

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: P241446

Luminaire Tested: **FVS8M-2-LD4-35-3STD-PA187-UNV-EDC1**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P241446
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1711-410-15)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: FVS8M-2-LD4-35-3STD-PA187-UNV-EDC1
Description: FAILSAFE FVS8M LED FIXTURE
2FT LENGTH, 3-MODULE LED WITH PA187 LENS
Light Source: (126) 3500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

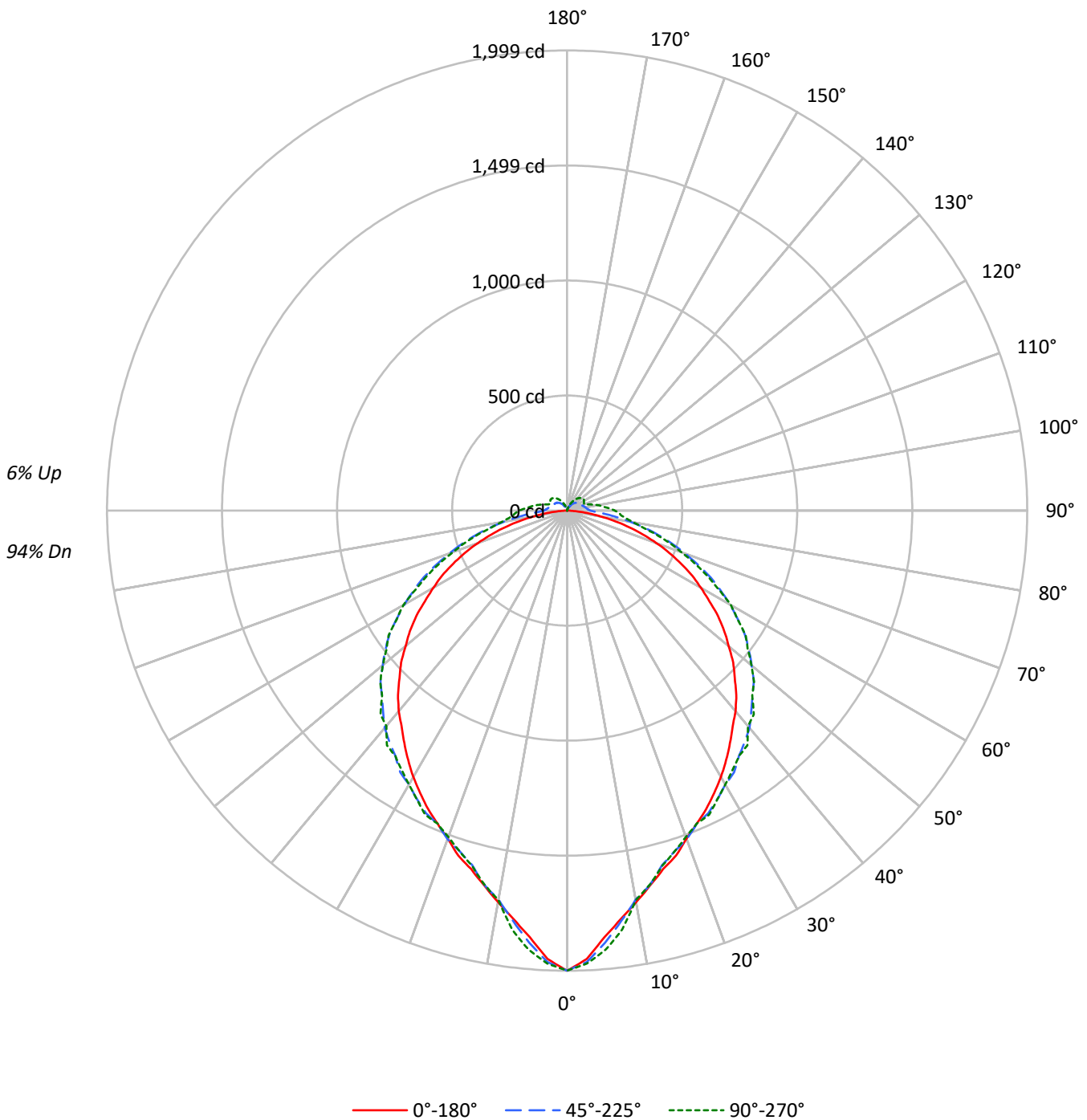
Lumens per Lamp: N/A
Luminaire Lumens: 5312.0 lumens
Efficiency: N/A
Efficacy: 105.0 lumens/watt
Spacing Criteria (0/90/45): 1 / 1.03 / 1.26
Luminous Opening: Rectangular w/ Sides (W: 0.65' x L: 1.85' x H: 0.15')
CIE Type: Direct

Input Watts (W): 50.6
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

TEST NUMBER: P241446

CATALOG NUMBER: FVS8M-2-LD4-35-3STD-PA187-UNV-EDC1

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	118	118	118	118	114	114	114	114	108	108	108	102	102	102	96	96	96	94
1	107	101	97	93	103	99	94	91	93	90	87	88	85	83	84	81	79	77
2	97	88	81	75	93	85	79	73	81	75	71	77	72	68	73	69	66	63
3	88	77	69	62	85	75	67	61	71	64	59	67	62	57	64	59	55	53
4	80	68	59	52	77	66	58	51	63	56	50	60	54	49	57	52	47	45
5	74	61	51	45	71	59	51	44	56	49	43	54	47	42	51	46	41	39
6	68	54	45	39	66	53	45	38	51	43	38	48	42	37	46	41	36	34
7	63	49	40	34	61	48	40	34	46	39	33	44	38	33	42	36	32	30
8	59	45	36	31	57	44	36	30	42	35	30	40	34	29	39	33	29	27
9	55	41	33	27	53	40	33	27	39	32	27	37	31	26	36	30	26	24
10	51	38	30	25	50	37	30	25	36	29	24	35	28	24	33	28	23	22

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	17965	17965	17965
5°	16664	16690	16945
10°	15547	15086	15081
15°	14691	14026	14017
20°	14101	13472	13331
25°	13683	13079	13087
30°	13266	12685	12616
35°	12827	12412	12333
40°	12522	12249	12055
45°	12138	11908	11789
50°	11708	11640	11516
55°	11281	11313	11223
60°	10609	10685	10618
65°	9950	10003	9620
70°	8930	8988	8541
75°	7491	7896	7516
80°	5438	6484	6587
85°	2661	4887	6762



TEST NUMBER: P241446

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	175.0	3.3
10°-20°	453.4	8.5
20°-30°	665.0	12.5
30°-40°	808.6	15.2
40°-50°	860.7	16.2
50°-60°	808.3	15.2
60°-70°	642.2	12.1
70°-80°	400.9	7.5
80°-90°	175.3	3.3
90°-100°	92.8	1.7
100°-110°	68.7	1.3
110°-120°	53.3	1.0
120°-130°	46.1	0.9
130°-140°	33.4	0.6
140°-150°	19.1	0.4
150°-160°	7.8	0.1
160°-170°	1.6	0.0
170°-180°	0.0	0.0
0°-30°	1293.4	24.3
0°-40°	2101.9	39.6
0°-60°	3771.0	71.0
0°-90°	4989.4	93.9
90°-120°	214.7	4.0
90°-150°	313.2	5.9
90°-180°	323.0	6.1
0°-180°	5312.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1999	1999	1999	1999	1999	
5°	1860	1862	1884	1909	1915	174
15°	1612	1608	1594	1587	1597	456
25°	1430	1427	1451	1443	1458	658
35°	1233	1272	1302	1328	1302	773
45°	1030	1084	1138	1143	1137	796
55°	801	861	944	950	947	713
65°	547	609	687	694	671	540
75°	279	338	410	424	399	296
85°	49	102	164	203	235	62
90°	0	47	100	148	207	2
95°	0	39	88	129	166	0
105°	0	33	74	100	102	0
115°	0	29	64	80	80	0
125°	0	25	58	81	86	0
135°	1	18	47	69	77	1
145°	1	11	32	49	56	1
155°	1	5	17	27	31	0
165°	1	1	4	9	10	0
175°	0	0	0	0	0	0
180°	0	0	0	0	0	0



TEST NUMBER: P241446

CATALOG NUMBER: FVS8M-2-LD4-35-3STD-PA187-UNV-EDC1

CANDELA DISTRIBUTION (FULL):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
0°	1998.6	1998.6	1998.6	1998.6	1998.6	1998.6	1998.6	1998.6	1998.6	1998.6	1998.6
2.5°	1949.6	1954.4	1954.4	1955.2	1954.4	1954.4	1957.6	1956.0	1960.8	1960.8	1962.4
5°	1859.5	1866.0	1866.0	1864.4	1865.2	1861.9	1859.5	1869.2	1874.8	1882.0	1884.5
7.5°	1788.8	1794.4	1791.2	1788.0	1784.0	1784.8	1788.8	1793.6	1798.4	1800.8	1798.4
10°	1726.9	1726.1	1724.5	1716.4	1717.2	1717.2	1721.3	1723.7	1719.6	1714.8	1715.6
12.5°	1667.4	1666.6	1664.2	1665.0	1665.8	1666.6	1667.4	1656.9	1653.7	1663.4	1665.0
15°	1611.9	1615.1	1612.7	1612.7	1612.7	1607.9	1609.5	1604.7	1603.9	1607.9	1594.2
17.5°	1571.7	1562.1	1562.1	1563.7	1559.7	1555.6	1554.8	1559.7	1562.1	1551.6	1552.4
20°	1516.3	1514.6	1512.2	1519.5	1515.4	1514.6	1518.7	1522.7	1516.3	1506.6	1518.7
22.5°	1472.0	1467.2	1469.6	1478.5	1473.6	1468.8	1468.0	1472.0	1463.2	1472.0	1472.0
25°	1430.2	1422.2	1427.8	1426.2	1424.6	1427.0	1431.0	1435.9	1440.7	1443.1	1451.1
27.5°	1382.8	1378.0	1380.4	1382.8	1393.2	1398.1	1397.3	1396.5	1406.1	1403.7	1413.3
30°	1336.2	1325.7	1338.6	1342.6	1347.4	1347.4	1349.8	1361.1	1364.3	1372.3	1374.0
32.5°	1285.5	1282.3	1292.8	1296.0	1305.6	1308.8	1311.2	1328.9	1338.6	1342.6	1349.0
35°	1233.3	1238.1	1242.1	1247.7	1268.6	1271.8	1278.3	1287.1	1294.4	1297.6	1301.6
37.5°	1181.0	1188.2	1191.5	1213.2	1215.6	1222.0	1227.6	1238.1	1251.8	1260.6	1267.0
40°	1137.6	1134.4	1147.2	1158.5	1164.1	1176.2	1189.0	1205.9	1219.6	1223.6	1232.5
42.5°	1087.7	1084.5	1099.8	1103.0	1123.1	1138.4	1148.8	1156.9	1164.1	1174.6	1183.4
45°	1029.9	1036.3	1038.7	1055.6	1077.3	1084.5	1086.1	1103.8	1118.3	1132.0	1138.4
47.5°	978.4	981.6	985.6	1004.9	1021.0	1028.3	1037.9	1060.4	1078.1	1093.4	1099.8
50°	915.7	918.9	934.2	946.2	967.2	977.6	991.3	1007.3	1021.0	1033.1	1045.9
52.5°	861.0	859.4	872.3	886.8	917.3	925.3	930.2	948.7	971.2	984.0	995.3
55°	800.7	803.1	812.0	834.5	845.8	861.0	871.5	898.0	920.5	934.2	943.8
57.5°	732.4	743.7	755.7	773.4	784.7	799.9	812.8	843.3	862.6	871.5	879.5
60°	670.5	678.5	694.6	707.5	728.4	742.0	749.3	773.4	794.3	804.0	816.0
62.5°	613.4	615.0	633.5	645.6	667.3	674.5	686.6	707.5	727.6	738.8	751.7
65°	546.7	551.5	559.5	580.5	598.9	609.4	620.6	647.2	660.0	679.3	687.4
67.5°	480.8	488.8	496.8	515.3	532.2	543.5	554.7	578.0	590.9	607.8	615.0
70°	413.2	418.1	429.3	446.2	464.7	475.1	486.4	503.3	520.2	534.6	544.3
72.5°	344.9	349.7	362.6	378.7	400.4	406.0	417.3	435.7	454.2	467.1	478.4
75°	279.0	282.2	296.7	310.3	332.0	337.7	348.1	367.4	386.7	402.8	410.0
77.5°	214.7	217.9	231.5	246.8	265.3	275.8	284.6	301.5	320.8	332.0	343.3
80°	151.9	158.4	167.2	183.3	201.8	210.6	221.9	240.4	256.5	267.7	278.2
82.5°	95.7	101.3	110.9	128.6	144.7	151.9	161.6	178.5	196.2	205.0	214.7
85°	49.0	53.1	64.3	78.0	94.1	102.1	110.9	127.8	139.9	152.8	164.0
87.5°	16.1	20.1	29.7	43.4	58.7	65.9	73.2	88.4	99.7	111.7	123.0
90°	0.0	4.8	14.5	26.5	40.2	47.4	54.7	65.9	77.2	90.0	100.5
92.5°	0.0	3.2	11.3	23.3	36.2	41.8	47.4	58.7	70.7	81.2	92.5
95°	0.0	3.2	10.5	21.7	33.0	38.6	45.0	55.5	66.7	78.0	87.6
97.5°	0.0	2.4	9.6	20.1	31.4	37.0	41.8	53.9	64.3	74.8	83.6
100°	0.0	2.4	9.6	19.3	29.7	35.4	41.0	51.5	61.9	70.7	80.4
102.5°	0.0	2.4	8.8	18.5	28.9	33.8	39.4	49.8	58.7	68.3	76.4
105°	0.0	2.4	8.8	17.7	28.1	33.0	37.8	48.2	57.1	65.1	74.0
107.5°	0.0	2.4	8.0	16.9	26.5	32.2	37.0	46.6	55.5	63.5	70.7
110°	0.0	1.6	8.0	16.9	25.7	30.6	35.4	45.0	53.1	61.1	67.5



TEST NUMBER: P241446

CATALOG NUMBER: FVS8M-2-LD4-35-3STD-PA187-UNV-EDC1

CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	0.0	1.6	8.0	16.1	24.9	29.7	34.6	43.4	52.3	58.7	65.1
115°	0.0	1.6	7.2	15.3	24.1	28.9	33.8	42.6	49.8	57.1	63.5
117.5°	0.0	1.6	7.2	14.5	23.3	28.1	32.2	41.0	49.0	55.5	61.9
120°	0.0	1.6	6.4	13.7	22.5	27.3	31.4	39.4	47.4	54.7	61.1
122.5°	0.0	0.8	6.4	13.7	21.7	25.7	29.7	38.6	45.8	53.1	60.3
125°	0.0	0.8	5.6	12.9	20.1	24.9	28.9	37.0	44.2	51.5	57.9
127.5°	0.0	0.8	4.8	12.1	19.3	23.3	27.3	35.4	42.6	49.0	56.3
130°	0.8	0.8	4.8	11.3	17.7	21.7	25.7	33.0	40.2	46.6	53.1
132.5°	0.8	0.8	4.0	9.6	16.9	20.1	23.3	30.6	37.8	44.2	49.8
135°	0.8	0.8	4.0	8.8	15.3	18.5	21.7	28.1	34.6	41.0	46.6
137.5°	0.8	0.8	3.2	8.0	13.7	16.9	19.3	25.7	32.2	37.8	43.4
140°	0.8	0.8	2.4	6.4	12.1	14.5	17.7	23.3	28.9	34.6	39.4
142.5°	0.8	0.8	2.4	5.6	10.5	12.9	15.3	20.9	25.7	30.6	36.2
145°	0.8	0.8	1.6	4.8	8.8	11.3	13.7	18.5	23.3	27.3	32.2
147.5°	0.8	0.8	1.6	4.0	7.2	9.6	11.3	16.1	20.1	24.1	28.1
150°	0.8	0.8	0.8	3.2	5.6	7.2	9.6	12.9	16.9	20.9	24.9
152.5°	0.8	0.8	0.8	2.4	4.8	5.6	7.2	10.5	13.7	17.7	20.9
155°	0.8	0.8	0.8	1.6	3.2	4.8	5.6	8.0	11.3	14.5	16.9
157.5°	0.8	0.8	0.8	0.8	2.4	3.2	4.0	6.4	8.8	11.3	13.7
160°	0.8	0.8	0.8	0.8	1.6	2.4	3.2	4.8	6.4	8.0	9.6
162.5°	0.8	0.8	0.8	0.8	0.8	1.6	1.6	3.2	4.0	5.6	7.2
165°	0.8	0.8	0.8	0.0	0.8	0.8	0.8	1.6	2.4	3.2	4.0
167.5°	0.8	0.8	0.8	0.0	0.0	0.0	0.0	0.8	0.8	1.6	2.4
170°	0.8	0.8	0.8	0.0	0.0	0.0	0.0	0.0	0.0	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



TEST NUMBER: P241446

CATALOG NUMBER: FVS8M-2-LD4-35-3STD-PA187-UNV-EDC1

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
0°	1998.6	1998.6	1998.6	1998.6	1998.6	1998.6	1998.6	1998.6	1998.6	1998.6
2.5°	1963.2	1965.7	1965.7	1966.5	1966.5	1968.9	1968.9	1968.9	1970.5	1969.7
5°	1890.9	1896.5	1900.5	1905.4	1908.6	1911.8	1911.8	1912.6	1917.4	1915.0
7.5°	1796.8	1803.3	1808.1	1817.7	1820.9	1823.4	1829.8	1833.8	1836.2	1834.6
10°	1722.1	1721.3	1726.1	1722.9	1718.8	1721.3	1720.5	1723.7	1719.6	1718.0
12.5°	1655.3	1638.5	1643.3	1654.5	1656.9	1658.5	1664.2	1665.0	1668.2	1663.4
15°	1590.2	1599.9	1599.1	1591.0	1587.0	1584.6	1586.2	1592.6	1598.3	1597.4
17.5°	1556.4	1548.4	1551.6	1572.5	1579.8	1582.2	1574.9	1565.3	1554.8	1552.4
20°	1511.4	1529.1	1538.0	1513.0	1496.2	1493.7	1493.7	1500.2	1508.2	1508.2
22.5°	1484.1	1483.3	1459.2	1480.1	1491.3	1497.8	1494.5	1480.9	1468.0	1472.0
25°	1455.2	1440.7	1466.4	1452.7	1443.1	1438.3	1443.9	1451.9	1455.2	1458.4
27.5°	1404.5	1427.0	1410.1	1420.6	1433.4	1443.9	1439.9	1419.0	1412.5	1414.1
30°	1379.6	1373.1	1392.4	1408.5	1398.9	1384.4	1370.7	1367.5	1374.0	1374.0
32.5°	1351.4	1361.1	1365.9	1341.8	1343.4	1349.0	1355.5	1354.7	1345.0	1337.0
35°	1304.0	1324.9	1304.8	1323.3	1328.1	1320.1	1300.0	1303.2	1305.6	1301.6
37.5°	1280.7	1268.6	1285.5	1279.1	1273.5	1276.7	1290.3	1285.5	1287.1	1285.5
40°	1240.5	1247.7	1233.3	1239.7	1246.1	1248.5	1242.9	1222.8	1220.4	1222.0
42.5°	1187.4	1195.5	1205.1	1211.6	1196.3	1183.4	1186.6	1195.5	1197.9	1200.3
45°	1146.4	1146.4	1156.9	1138.4	1143.2	1151.3	1152.1	1148.8	1141.6	1136.8
47.5°	1105.4	1112.7	1093.4	1103.8	1101.4	1102.2	1093.4	1099.8	1102.2	1101.4
50°	1054.8	1051.6	1056.4	1045.9	1042.7	1043.5	1055.6	1050.8	1046.7	1045.1
52.5°	1003.3	992.9	1002.5	1001.7	1009.8	1010.6	994.5	988.1	991.3	988.9
55°	949.5	951.1	947.9	954.3	949.5	943.8	942.2	943.8	943.8	947.1
57.5°	883.5	896.4	906.1	891.6	889.2	893.2	893.2	884.3	877.9	877.1
60°	820.8	826.5	832.9	834.5	829.7	824.9	823.2	820.8	822.4	821.6
62.5°	760.5	764.6	758.1	759.7	754.9	758.1	757.3	754.1	747.7	741.2
65°	693.0	696.2	693.8	690.6	693.8	697.0	681.7	676.1	670.5	671.3
67.5°	621.5	623.9	624.7	627.9	621.5	616.6	610.2	609.4	603.8	599.7
70°	555.5	553.9	560.4	557.9	552.3	551.5	543.5	533.8	528.2	526.6
72.5°	486.4	489.6	494.4	485.6	491.2	484.8	475.1	469.5	467.9	466.3
75°	418.1	425.3	426.9	423.7	423.7	418.1	416.4	411.6	406.0	398.8
77.5°	352.1	357.8	361.0	361.8	358.6	357.8	354.5	348.1	338.5	332.8
80°	287.0	292.6	297.5	299.9	298.3	303.1	295.9	291.8	288.6	290.2
82.5°	227.5	233.1	240.4	243.6	246.8	247.6	249.2	251.6	254.0	257.3
85°	172.8	181.7	189.7	197.0	202.6	205.0	210.6	217.9	227.5	234.8
87.5°	135.1	143.1	154.4	164.8	168.8	172.8	181.7	194.6	211.4	224.3
90°	111.7	121.4	131.8	142.3	147.9	151.9	164.8	178.5	196.2	207.4
92.5°	101.3	111.7	121.4	131.0	135.9	140.7	151.9	165.6	177.7	187.3
95°	97.3	106.1	115.8	124.6	128.6	133.5	143.1	151.1	160.8	166.4
97.5°	92.5	101.3	110.1	118.2	121.4	125.4	134.3	139.9	147.1	151.9
100°	88.4	97.3	104.5	111.7	115.0	118.2	125.4	131.0	131.8	135.1
102.5°	85.2	92.5	98.9	105.3	106.9	110.1	115.8	119.0	119.0	118.2
105°	81.2	87.6	93.3	98.1	99.7	102.1	103.7	103.7	102.9	102.1
107.5°	77.2	82.8	87.6	90.8	92.5	92.5	92.5	90.8	89.2	88.4
110°	74.0	78.8	82.8	84.4	84.4	84.4	83.6	82.8	82.0	81.2



TEST NUMBER: P241446

CATALOG NUMBER: FVS8M-2-LD4-35-3STD-PA187-UNV-EDC1

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
112.5°	70.7	75.6	78.8	80.4	80.4	80.4	80.4	80.4	79.6	78.8
115°	69.1	73.2	76.4	78.8	79.6	80.4	81.2	81.2	81.2	80.4
117.5°	67.5	72.4	76.4	79.6	80.4	82.0	82.8	83.6	82.8	82.8
120°	67.5	72.4	76.4	80.4	82.0	82.8	84.4	85.2	85.2	84.4
122.5°	65.9	71.6	76.4	80.4	82.0	83.6	85.2	86.0	86.0	86.0
125°	64.3	69.9	75.6	79.6	81.2	82.0	84.4	86.0	86.0	86.0
127.5°	61.9	68.3	73.2	77.2	78.8	80.4	82.8	84.4	85.2	85.2
130°	59.5	65.1	70.7	74.8	76.4	78.0	80.4	82.0	82.8	83.6
132.5°	56.3	61.9	66.7	71.6	73.2	74.8	77.2	79.6	79.6	80.4
135°	52.3	57.9	62.7	66.7	69.1	70.7	74.0	75.6	76.4	77.2
137.5°	48.2	53.1	57.9	62.7	64.3	65.9	69.1	71.6	73.2	73.2
140°	44.2	49.0	53.1	57.1	59.5	61.1	64.3	66.7	67.5	68.3
142.5°	40.2	45.0	49.0	52.3	54.7	56.3	58.7	61.1	61.9	62.7
145°	36.2	40.2	44.2	47.4	49.0	50.6	53.1	54.7	55.5	56.3
147.5°	32.2	36.2	39.4	42.6	43.4	45.0	47.4	49.0	49.8	49.8
150°	28.1	31.4	34.6	37.0	37.8	39.4	41.8	42.6	43.4	43.4
152.5°	24.1	26.5	28.9	31.4	33.0	33.8	35.4	37.0	37.0	37.8
155°	20.1	22.5	24.9	26.5	27.3	28.1	29.7	30.6	31.4	31.4
157.5°	16.1	18.5	20.1	21.7	22.5	23.3	24.1	24.9	25.7	25.7
160°	12.1	13.7	15.3	16.9	17.7	17.7	19.3	19.3	20.1	20.1
162.5°	8.0	9.6	11.3	12.9	12.9	13.7	13.7	14.5	14.5	14.5
165°	4.8	6.4	7.2	8.8	8.8	9.6	9.6	10.5	10.5	10.5
167.5°	3.2	3.2	4.0	4.8	5.6	5.6	5.6	6.4	6.4	6.4
170°	0.8	1.6	1.6	2.4	2.4	2.4	2.4	2.4	2.4	2.4
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)