0	950.2
60°	905.2	897.4	883.3	869.1
62.5°	821.5	815.0	800.9	788.0
65°	732.6	727.5	715.9	704.3
67.5°	641.2	637.3	625.8	615.5
70°	553.7	547.2	538.2	529.2
72.5°	464.8	462.2	454.5	446.8
75°	379.8	377.3	369.5	363.1
77.5°	300.0	297.4	291.0	284.6
80°	221.5	220.2	215.0	209.9
82.5°	151.9	150.6	146.8	141.6
85°	91.4	88.8	85.0	81.1
87.5°	39.9	38.6	34.8	32.2
90°	0.0	0.0	0.0	0.0

(END OF REPORT)