

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: P241507

Luminaire Tested: **FVS8M-4-LD4-40-2STD-PA187-UNV-EDC1**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P241507
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1711-410-40)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: FVS8M-4-LD4-40-2STD-PA187-UNV-EDC1
Description: FAILSAFE FVS8M LED FIXTURE
4FT LENGTH, 2-MODULE LED WITH PA187 LENS
Light Source: (168) 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

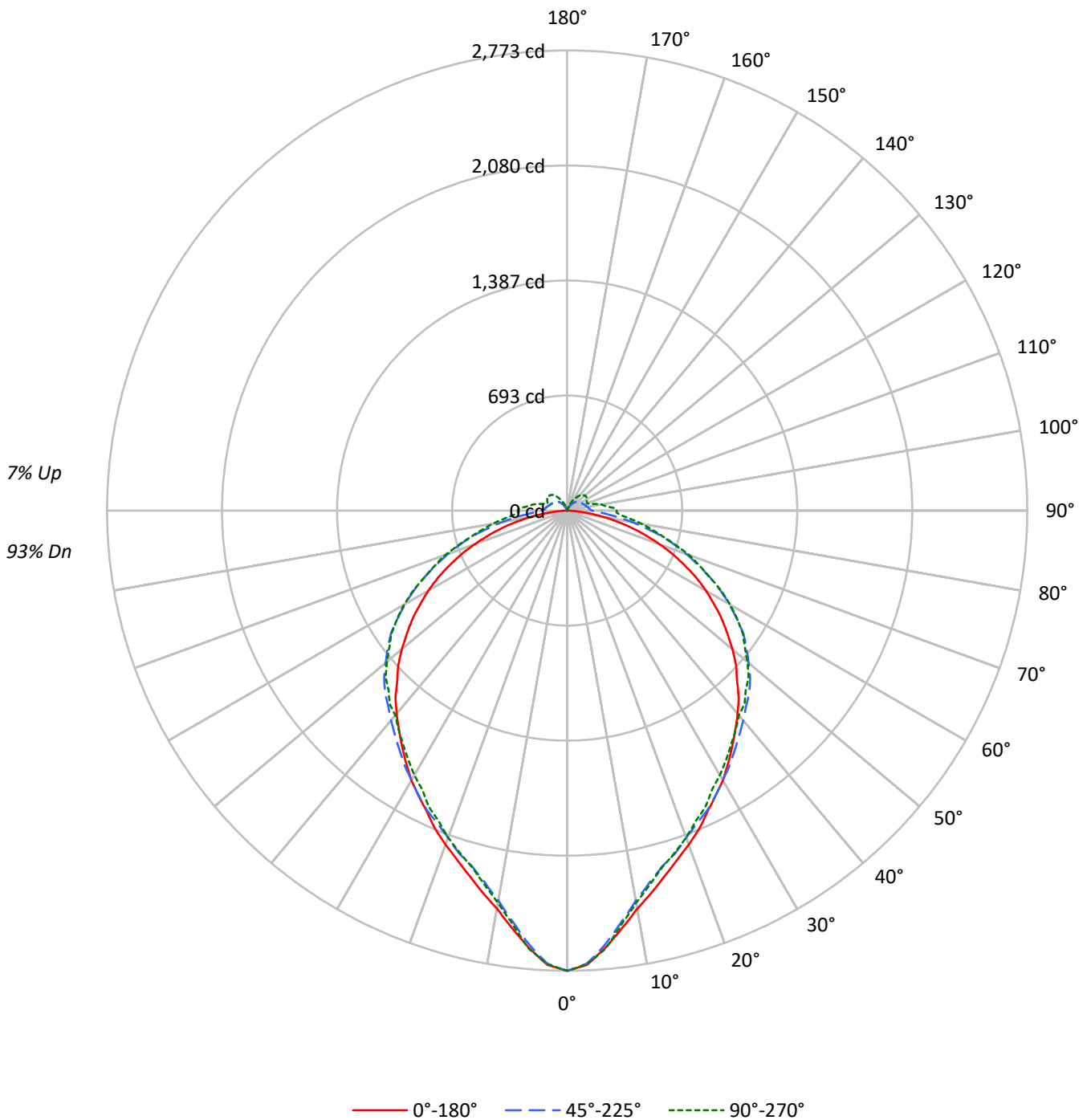
Lumens per Lamp: N/A
Luminaire Lumens: 7422.0 lumens
Efficiency: N/A
Efficacy: 114.4 lumens/watt
Spacing Criteria (0/90/45): 1.01 / 0.99 / 1.24
Luminous Opening: Rectangular w/ Sides (W: 0.65' x L: 3.73' x H: 0.15')
CIE Type: Direct

Input Watts (W): 64.9
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	0	
RCR																						
0	117	117	117	117	114	114	114	114	107	107	107	101	101	101	96	96	96	93				
1	106	101	97	92	103	98	94	90	93	89	86	88	85	82	83	81	79	76				
2	96	88	80	74	93	85	79	73	80	75	70	76	72	68	72	68	65	63				
3	88	77	68	61	84	74	67	60	70	64	58	67	61	57	63	59	55	52				
4	80	68	59	52	77	66	58	51	62	55	50	59	53	48	56	51	47	44				
5	73	60	51	44	71	59	50	44	56	48	43	53	47	42	51	45	41	38				
6	68	54	45	39	65	53	44	38	50	43	37	48	42	36	46	40	36	33				
7	63	49	40	34	61	48	40	34	46	38	33	44	37	32	42	36	32	29				
8	58	45	36	30	56	44	36	30	42	35	29	40	34	29	38	33	28	26				
9	55	41	33	27	53	40	32	27	39	32	27	37	31	26	36	30	26	24				
10	51	38	30	25	50	37	30	25	36	29	24	34	28	24	33	27	23	21				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	12393	12393	12393
5°	11824	11587	11657
10°	10976	10486	10468
15°	10429	9771	9690
20°	10043	9340	9215
25°	9691	9049	8793
30°	9472	8732	8404
35°	9211	8496	8113
40°	9031	8324	7898
45°	8804	8262	7856
50°	8638	8111	7764
55°	8395	7973	7608
60°	8085	7605	7288
65°	7628	7145	6742
70°	6987	6576	6305
75°	6062	5934	5549
80°	4702	4920	5122
85°	2463	3872	4684



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	244.2	3.3
10°-20°	633.1	8.5
20°-30°	919.3	12.4
30°-40°	1097.6	14.8
40°-50°	1175.4	15.8
50°-60°	1117.1	15.1
60°-70°	898.8	12.1
70°-80°	575.5	7.8
80°-90°	253.0	3.4
90°-100°	141.3	1.9
100°-110°	106.6	1.4
110°-120°	85.2	1.1
120°-130°	75.4	1.0
130°-140°	55.3	0.7
140°-150°	30.4	0.4
150°-160°	11.5	0.2
160°-170°	2.3	0.0
170°-180°	0.0	0.0
0°-30°	1796.6	24.2
0°-40°	2894.2	39.0
0°-60°	5186.7	69.9
0°-90°	6914.0	93.2
90°-120°	333.1	4.5
90°-150°	494.2	6.7
90°-180°	508.0	6.8
0°-180°	7422.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2773	2773	2773	2773	2773	
5°	2645	2636	2625	2636	2650	246
15°	2278	2261	2218	2224	2221	643
25°	2001	2004	1995	1981	1971	925
35°	1734	1774	1762	1757	1722	1087
45°	1447	1506	1552	1552	1524	1121
55°	1138	1203	1297	1294	1291	1015
65°	782	858	947	958	946	774
75°	402	479	584	618	592	427
85°	70	139	237	297	327	91
90°	1	65	150	211	298	3
95°	1	59	134	199	255	1
105°	1	52	115	155	155	1
115°	1	46	101	128	131	1
125°	1	38	94	135	142	1
135°	2	28	75	118	133	1
145°	2	14	48	81	96	1
155°	2	5	23	42	50	1
165°	2	2	6	11	16	1
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0



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CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	2773.0	2773.0	2773.0	2773.0	2773.0	2773.0	2773.0	2773.0	2773.0	2773.0	2773.0
2.5°	2739.5	2746.9	2741.1	2739.5	2738.7	2743.6	2742.8	2744.4	2743.6	2735.4	2733.0
5°	2644.6	2648.7	2643.8	2644.6	2637.3	2635.6	2638.9	2644.6	2638.9	2639.7	2625.0
7.5°	2538.3	2540.0	2531.0	2522.0	2520.3	2527.7	2526.1	2520.3	2515.4	2504.0	2501.5
10°	2435.3	2441.0	2429.6	2419.8	2415.7	2416.5	2414.0	2402.6	2401.8	2394.4	2387.0
12.5°	2356.8	2361.7	2349.4	2338.8	2334.7	2331.4	2336.3	2320.0	2316.7	2309.4	2295.5
15°	2277.5	2274.2	2275.8	2261.9	2261.9	2261.1	2257.0	2248.0	2239.9	2230.0	2217.8
17.5°	2205.5	2209.6	2201.4	2190.8	2190.0	2191.6	2190.8	2189.2	2182.6	2170.3	2166.3
20°	2141.7	2138.4	2129.5	2132.7	2131.1	2130.3	2131.9	2122.9	2113.1	2109.0	2097.6
22.5°	2077.1	2071.4	2065.7	2068.9	2068.9	2060.8	2064.0	2060.8	2053.4	2051.8	2041.1
25°	2001.1	2010.9	2006.0	1998.6	2001.1	2003.5	2010.9	2010.1	2006.8	2006.0	1995.3
27.5°	1938.1	1942.2	1935.6	1935.6	1951.2	1955.3	1954.5	1946.3	1947.1	1930.7	1935.6
30°	1876.8	1872.7	1876.8	1884.9	1886.6	1887.4	1885.8	1889.8	1882.5	1881.7	1875.1
32.5°	1805.6	1806.4	1812.2	1808.9	1822.8	1826.9	1829.3	1840.8	1839.1	1830.2	1822.0
35°	1734.5	1744.3	1740.2	1741.0	1775.4	1774.5	1776.2	1777.0	1765.5	1753.3	1761.5
37.5°	1665.0	1672.3	1669.9	1688.7	1698.5	1697.7	1696.9	1704.2	1709.9	1704.2	1704.2
40°	1598.7	1591.4	1602.0	1618.4	1624.1	1635.5	1649.4	1659.2	1658.4	1651.9	1651.1
42.5°	1530.9	1527.6	1534.9	1543.1	1569.3	1582.4	1590.5	1592.2	1584.0	1593.0	1596.3
45°	1447.4	1458.1	1451.5	1481.0	1499.8	1506.3	1511.2	1524.3	1536.6	1541.5	1552.1
47.5°	1380.4	1382.8	1384.5	1409.8	1422.1	1434.4	1443.4	1465.4	1483.4	1491.6	1495.7
50°	1300.2	1295.3	1310.9	1326.4	1354.2	1368.9	1381.2	1391.8	1408.2	1422.1	1427.0
52.5°	1216.8	1219.3	1229.1	1247.1	1280.6	1293.7	1298.6	1315.8	1334.6	1349.3	1362.4
55°	1137.5	1140.8	1146.5	1175.1	1193.1	1202.9	1219.3	1245.5	1266.7	1277.3	1297.0
57.5°	1049.2	1054.9	1065.5	1085.2	1108.9	1126.1	1139.1	1165.3	1187.4	1198.8	1211.9
60°	965.8	960.9	985.4	998.5	1027.9	1046.7	1053.3	1074.5	1098.3	1116.2	1126.9
62.5°	878.3	876.6	889.7	913.4	938.8	949.4	958.4	990.3	1007.5	1027.9	1041.8
65°	781.8	790.0	798.1	824.3	845.6	857.8	872.6	899.5	922.4	940.4	947.0
67.5°	691.0	695.9	713.9	731.9	754.0	764.6	783.4	807.9	830.8	846.4	852.9
70°	592.1	599.4	619.0	639.5	664.0	673.0	686.1	713.1	734.4	754.8	762.2
72.5°	496.4	502.1	522.6	539.7	568.3	583.1	594.5	619.0	637.9	656.7	673.8
75°	402.3	413.0	429.3	445.7	474.3	479.2	491.5	519.3	542.2	563.4	583.9
77.5°	314.0	320.6	330.4	358.2	375.4	386.8	398.3	425.2	451.4	466.9	483.3
80°	223.2	232.2	242.9	260.0	285.4	296.8	306.7	332.0	356.5	375.4	394.2
82.5°	143.1	146.4	161.1	177.5	204.4	211.0	220.8	246.1	268.2	290.3	309.1
85°	69.5	77.7	90.0	108.8	129.2	139.0	148.8	174.2	197.1	218.3	237.2
87.5°	22.9	27.8	40.9	57.2	77.7	89.1	98.1	121.0	142.3	164.4	184.0
90°	0.8	6.5	18.8	35.2	54.8	64.6	75.2	95.7	116.1	134.9	149.7
92.5°	0.8	4.9	16.4	32.7	51.5	61.3	71.1	90.8	109.6	124.3	139.0
95°	0.8	4.1	15.5	31.9	49.1	58.9	68.7	86.7	103.0	119.4	134.1
97.5°	0.8	4.1	14.7	30.3	47.4	57.2	65.4	82.6	98.9	114.5	130.0
100°	0.8	4.1	13.9	29.4	45.8	54.8	63.0	79.3	95.7	110.4	125.1
102.5°	0.8	3.3	13.9	28.6	44.2	52.3	60.5	76.9	92.4	106.3	120.2
105°	0.8	3.3	13.1	27.0	43.3	51.5	58.9	74.4	89.1	103.0	115.3
107.5°	0.8	2.5	12.3	26.2	41.7	49.9	58.1	72.8	86.7	99.8	111.2
110°	0.8	2.5	12.3	25.4	40.9	49.1	56.4	71.1	85.0	97.3	107.1



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	0.8	2.5	11.4	24.5	39.3	47.4	54.8	69.5	82.6	94.0	103.9
115°	0.8	1.6	10.6	23.7	38.4	45.8	53.2	67.9	81.0	91.6	101.4
117.5°	0.8	1.6	9.8	22.9	36.8	44.2	51.5	65.4	78.5	90.0	99.8
120°	0.8	1.6	9.0	21.3	35.2	42.5	49.9	63.8	76.9	87.5	98.1
122.5°	0.8	1.6	8.2	19.6	33.5	40.9	48.2	61.3	74.4	85.9	96.5
125°	0.8	0.8	7.4	18.8	31.9	38.4	45.8	58.9	72.0	83.4	94.0
127.5°	0.8	0.8	6.5	17.2	29.4	36.8	43.3	56.4	68.7	80.1	90.8
130°	0.8	0.8	5.7	15.5	27.8	34.3	40.1	53.2	65.4	76.1	86.7
132.5°	0.8	0.8	4.9	13.1	24.5	30.3	36.8	49.1	61.3	71.1	81.0
135°	1.6	0.8	3.3	11.4	22.1	27.8	32.7	44.2	55.6	65.4	75.2
137.5°	1.6	0.8	2.5	9.8	18.8	23.7	28.6	39.3	49.9	59.7	69.5
140°	1.6	1.6	2.5	7.4	15.5	20.4	25.4	34.3	44.2	53.2	62.1
142.5°	1.6	1.6	1.6	5.7	13.1	17.2	20.4	29.4	38.4	46.6	54.8
145°	1.6	1.6	1.6	4.9	10.6	13.9	17.2	24.5	32.7	40.1	48.2
147.5°	1.6	1.6	1.6	3.3	8.2	11.4	13.9	20.4	27.0	34.3	40.9
150°	1.6	1.6	1.6	2.5	6.5	9.0	11.4	17.2	22.9	28.6	34.3
152.5°	1.6	1.6	1.6	1.6	4.9	6.5	9.0	13.1	18.0	23.7	28.6
155°	1.6	1.6	1.6	1.6	3.3	4.9	6.5	10.6	14.7	18.8	22.9
157.5°	2.5	1.6	1.6	1.6	2.5	3.3	4.9	7.4	10.6	14.7	18.0
160°	2.5	1.6	1.6	1.6	1.6	2.5	3.3	5.7	8.2	10.6	13.1
162.5°	2.5	2.5	1.6	1.6	1.6	1.6	1.6	3.3	4.9	7.4	9.0
165°	2.5	2.5	1.6	1.6	1.6	1.6	1.6	1.6	2.5	4.1	5.7
167.5°	2.5	2.5	1.6	1.6	0.8	0.8	0.8	0.8	1.6	1.6	2.5
170°	2.5	2.5	1.6	1.6	1.6	0.8	0.8	0.8	0.8	0.8	0.8
172.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180°	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):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
0°	2773.0	2773.0	2773.0	2773.0	2773.0	2773.0	2773.0	2773.0	2773.0	2773.0
2.5°	2730.5	2734.6	2737.9	2736.2	2737.1	2743.6	2733.0	2737.1	2738.7	2736.2
5°	2626.7	2629.1	2637.3	2639.7	2636.5	2638.9	2639.7	2643.8	2650.4	2649.6
7.5°	2499.1	2505.6	2504.0	2509.7	2512.2	2513.8	2514.6	2515.4	2514.6	2514.6
10°	2380.5	2387.9	2392.0	2399.3	2396.9	2398.5	2394.4	2400.1	2396.0	2398.5
12.5°	2302.8	2303.6	2289.7	2296.3	2294.6	2296.3	2303.6	2297.1	2303.6	2306.9
15°	2215.3	2217.0	2226.0	2228.4	2224.3	2221.9	2226.0	2229.2	2227.6	2221.0
17.5°	2164.6	2162.2	2164.6	2167.9	2167.9	2170.3	2167.1	2171.2	2161.3	2159.7
20°	2105.7	2108.2	2114.7	2112.3	2101.7	2095.9	2095.9	2092.7	2091.0	2096.7
22.5°	2048.5	2050.9	2044.4	2044.4	2049.3	2046.9	2043.6	2035.4	2024.0	2024.8
25°	1997.0	1993.7	1999.4	1993.7	1980.6	1981.4	1973.3	1975.7	1973.3	1970.8
27.5°	1925.0	1937.3	1933.2	1932.4	1931.6	1938.1	1923.4	1916.8	1907.0	1893.1
30°	1875.1	1867.8	1876.8	1871.0	1866.1	1853.9	1849.0	1837.5	1840.0	1840.8
32.5°	1825.2	1824.4	1818.7	1799.1	1799.9	1799.1	1799.1	1791.7	1781.9	1781.9
35°	1754.1	1759.8	1745.9	1759.0	1757.4	1742.7	1732.0	1727.1	1727.1	1722.2
37.5°	1706.7	1693.6	1696.0	1688.7	1685.4	1688.7	1689.5	1678.0	1678.0	1667.4
40°	1653.5	1655.2	1645.3	1649.4	1655.2	1642.1	1638.0	1615.9	1608.5	1610.2
42.5°	1599.5	1606.1	1616.7	1609.4	1597.9	1588.9	1581.6	1584.0	1579.1	1581.6
45°	1555.4	1557.8	1560.3	1543.1	1552.1	1554.6	1542.3	1531.7	1529.2	1523.5
47.5°	1505.5	1515.3	1495.7	1500.6	1493.2	1481.8	1481.0	1480.2	1486.7	1482.6
50°	1437.6	1442.5	1441.7	1428.6	1426.2	1428.6	1438.4	1427.8	1419.6	1417.2
52.5°	1368.1	1365.7	1367.3	1371.4	1374.7	1370.6	1355.9	1348.5	1346.0	1350.1
55°	1306.0	1302.7	1296.2	1301.1	1294.5	1292.9	1293.7	1295.3	1294.5	1291.2
57.5°	1219.3	1225.0	1238.1	1215.2	1217.6	1224.2	1226.6	1216.8	1211.9	1214.4
60°	1131.0	1137.5	1135.9	1144.1	1142.4	1133.4	1132.6	1132.6	1135.1	1134.2
62.5°	1044.3	1050.0	1044.3	1049.2	1044.3	1044.3	1042.6	1047.6	1043.5	1045.9
65°	956.8	957.6	966.6	960.9	958.4	963.3	949.4	942.1	942.9	946.2
67.5°	862.7	870.1	871.7	873.4	868.5	864.4	856.2	856.2	861.1	860.3
70°	770.3	781.0	783.4	780.1	775.2	773.6	777.7	786.7	792.4	781.8
72.5°	682.0	695.1	696.7	694.3	700.8	704.9	698.4	686.1	677.9	680.4
75°	592.1	601.9	610.1	615.8	618.2	612.5	601.9	594.5	588.8	592.1
77.5°	501.3	513.6	521.7	521.7	522.6	525.0	522.6	522.6	520.1	520.9
80°	411.3	427.7	427.7	440.8	444.9	442.4	450.6	451.4	453.0	453.9
82.5°	332.0	343.5	350.8	362.3	369.6	370.4	378.6	380.3	383.5	386.8
85°	256.0	268.2	282.1	291.9	296.8	302.6	312.4	314.8	325.5	327.1
87.5°	197.1	210.2	224.1	238.0	243.7	247.0	256.0	267.4	286.2	297.7
90°	163.6	179.1	193.8	205.3	211.0	216.7	230.6	248.6	278.0	297.7
92.5°	155.4	170.1	181.5	194.6	202.8	210.2	229.8	254.3	280.5	290.3
95°	149.7	163.6	176.6	191.4	198.7	206.9	224.1	239.6	251.9	255.1
97.5°	143.1	156.2	169.3	183.2	190.5	196.3	207.7	215.9	223.2	225.7
100°	137.4	149.7	162.7	174.2	179.1	184.0	193.0	202.8	208.5	210.2
102.5°	131.7	143.1	153.7	162.7	167.6	171.7	179.1	182.4	182.4	181.5
105°	126.8	136.6	144.7	152.1	154.6	157.8	160.3	157.8	155.4	154.6
107.5°	121.0	129.2	135.7	140.7	142.3	143.1	142.3	139.8	138.2	137.4
110°	116.1	123.5	128.4	131.7	132.5	132.5	131.7	130.0	128.4	127.6



TEST NUMBER: P241507

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CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
112.5°	112.0	118.6	123.5	125.9	126.8	127.6	129.2	128.4	127.6	127.6
115°	109.6	116.1	121.8	125.9	127.6	129.2	131.7	131.7	131.7	130.8
117.5°	107.9	116.1	122.7	127.6	130.8	133.3	136.6	137.4	135.7	134.9
120°	107.9	116.1	123.5	130.8	133.3	136.6	139.8	140.7	139.0	138.2
122.5°	106.3	116.1	124.3	131.7	135.7	139.0	142.3	142.3	141.5	140.7
125°	104.7	114.5	122.7	130.8	134.9	138.2	142.3	143.1	142.3	141.5
127.5°	101.4	111.2	120.2	128.4	131.7	134.9	139.8	142.3	142.3	141.5
130°	97.3	107.9	116.1	124.3	128.4	131.7	137.4	139.8	139.8	139.8
132.5°	91.6	102.2	110.4	119.4	123.5	127.6	133.3	135.7	137.4	137.4
135°	85.9	94.9	104.7	112.9	117.8	121.8	128.4	130.8	132.5	133.3
137.5°	79.3	87.5	96.5	105.5	110.4	114.5	121.8	124.3	126.8	127.6
140°	72.0	80.1	89.1	97.3	101.4	105.5	112.0	115.3	118.6	118.6
142.5°	63.8	72.8	81.0	88.3	91.6	95.7	101.4	104.7	107.1	107.9
145°	56.4	64.6	71.1	78.5	81.0	84.2	89.1	92.4	95.7	96.5
147.5°	49.1	56.4	63.0	68.7	71.1	73.6	76.9	80.1	82.6	83.4
150°	40.9	46.6	53.2	58.9	61.3	63.0	66.2	67.9	70.3	71.1
152.5°	33.5	39.3	44.2	49.9	51.5	53.2	55.6	58.1	58.9	59.7
155°	27.0	31.1	36.0	40.9	42.5	44.2	46.6	48.2	49.1	49.9
157.5°	21.3	24.5	27.8	31.9	34.3	36.0	37.6	39.3	40.1	40.9
160°	15.5	18.8	21.3	23.7	26.2	27.0	30.3	31.1	31.1	31.9
162.5°	11.4	13.1	15.5	17.2	18.0	19.6	22.1	22.1	23.7	22.9
165°	6.5	8.2	9.8	10.6	11.4	12.3	14.7	15.5	15.5	15.5
167.5°	3.3	4.1	4.9	5.7	5.7	6.5	7.4	9.0	9.0	9.0
170°	0.8	0.8	1.6	1.6	1.6	1.6	2.5	3.3	3.3	3.3
172.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
175°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
177.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
180°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)