

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: P241448

Luminaire Tested: **FVS8M-2-LD4-50-3STD-PA187-UNV-EDC1**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P241448
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-LD4-50-3STD-PA187-UNV-EDC1
Description: FAILSAFE FVS8M LED FIXTURE
2FT LENGTH, 3-MODULE LED WITH PA187 LENS
Light Source: (126) 5000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

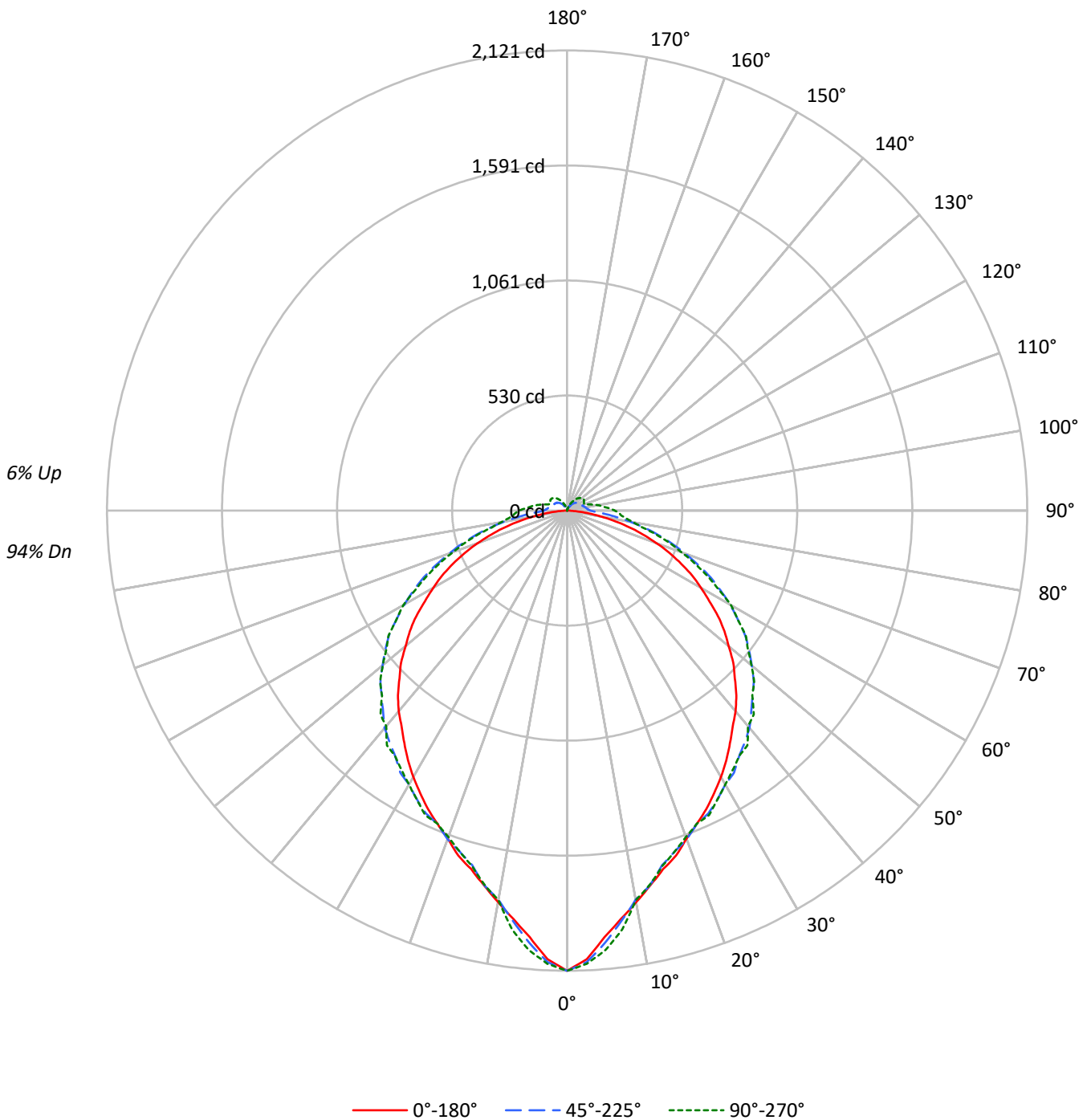
Lumens per Lamp: N/A
Luminaire Lumens: 5638.0 lumens
Efficiency: N/A
Efficacy: 111.4 lumens/watt
Spacing Criteria (0/90/45): 1 / 1.03 / 1.26
Luminous Opening: Rectangular w/ Sides (W: 0.65' x L: 1.85' x H: 0.15')
CIE Type: Direct

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

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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	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°	19068	19068	19068
5°	17687	17714	17984
10°	16501	16012	16007
15°	15592	14888	14878
20°	14966	14299	14150
25°	14523	13882	13890
30°	14081	13463	13391
35°	13613	13174	13090
40°	13291	13001	12795
45°	12882	12639	12513
50°	12426	12354	12223
55°	11974	12008	11912
60°	11259	11341	11270
65°	10559	10617	10210
70°	9479	9540	9065
75°	7950	8381	7976
80°	5774	6880	6991
85°	2830	5188	7177



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	185.7	3.3
10°-20°	481.2	8.5
20°-30°	705.8	12.5
30°-40°	858.2	15.2
40°-50°	913.6	16.2
50°-60°	857.9	15.2
60°-70°	681.6	12.1
70°-80°	425.5	7.5
80°-90°	186.1	3.3
90°-100°	98.5	1.7
100°-110°	72.9	1.3
110°-120°	56.5	1.0
120°-130°	48.9	0.9
130°-140°	35.4	0.6
140°-150°	20.2	0.4
150°-160°	8.2	0.1
160°-170°	1.7	0.0
170°-180°	0.0	0.0
0°-30°	1372.7	24.3
0°-40°	2231.0	39.6
0°-60°	4002.4	71.0
0°-90°	5295.6	93.9
90°-120°	227.9	4.0
90°-150°	332.5	5.9
90°-180°	342.0	6.1
0°-180°	5638.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2121	2121	2121	2121	2121	
5°	1974	1976	2000	2026	2032	184
15°	1711	1707	1692	1684	1696	484
25°	1518	1515	1540	1532	1548	699
35°	1309	1350	1382	1410	1382	820
45°	1093	1151	1208	1213	1207	845
55°	850	914	1002	1008	1005	756
65°	580	647	730	736	712	573
75°	296	358	435	450	423	314
85°	52	108	174	215	249	66
90°	0	50	107	157	220	2
95°	0	41	93	136	177	0
105°	0	35	78	106	108	0
115°	0	31	67	84	85	0
125°	0	26	61	86	91	0
135°	1	20	50	73	82	1
145°	1	12	34	52	60	1
155°	1	5	18	29	33	0
165°	1	1	4	9	11	0
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°	2121.3	2121.3	2121.3	2121.3	2121.3	2121.3	2121.3	2121.3	2121.3	2121.3	2121.3
2.5°	2069.2	2074.3	2074.3	2075.2	2074.3	2074.3	2077.8	2076.1	2081.2	2081.2	2082.9
5°	1973.7	1980.5	1980.5	1978.8	1979.6	1976.2	1973.7	1983.9	1989.9	1997.5	2000.1
7.5°	1898.6	1904.5	1901.1	1897.7	1893.4	1894.3	1898.6	1903.7	1908.8	1911.4	1908.8
10°	1832.9	1832.0	1830.3	1821.8	1822.6	1822.6	1826.9	1829.5	1825.2	1820.1	1820.9
12.5°	1769.7	1768.9	1766.3	1767.2	1768.0	1768.9	1769.7	1758.6	1755.2	1765.5	1767.2
15°	1710.8	1714.3	1711.7	1711.7	1711.7	1706.6	1708.3	1703.2	1702.3	1706.6	1692.1
17.5°	1668.2	1657.9	1657.9	1659.6	1655.4	1651.1	1650.3	1655.4	1657.9	1646.8	1647.7
20°	1609.3	1607.6	1605.0	1612.7	1608.5	1607.6	1611.9	1616.1	1609.3	1599.1	1611.9
22.5°	1562.4	1557.3	1559.8	1569.2	1564.1	1559.0	1558.1	1562.4	1553.0	1562.4	1562.4
25°	1518.0	1509.5	1515.4	1513.7	1512.0	1514.6	1518.9	1524.0	1529.1	1531.7	1540.2
27.5°	1467.7	1462.5	1465.1	1467.7	1478.8	1483.9	1483.0	1482.2	1492.4	1489.8	1500.1
30°	1418.2	1407.1	1420.7	1425.0	1430.1	1430.1	1432.7	1444.6	1448.0	1456.6	1458.3
32.5°	1364.4	1361.0	1372.1	1375.5	1385.7	1389.2	1391.7	1410.5	1420.7	1425.0	1431.8
35°	1308.9	1314.1	1318.3	1324.3	1346.5	1349.9	1356.7	1366.1	1373.8	1377.2	1381.5
37.5°	1253.5	1261.2	1264.6	1287.6	1290.2	1297.0	1303.0	1314.1	1328.6	1338.0	1344.8
40°	1207.4	1204.0	1217.6	1229.6	1235.6	1248.4	1262.0	1279.9	1294.4	1298.7	1308.1
42.5°	1154.5	1151.1	1167.3	1170.7	1192.0	1208.3	1219.4	1227.9	1235.6	1246.7	1256.0
45°	1093.1	1099.9	1102.4	1120.4	1143.4	1151.1	1152.8	1171.6	1186.9	1201.4	1208.3
47.5°	1038.5	1041.9	1046.1	1066.6	1083.7	1091.4	1101.6	1125.5	1144.3	1160.5	1167.3
50°	971.9	975.3	991.5	1004.3	1026.5	1037.6	1052.1	1069.2	1083.7	1096.5	1110.1
52.5°	913.9	912.2	925.8	941.2	973.6	982.1	987.3	1006.9	1030.8	1044.4	1056.4
55°	849.9	852.4	861.8	885.7	897.7	913.9	925.0	953.1	977.0	991.5	1001.8
57.5°	777.3	789.3	802.1	820.9	832.8	849.0	862.7	895.1	915.6	925.0	933.5
60°	711.6	720.2	737.2	750.9	773.1	787.6	795.3	820.9	843.0	853.3	866.1
62.5°	651.1	652.8	672.4	685.2	708.2	715.9	728.7	750.9	772.2	784.2	797.8
65°	580.2	585.4	593.9	616.1	635.7	646.8	658.7	686.9	700.6	721.0	729.6
67.5°	510.3	518.8	527.3	547.0	564.9	576.8	588.8	613.5	627.2	645.1	652.8
70°	438.6	443.7	455.7	473.6	493.2	504.3	516.2	534.2	552.1	567.4	577.7
72.5°	366.1	371.2	384.8	401.9	424.9	430.9	442.9	462.5	482.1	495.8	507.7
75°	296.1	299.5	314.9	329.4	352.4	358.4	369.5	390.0	410.4	427.5	435.2
77.5°	227.8	231.2	245.7	262.0	281.6	292.7	302.1	320.0	340.5	352.4	364.4
80°	161.3	168.1	177.5	194.5	214.2	223.6	235.5	255.1	272.2	284.1	295.2
82.5°	101.5	107.5	117.8	136.5	153.6	161.3	171.5	189.4	208.2	217.6	227.8
85°	52.1	56.3	68.3	82.8	99.8	108.4	117.8	135.7	148.5	162.1	174.1
87.5°	17.1	21.3	31.6	46.1	62.3	70.0	77.6	93.9	105.8	118.6	130.6
90°	0.0	5.1	15.4	28.2	42.7	50.3	58.0	70.0	81.9	95.6	106.7
92.5°	0.0	3.4	11.9	24.7	38.4	44.4	50.3	62.3	75.1	86.2	98.1
95°	0.0	3.4	11.1	23.0	35.0	41.0	47.8	58.9	70.8	82.8	93.0
97.5°	0.0	2.6	10.2	21.3	33.3	39.3	44.4	57.2	68.3	79.4	88.7
100°	0.0	2.6	10.2	20.5	31.6	37.5	43.5	54.6	65.7	75.1	85.3
102.5°	0.0	2.6	9.4	19.6	30.7	35.8	41.8	52.9	62.3	72.5	81.1
105°	0.0	2.6	9.4	18.8	29.9	35.0	40.1	51.2	60.6	69.1	78.5
107.5°	0.0	2.6	8.5	17.9	28.2	34.1	39.3	49.5	58.9	67.4	75.1
110°	0.0	1.7	8.5	17.9	27.3	32.4	37.5	47.8	56.3	64.8	71.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	0.0	1.7	8.5	17.1	26.5	31.6	36.7	46.1	55.5	62.3	69.1
115°	0.0	1.7	7.7	16.2	25.6	30.7	35.8	45.2	52.9	60.6	67.4
117.5°	0.0	1.7	7.7	15.4	24.7	29.9	34.1	43.5	52.1	58.9	65.7
120°	0.0	1.7	6.8	14.5	23.9	29.0	33.3	41.8	50.3	58.0	64.8
122.5°	0.0	0.9	6.8	14.5	23.0	27.3	31.6	41.0	48.6	56.3	64.0
125°	0.0	0.9	6.0	13.7	21.3	26.5	30.7	39.3	46.9	54.6	61.4
127.5°	0.0	0.9	5.1	12.8	20.5	24.7	29.0	37.5	45.2	52.1	59.7
130°	0.9	0.9	5.1	11.9	18.8	23.0	27.3	35.0	42.7	49.5	56.3
132.5°	0.9	0.9	4.3	10.2	17.9	21.3	24.7	32.4	40.1	46.9	52.9
135°	0.9	0.9	4.3	9.4	16.2	19.6	23.0	29.9	36.7	43.5	49.5
137.5°	0.9	0.9	3.4	8.5	14.5	17.9	20.5	27.3	34.1	40.1	46.1
140°	0.9	0.9	2.6	6.8	12.8	15.4	18.8	24.7	30.7	36.7	41.8
142.5°	0.9	0.9	2.6	6.0	11.1	13.7	16.2	22.2	27.3	32.4	38.4
145°	0.9	0.9	1.7	5.1	9.4	11.9	14.5	19.6	24.7	29.0	34.1
147.5°	0.9	0.9	1.7	4.3	7.7	10.2	11.9	17.1	21.3	25.6	29.9
150°	0.9	0.9	0.9	3.4	6.0	7.7	10.2	13.7	17.9	22.2	26.5
152.5°	0.9	0.9	0.9	2.6	5.1	6.0	7.7	11.1	14.5	18.8	22.2
155°	0.9	0.9	0.9	1.7	3.4	5.1	6.0	8.5	11.9	15.4	17.9
157.5°	0.9	0.9	0.9	0.9	2.6	3.4	4.3	6.8	9.4	11.9	14.5
160°	0.9	0.9	0.9	0.9	1.7	2.6	3.4	5.1	6.8	8.5	10.2
162.5°	0.9	0.9	0.9	0.9	0.9	1.7	1.7	3.4	4.3	6.0	7.7
165°	0.9	0.9	0.9	0.0	0.9	0.9	0.9	1.7	2.6	3.4	4.3
167.5°	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.9	0.9	1.7	2.6
170°	0.9	0.9	0.9	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.9
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°	2121.3	2121.3	2121.3	2121.3	2121.3	2121.3	2121.3	2121.3	2121.3	2121.3
2.5°	2083.7	2086.3	2086.3	2087.1	2087.1	2089.7	2089.7	2089.7	2091.4	2090.6
5°	2006.9	2012.9	2017.2	2022.3	2025.7	2029.1	2029.1	2030.0	2035.1	2032.5
7.5°	1907.1	1913.9	1919.0	1929.3	1932.7	1935.3	1942.1	1946.4	1948.9	1947.2
10°	1827.7	1826.9	1832.0	1828.6	1824.3	1826.9	1826.0	1829.5	1825.2	1823.5
12.5°	1756.9	1739.0	1744.1	1756.1	1758.6	1760.3	1766.3	1767.2	1770.6	1765.5
15°	1687.8	1698.0	1697.2	1688.7	1684.4	1681.8	1683.5	1690.4	1696.3	1695.5
17.5°	1652.0	1643.4	1646.8	1669.0	1676.7	1679.3	1671.6	1661.4	1650.3	1647.7
20°	1604.2	1623.0	1632.3	1605.9	1588.0	1585.4	1585.4	1592.2	1600.8	1600.8
22.5°	1575.2	1574.3	1548.7	1570.9	1582.9	1589.7	1586.3	1571.8	1558.1	1562.4
25°	1544.5	1529.1	1556.4	1541.9	1531.7	1526.5	1532.5	1541.0	1544.5	1547.9
27.5°	1490.7	1514.6	1496.7	1507.8	1521.4	1532.5	1528.2	1506.1	1499.2	1500.9
30°	1464.2	1457.4	1477.9	1495.0	1484.7	1469.4	1454.9	1451.4	1458.3	1458.3
32.5°	1434.4	1444.6	1449.7	1424.1	1425.8	1431.8	1438.6	1437.8	1427.6	1419.0
35°	1384.0	1406.2	1384.9	1404.5	1409.6	1401.1	1379.8	1383.2	1385.7	1381.5
37.5°	1359.3	1346.5	1364.4	1357.6	1351.6	1355.0	1369.5	1364.4	1366.1	1364.4
40°	1316.6	1324.3	1308.9	1315.8	1322.6	1325.2	1319.2	1297.9	1295.3	1297.0
42.5°	1260.3	1268.8	1279.1	1285.9	1269.7	1256.0	1259.5	1268.8	1271.4	1274.0
45°	1216.8	1216.8	1227.9	1208.3	1213.4	1221.9	1222.8	1219.4	1211.7	1206.6
47.5°	1173.3	1181.0	1160.5	1171.6	1169.0	1169.9	1160.5	1167.3	1169.9	1169.0
50°	1119.5	1116.1	1121.2	1110.1	1106.7	1107.6	1120.4	1115.2	1111.0	1109.3
52.5°	1064.9	1053.8	1064.1	1063.2	1071.7	1072.6	1055.5	1048.7	1052.1	1049.5
55°	1007.7	1009.4	1006.0	1012.9	1007.7	1001.8	1000.1	1001.8	1001.8	1005.2
57.5°	937.8	951.4	961.7	946.3	943.7	948.0	948.0	938.6	931.8	930.9
60°	871.2	877.2	884.0	885.7	880.6	875.5	873.8	871.2	872.9	872.1
62.5°	807.2	811.5	804.7	806.4	801.2	804.7	803.8	800.4	793.6	786.7
65°	735.5	738.9	736.4	733.0	736.4	739.8	723.6	717.6	711.6	712.5
67.5°	659.6	662.2	663.0	666.4	659.6	654.5	647.6	646.8	640.8	636.6
70°	589.6	587.9	594.7	592.2	586.2	585.4	576.8	566.6	560.6	558.9
72.5°	516.2	519.7	524.8	515.4	521.4	514.5	504.3	498.3	496.6	494.9
75°	443.7	451.4	453.1	449.7	449.7	443.7	442.0	436.9	430.9	423.2
77.5°	373.7	379.7	383.1	384.0	380.6	379.7	376.3	369.5	359.2	353.3
80°	304.6	310.6	315.7	318.3	316.6	321.7	314.0	309.7	306.3	308.0
82.5°	241.5	247.5	255.1	258.5	262.0	262.8	264.5	267.1	269.6	273.1
85°	183.5	192.8	201.4	209.1	215.0	217.6	223.6	231.2	241.5	249.2
87.5°	143.4	151.9	163.8	174.9	179.2	183.5	192.8	206.5	224.4	238.1
90°	118.6	128.8	139.9	151.0	157.0	161.3	174.9	189.4	208.2	220.1
92.5°	107.5	118.6	128.8	139.1	144.2	149.3	161.3	175.8	188.6	198.8
95°	103.2	112.6	122.9	132.3	136.5	141.6	151.9	160.4	170.7	176.6
97.5°	98.1	107.5	116.9	125.4	128.8	133.1	142.5	148.5	156.2	161.3
100°	93.9	103.2	110.9	118.6	122.0	125.4	133.1	139.1	139.9	143.4
102.5°	90.4	98.1	105.0	111.8	113.5	116.9	122.9	126.3	126.3	125.4
105°	86.2	93.0	99.0	104.1	105.8	108.4	110.1	110.1	109.2	108.4
107.5°	81.9	87.9	93.0	96.4	98.1	98.1	98.1	96.4	94.7	93.9
110°	78.5	83.6	87.9	89.6	89.6	89.6	88.7	87.9	87.0	86.2



TEST NUMBER: P241448

CATALOG NUMBER: FVS8M-2-LD4-50-3STD-PA187-UNV-EDC1

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
112.5°	75.1	80.2	83.6	85.3	85.3	85.3	85.3	85.3	84.5	83.6
115°	73.4	77.6	81.1	83.6	84.5	85.3	86.2	86.2	86.2	85.3
117.5°	71.7	76.8	81.1	84.5	85.3	87.0	87.9	88.7	87.9	87.9
120°	71.7	76.8	81.1	85.3	87.0	87.9	89.6	90.4	90.4	89.6
122.5°	70.0	75.9	81.1	85.3	87.0	88.7	90.4	91.3	91.3	91.3
125°	68.3	74.2	80.2	84.5	86.2	87.0	89.6	91.3	91.3	91.3
127.5°	65.7	72.5	77.6	81.9	83.6	85.3	87.9	89.6	90.4	90.4
130°	63.1	69.1	75.1	79.4	81.1	82.8	85.3	87.0	87.9	88.7
132.5°	59.7	65.7	70.8	75.9	77.6	79.4	81.9	84.5	84.5	85.3
135°	55.5	61.4	66.6	70.8	73.4	75.1	78.5	80.2	81.1	81.9
137.5°	51.2	56.3	61.4	66.6	68.3	70.0	73.4	75.9	77.6	77.6
140°	46.9	52.1	56.3	60.6	63.1	64.8	68.3	70.8	71.7	72.5
142.5°	42.7	47.8	52.1	55.5	58.0	59.7	62.3	64.8	65.7	66.6
145°	38.4	42.7	46.9	50.3	52.1	53.8	56.3	58.0	58.9	59.7
147.5°	34.1	38.4	41.8	45.2	46.1	47.8	50.3	52.1	52.9	52.9
150°	29.9	33.3	36.7	39.3	40.1	41.8	44.4	45.2	46.1	46.1
152.5°	25.6	28.2	30.7	33.3	35.0	35.8	37.5	39.3	39.3	40.1
155°	21.3	23.9	26.5	28.2	29.0	29.9	31.6	32.4	33.3	33.3
157.5°	17.1	19.6	21.3	23.0	23.9	24.7	25.6	26.5	27.3	27.3
160°	12.8	14.5	16.2	17.9	18.8	18.8	20.5	20.5	21.3	21.3
162.5°	8.5	10.2	11.9	13.7	13.7	14.5	14.5	15.4	15.4	15.4
165°	5.1	6.8	7.7	9.4	9.4	10.2	10.2	11.1	11.1	11.1
167.5°	3.4	3.4	4.3	5.1	6.0	6.0	6.0	6.8	6.8	6.8
170°	0.9	1.7	1.7	2.6	2.6	2.6	2.6	2.6	2.6	2.6
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)