

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: P241620

Luminaire Tested: **FVS8M-4-LD4-50-2HI-O-UNV-EDC1**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P241620
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1711-410-39)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: FVS8M-4-LD4-50-2HI-O-UNV-EDC1
Description: FAILSAFE FVS8M LED FIXTURE
4FT LENGTH, 2-MODULE LED WITH OPAL LENS
Light Source: (168) 5000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

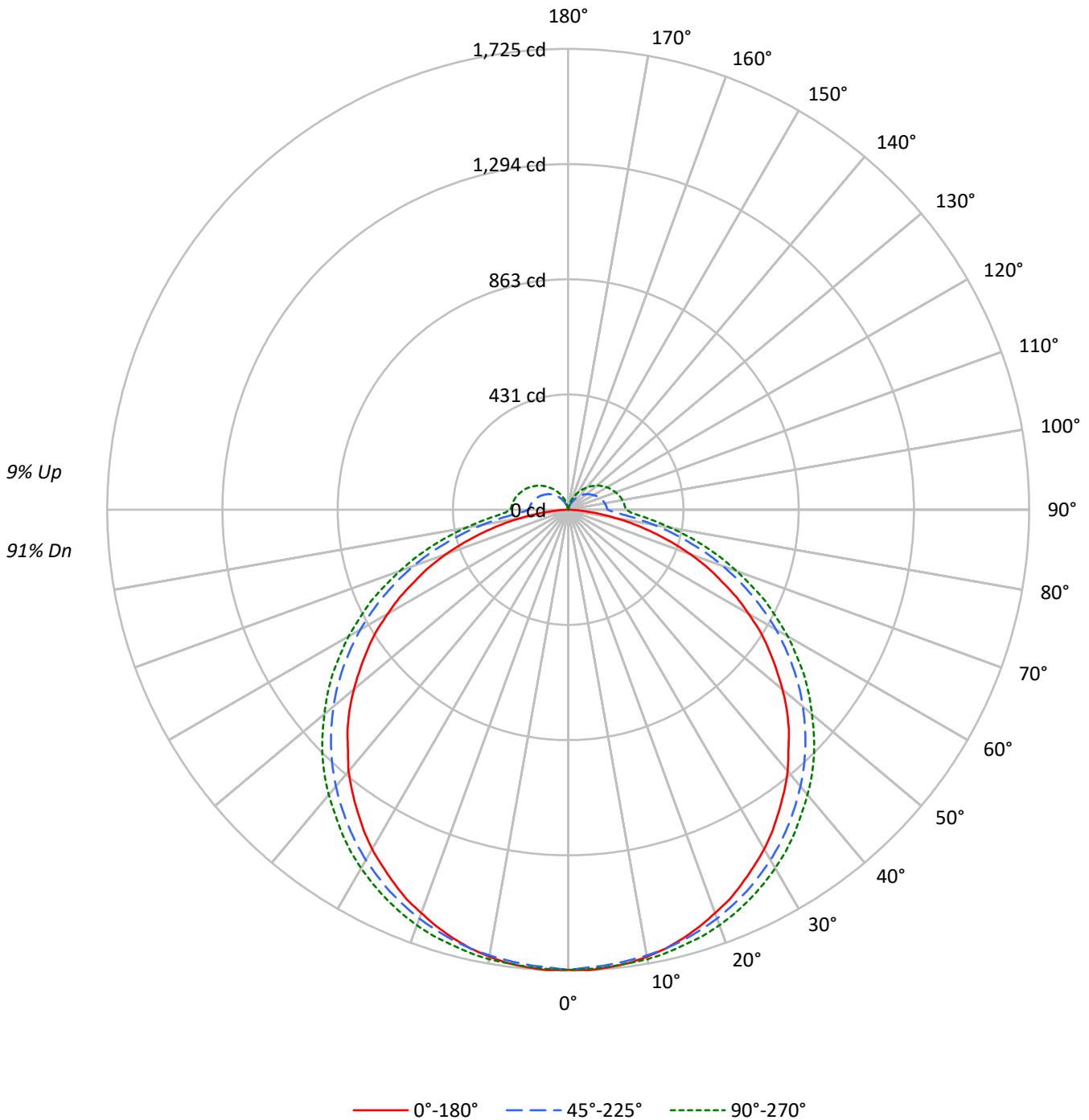
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6115.0 lumens
Efficiency: N/A
Efficacy: 71.6 lumens/watt
Spacing Criteria (0/90/45): 1.27 / 1.34 / 1.44
Luminous Opening: Rectangular w/ Sides (W: 0.65' x L: 3.73' x H: 0.15')
CIE Type: Direct

Input Watts (W): 85.4
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





TEST NUMBER: P241620

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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	117	117	117	117	113	113	113	113	106	106	106	100	100	100	94	94	94	91
1	106	100	96	92	102	97	93	89	91	88	85	86	83	80	81	79	77	74
2	95	87	80	73	92	84	77	72	79	74	69	74	70	66	70	66	63	60
3	87	76	67	60	83	73	66	59	69	63	57	65	60	55	61	57	53	50
4	79	67	58	51	76	65	56	50	61	54	48	58	52	47	54	49	45	42
5	73	59	50	43	70	58	49	43	55	47	41	52	45	40	49	43	39	36
6	67	53	44	38	64	52	43	37	49	42	36	47	40	35	44	38	34	32
7	62	48	39	33	60	47	39	33	45	37	32	42	36	31	40	34	30	28
8	58	44	35	29	55	43	35	29	41	33	28	39	32	27	37	31	27	25
9	54	40	32	26	52	39	31	26	37	30	25	36	29	25	34	28	24	22
10	50	37	29	24	49	36	28	23	34	28	23	33	27	22	32	26	22	20

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	7697	7697	7697
5°	7690	7551	7558
10°	7659	7442	7457
15°	7605	7349	7355
20°	7534	7251	7276
25°	7469	7155	7178
30°	7405	7051	7074
35°	7306	6937	6957
40°	7220	6816	6835
45°	7103	6682	6708
50°	6957	6514	6523
55°	6776	6310	6348
60°	6521	6064	6100
65°	6179	5727	5816
70°	5730	5311	5393
75°	4937	4735	4960
80°	3811	4050	4378
85°	2027	3345	3917



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	163.4	2.7
10°-20°	472.4	7.7
20°-30°	727.6	11.9
30°-40°	897.2	14.7
40°-50°	960.7	15.7
50°-60°	906.0	14.8
60°-70°	736.2	12.0
70°-80°	477.2	7.8
80°-90°	218.1	3.6
90°-100°	139.1	2.3
100°-110°	125.4	2.1
110°-120°	105.0	1.7
120°-130°	80.8	1.3
130°-140°	55.6	0.9
140°-150°	32.2	0.5
150°-160°	14.3	0.2
160°-170°	3.7	0.1
170°-180°	0.1	0.0
0°-30°	1363.3	22.3
0°-40°	2260.6	37.0
0°-60°	4127.3	67.5
0°-90°	5558.8	90.9
90°-120°	369.6	6.0
90°-150°	538.1	8.8
90°-180°	556.0	9.1
0°-180°	6115.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1722	1722	1722	1722	1722	
5°	1720	1719	1711	1718	1718	164
15°	1661	1663	1668	1684	1686	469
25°	1542	1554	1578	1604	1609	711
35°	1376	1402	1438	1468	1477	861
45°	1168	1205	1255	1288	1301	900
55°	918	967	1026	1064	1077	820
65°	633	693	759	800	816	628
75°	328	393	466	512	529	348
85°	57	128	205	255	274	75
90°	1	70	148	199	216	3
95°	1	66	144	194	211	1
105°	1	60	133	182	199	1
115°	1	52	119	163	180	1
125°	1	43	100	139	154	1
135°	1	31	80	112	125	1
145°	1	20	55	82	92	1
155°	2	10	30	52	57	1
165°	2	3	11	19	25	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°	1722.1	1722.1	1722.1	1722.1	1722.1	1722.1	1722.1	1722.1	1722.1	1722.1	1722.1
2.5°	1725.2	1725.2	1724.2	1723.1	1723.1	1724.2	1724.2	1723.1	1720.0	1715.9	1714.8
5°	1720.0	1719.0	1720.0	1717.9	1719.0	1719.0	1717.9	1717.9	1714.8	1712.7	1710.7
7.5°	1712.7	1711.7	1710.7	1709.6	1709.6	1710.7	1709.6	1709.6	1707.5	1704.4	1703.4
10°	1699.2	1698.2	1699.2	1697.1	1697.1	1698.2	1699.2	1699.2	1697.1	1696.1	1694.0
12.5°	1682.6	1682.6	1681.5	1680.5	1681.5	1682.6	1683.6	1683.6	1682.6	1683.6	1682.6
15°	1660.8	1661.8	1659.7	1658.7	1662.8	1662.8	1664.9	1667.0	1667.0	1665.9	1668.0
17.5°	1635.8	1635.8	1635.8	1636.8	1637.9	1640.0	1642.0	1644.1	1645.2	1647.2	1649.3
20°	1606.7	1608.8	1608.8	1609.8	1614.0	1617.1	1617.1	1622.3	1623.3	1624.4	1628.5
22.5°	1578.6	1577.6	1577.6	1579.6	1584.8	1588.0	1591.1	1594.2	1596.3	1599.4	1603.6
25°	1542.2	1543.2	1544.3	1547.4	1553.6	1553.6	1558.8	1563.0	1567.2	1571.3	1577.6
27.5°	1504.8	1506.8	1507.9	1511.0	1518.3	1522.4	1525.6	1530.8	1534.9	1540.1	1546.4
30°	1467.3	1467.3	1468.4	1472.5	1479.8	1485.0	1488.1	1494.4	1500.6	1507.9	1514.1
32.5°	1423.6	1423.6	1424.7	1432.0	1439.2	1444.4	1449.6	1455.9	1462.1	1469.4	1477.7
35°	1375.8	1374.8	1377.9	1388.3	1395.6	1401.8	1408.0	1415.3	1423.6	1430.9	1438.2
37.5°	1328.0	1329.0	1330.1	1340.5	1351.9	1355.0	1362.3	1369.6	1377.9	1386.2	1396.6
40°	1278.1	1278.1	1282.2	1289.5	1303.0	1308.2	1314.5	1323.8	1331.1	1342.5	1351.9
42.5°	1219.8	1225.0	1230.2	1238.5	1252.1	1258.3	1264.5	1276.0	1285.3	1292.6	1305.1
45°	1167.8	1168.9	1174.1	1186.5	1199.0	1205.3	1213.6	1225.0	1236.5	1244.8	1255.2
47.5°	1109.6	1109.6	1116.9	1128.3	1142.9	1150.2	1157.4	1168.9	1179.3	1193.8	1202.1
50°	1047.2	1049.3	1057.6	1072.2	1086.7	1090.9	1098.2	1113.8	1123.1	1134.6	1146.0
52.5°	981.7	985.8	997.3	1009.8	1022.2	1031.6	1037.8	1054.5	1065.9	1077.4	1088.8
55°	918.2	919.3	928.6	945.3	960.9	967.1	977.5	991.0	1003.5	1016.0	1026.4
57.5°	853.8	851.7	863.1	880.8	896.4	901.6	911.0	927.6	940.1	951.5	963.0
60°	778.9	784.1	794.5	811.1	827.8	833.0	841.3	860.0	871.5	885.0	898.5
62.5°	710.3	711.3	727.9	740.4	758.1	768.5	773.7	789.3	801.8	816.3	828.8
65°	633.3	642.7	652.0	666.6	684.3	692.6	698.8	719.6	733.1	746.7	759.1
67.5°	563.6	566.8	579.2	594.8	612.5	619.8	630.2	644.7	660.3	671.8	688.4
70°	485.6	488.8	500.2	518.9	535.6	546.0	554.3	570.9	585.5	600.0	615.6
72.5°	407.6	410.8	425.3	442.0	461.7	468.0	477.3	495.0	510.6	526.2	542.8
75°	327.6	335.9	351.5	366.1	385.8	393.1	404.5	424.3	439.9	453.4	465.9
77.5°	252.7	264.1	276.6	292.2	309.9	320.3	329.7	348.4	365.0	382.7	396.2
80°	180.9	189.3	202.8	218.4	238.1	251.7	258.9	276.6	292.2	308.9	324.5
82.5°	117.5	121.7	135.2	154.9	173.7	184.1	193.4	212.1	227.7	243.3	258.9
85°	57.2	64.5	78.0	98.8	117.5	127.9	137.3	156.0	172.6	190.3	204.9
87.5°	18.7	27.0	40.6	58.2	78.0	87.4	96.7	115.4	133.1	148.7	165.3
90°	1.0	7.3	21.8	40.6	59.3	69.7	79.0	97.8	115.4	132.1	147.7
92.5°	1.0	6.2	20.8	38.5	57.2	67.6	77.0	95.7	113.4	130.0	144.5
95°	1.0	6.2	19.8	37.4	56.2	65.5	75.9	93.6	111.3	127.9	143.5
97.5°	1.0	6.2	18.7	36.4	55.1	64.5	73.8	92.6	110.2	126.9	141.4
100°	1.0	5.2	18.7	35.4	54.1	63.4	72.8	90.5	108.2	123.8	139.3
102.5°	1.0	5.2	17.7	34.3	52.0	61.4	70.7	88.4	105.0	120.6	136.2
105°	1.0	5.2	17.7	33.3	51.0	60.3	68.6	86.3	103.0	118.6	133.1
107.5°	1.0	5.2	16.6	32.2	48.9	58.2	66.6	83.2	99.8	115.4	130.0
110°	1.0	4.2	15.6	31.2	47.8	56.2	64.5	81.1	96.7	112.3	125.8



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	1.0	4.2	15.6	30.2	45.8	54.1	62.4	78.0	93.6	108.2	122.7
115°	1.0	4.2	14.6	28.1	43.7	52.0	60.3	75.9	90.5	105.0	118.6
117.5°	1.0	3.1	13.5	27.0	41.6	49.9	57.2	72.8	87.4	100.9	114.4
120°	1.0	3.1	12.5	26.0	39.5	47.8	55.1	69.7	83.2	97.8	109.2
122.5°	1.0	3.1	11.4	23.9	38.5	44.7	52.0	66.6	80.1	93.6	105.0
125°	1.0	2.1	11.4	22.9	36.4	42.6	49.9	63.4	75.9	88.4	99.8
127.5°	1.0	2.1	10.4	21.8	34.3	40.6	46.8	59.3	72.8	84.2	95.7
130°	1.0	2.1	9.4	19.8	31.2	37.4	43.7	56.2	67.6	80.1	90.5
132.5°	1.0	2.1	8.3	17.7	29.1	34.3	40.6	53.0	64.5	74.9	85.3
135°	1.0	2.1	7.3	15.6	26.0	31.2	37.4	47.8	59.3	69.7	80.1
137.5°	1.0	2.1	6.2	14.6	22.9	28.1	33.3	43.7	54.1	64.5	73.8
140°	1.0	1.0	5.2	12.5	20.8	25.0	30.2	39.5	48.9	58.2	67.6
142.5°	1.0	1.0	4.2	10.4	18.7	21.8	27.0	35.4	43.7	53.0	61.4
145°	1.0	1.0	3.1	9.4	15.6	19.8	23.9	31.2	38.5	46.8	55.1
147.5°	1.0	1.0	3.1	7.3	13.5	16.6	19.8	27.0	34.3	41.6	47.8
150°	2.1	2.1	3.1	6.2	11.4	14.6	17.7	23.9	30.2	36.4	41.6
152.5°	2.1	2.1	2.1	5.2	9.4	12.5	14.6	19.8	25.0	31.2	36.4
155°	2.1	2.1	2.1	4.2	8.3	10.4	12.5	16.6	20.8	26.0	30.2
157.5°	2.1	2.1	2.1	3.1	6.2	8.3	9.4	13.5	17.7	20.8	25.0
160°	2.1	2.1	2.1	3.1	5.2	6.2	7.3	10.4	13.5	16.6	19.8
162.5°	2.1	2.1	2.1	2.1	4.2	5.2	6.2	8.3	10.4	13.5	15.6
165°	2.1	2.1	2.1	2.1	3.1	3.1	4.2	6.2	7.3	9.4	11.4
167.5°	2.1	2.1	2.1	2.1	2.1	3.1	3.1	4.2	5.2	6.2	7.3
170°	2.1	2.1	2.1	2.1	2.1	2.1	2.1	3.1	3.1	4.2	4.2
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°	1722.1	1722.1	1722.1	1722.1	1722.1	1722.1	1722.1	1722.1	1722.1	1722.1
2.5°	1716.9	1717.9	1720.0	1722.1	1721.1	1721.1	1722.1	1721.1	1722.1	1721.1
5°	1710.7	1713.8	1715.9	1717.9	1717.9	1717.9	1717.9	1717.9	1717.9	1717.9
7.5°	1704.4	1706.5	1709.6	1712.7	1712.7	1713.8	1713.8	1712.7	1713.8	1712.7
10°	1696.1	1700.3	1703.4	1705.5	1706.5	1706.5	1707.5	1707.5	1707.5	1708.6
12.5°	1684.7	1688.8	1693.0	1696.1	1697.1	1696.1	1698.2	1699.2	1698.2	1699.2
15°	1671.1	1674.3	1680.5	1682.6	1683.6	1684.7	1685.7	1686.7	1686.7	1685.7
17.5°	1653.5	1658.7	1661.8	1668.0	1668.0	1669.1	1671.1	1672.2	1671.1	1673.2
20°	1633.7	1638.9	1644.1	1648.3	1648.3	1650.4	1652.4	1653.5	1655.6	1655.6
22.5°	1609.8	1616.0	1622.3	1626.4	1628.5	1628.5	1631.6	1632.7	1634.8	1633.7
25°	1582.8	1591.1	1597.3	1600.4	1603.6	1604.6	1606.7	1607.7	1607.7	1608.8
27.5°	1553.6	1559.9	1567.2	1572.4	1575.5	1575.5	1578.6	1579.6	1579.6	1580.7
30°	1520.4	1529.7	1534.9	1540.1	1541.2	1543.2	1546.4	1547.4	1550.5	1549.5
32.5°	1485.0	1493.3	1499.6	1503.7	1507.9	1508.9	1511.0	1514.1	1514.1	1516.2
35°	1447.6	1453.8	1460.0	1466.3	1468.4	1471.5	1474.6	1475.6	1477.7	1476.7
37.5°	1406.0	1414.3	1420.5	1422.6	1427.8	1429.9	1434.0	1435.1	1436.1	1434.0
40°	1361.3	1368.5	1376.9	1381.0	1384.1	1385.2	1390.4	1391.4	1392.5	1393.5
42.5°	1314.5	1323.8	1330.1	1335.3	1338.4	1339.4	1344.6	1344.6	1347.7	1348.8
45°	1264.5	1273.9	1281.2	1287.4	1288.5	1291.6	1295.7	1297.8	1296.8	1300.9
47.5°	1212.5	1221.9	1229.2	1234.4	1235.4	1237.5	1242.7	1243.7	1245.8	1246.9
50°	1155.3	1164.7	1173.0	1179.3	1181.3	1184.5	1188.6	1190.7	1191.7	1190.7
52.5°	1099.2	1108.6	1113.8	1122.1	1125.2	1124.2	1130.4	1134.6	1133.5	1135.6
55°	1038.9	1047.2	1055.5	1061.8	1063.8	1067.0	1071.1	1072.2	1074.2	1077.4
57.5°	972.3	986.9	993.1	996.2	1000.4	1003.5	1005.6	1012.9	1012.9	1011.8
60°	907.8	918.2	926.6	933.8	935.9	940.1	944.2	947.4	947.4	949.4
62.5°	842.3	851.7	860.0	866.3	867.3	872.5	877.7	879.8	880.8	879.8
65°	772.7	778.9	792.4	795.5	799.7	804.9	808.0	811.1	813.2	816.3
67.5°	699.9	709.2	719.6	727.9	732.1	734.2	738.3	741.5	743.5	741.5
70°	628.1	637.5	645.8	654.1	658.3	659.3	663.5	667.6	669.7	668.7
72.5°	554.3	564.7	575.1	581.3	585.5	588.6	595.9	596.9	596.9	601.1
75°	480.4	491.9	502.3	510.6	511.6	515.8	520.0	524.1	530.4	529.3
77.5°	407.6	420.1	428.4	435.7	440.9	445.1	449.2	452.4	454.4	457.6
80°	339.0	352.5	358.8	368.1	372.3	376.5	380.6	385.8	390.0	387.9
82.5°	272.5	287.0	297.4	306.8	308.9	316.1	318.2	322.4	323.4	326.5
85°	218.4	231.9	241.3	252.7	254.8	260.0	265.2	268.3	270.4	273.5
87.5°	178.9	191.3	201.7	212.1	215.3	218.4	224.6	229.8	231.9	234.0
90°	161.2	173.7	185.1	194.5	198.6	201.7	208.0	213.2	215.3	216.3
92.5°	159.1	171.6	182.0	191.3	195.5	199.7	205.9	210.1	212.1	213.2
95°	157.0	169.5	180.9	190.3	194.5	197.6	203.8	208.0	210.1	211.1
97.5°	154.9	167.4	178.9	188.2	192.4	195.5	201.7	205.9	208.0	209.0
100°	152.9	165.3	175.7	185.1	189.3	192.4	198.6	202.8	204.9	205.9
102.5°	149.7	162.2	172.6	182.0	186.1	189.3	194.5	199.7	201.7	202.8
105°	146.6	158.1	168.5	177.8	182.0	185.1	191.3	195.5	197.6	198.6
107.5°	142.5	154.9	164.3	173.7	177.8	180.9	187.2	190.3	193.4	194.5
110°	139.3	150.8	160.1	169.5	173.7	176.8	182.0	186.1	188.2	189.3



TEST NUMBER: P241620

CATALOG NUMBER: FVS8M-4-LD4-50-2HI-O-UNV-EDC1

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
112.5°	135.2	146.6	156.0	164.3	168.5	171.6	177.8	180.9	184.1	184.1
115°	130.0	141.4	150.8	159.1	163.3	166.4	171.6	175.7	177.8	179.9
117.5°	125.8	136.2	146.6	153.9	158.1	161.2	166.4	170.5	172.6	173.7
120°	121.7	132.1	140.4	148.7	151.8	154.9	160.1	164.3	166.4	167.4
122.5°	116.5	126.9	135.2	142.5	145.6	148.7	153.9	158.1	160.1	161.2
125°	111.3	120.6	128.9	136.2	139.3	142.5	147.7	150.8	152.9	153.9
127.5°	106.1	115.4	123.8	130.0	133.1	136.2	140.4	144.5	146.6	147.7
130°	99.8	109.2	117.5	123.8	126.9	128.9	133.1	137.3	139.3	140.4
132.5°	94.6	103.0	110.2	117.5	119.6	122.7	125.8	130.0	132.1	132.1
135°	88.4	96.7	104.0	110.2	112.3	115.4	119.6	122.7	123.8	124.8
137.5°	83.2	90.5	97.8	103.0	105.0	108.2	111.3	114.4	116.5	116.5
140°	77.0	84.2	90.5	95.7	97.8	99.8	104.0	106.1	108.2	108.2
142.5°	69.7	77.0	83.2	88.4	90.5	92.6	95.7	98.8	99.8	99.8
145°	62.4	70.7	75.9	81.1	82.2	84.2	87.4	89.4	91.5	91.5
147.5°	55.1	62.4	68.6	72.8	74.9	77.0	79.0	81.1	83.2	83.2
150°	48.9	55.1	61.4	65.5	67.6	68.6	71.8	72.8	73.8	74.9
152.5°	41.6	46.8	53.0	58.2	59.3	60.3	63.4	65.5	65.5	66.6
155°	34.3	39.5	43.7	48.9	52.0	53.0	55.1	56.2	57.2	57.2
157.5°	29.1	33.3	36.4	40.6	42.6	44.7	46.8	48.9	48.9	48.9
160°	22.9	26.0	29.1	32.2	34.3	36.4	39.5	39.5	40.6	41.6
162.5°	17.7	19.8	22.9	25.0	27.0	28.1	31.2	32.2	32.2	32.2
165°	12.5	14.6	16.6	18.7	18.7	19.8	22.9	23.9	23.9	25.0
167.5°	8.3	9.4	11.4	12.5	12.5	13.5	14.6	17.7	16.6	16.6
170°	5.2	5.2	6.2	7.3	7.3	7.3	8.3	9.4	10.4	10.4
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)