

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: P241589

Luminaire Tested: **FVS8M-3-LD4-30-3STD-O-UNV-EDC1**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P241589
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1711-410-29)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: FVS8M-3-LD4-30-3STD-O-UNV-EDC1
Description: FAILSAFE FVS8M LED FIXTURE
3FT LENGTH, 3-MODULE LED WITH OPAL LENS
Light Source: (252) 3000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

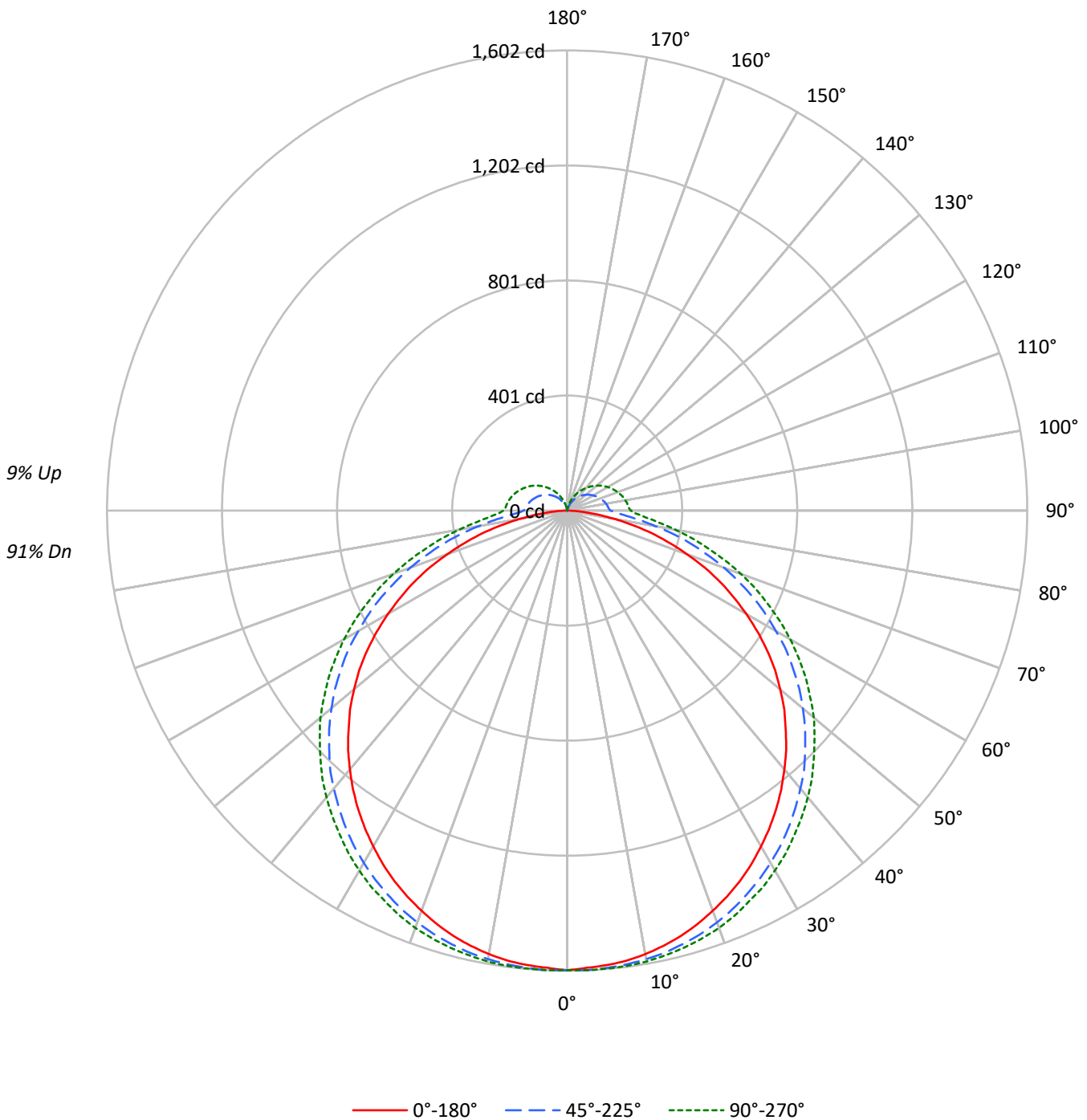
Lumens per Lamp: N/A
Luminaire Lumens: 5752.0 lumens
Efficiency: N/A
Efficacy: 69.4 lumens/watt
Spacing Criteria (0/90/45): 1.26 / 1.34 / 1.44
Luminous Opening: Rectangular w/ Sides (W: 0.65' x L: 2.85' x H: 0.15')
CIE Type: Direct

Input Watts (W): 82.9
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	0
RCR																		
0	117	117	117	117	113	113	113	113	106	106	106	99	99	99	93	93	93	91
1	105	100	95	91	102	97	93	89	91	88	84	85	83	80	80	78	76	73
2	95	87	79	73	92	84	77	72	79	73	68	74	69	66	70	66	63	60
3	87	76	67	60	83	73	65	59	69	62	57	65	59	55	61	56	53	50
4	79	67	57	51	76	65	56	50	61	54	48	57	51	46	54	49	45	42
5	72	59	50	43	70	58	49	42	54	47	41	51	45	40	49	43	39	36
6	67	53	44	37	64	52	43	37	49	41	36	46	40	35	44	38	34	31
7	62	48	39	33	59	47	38	32	44	37	31	42	36	31	40	34	30	28
8	57	44	35	29	55	43	34	29	40	33	28	38	32	27	37	31	27	25
9	54	40	32	26	52	39	31	26	37	30	25	35	29	24	34	28	24	22
10	50	37	29	24	48	36	28	23	34	27	23	33	27	22	31	26	22	20

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	9345	9345	9345
5°	9270	9209	9199
10°	9215	9091	9090
15°	9141	8971	8979
20°	9044	8850	8878
25°	8954	8716	8747
30°	8841	8581	8632
35°	8733	8433	8487
40°	8597	8272	8353
45°	8452	8090	8183
50°	8291	7889	8027
55°	8069	7640	7804
60°	7725	7321	7528
65°	7323	6946	7178
70°	6653	6451	6776
75°	5787	5814	6220
80°	4359	4979	5615
85°	2356	4240	5156



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	152.0	2.6
10°-20°	440.0	7.6
20°-30°	677.8	11.8
30°-40°	836.3	14.5
40°-50°	896.4	15.6
50°-60°	847.6	14.7
60°-70°	691.6	12.0
70°-80°	453.6	7.9
80°-90°	216.4	3.8
90°-100°	139.5	2.4
100°-110°	123.5	2.1
110°-120°	101.9	1.8
120°-130°	77.3	1.3
130°-140°	52.3	0.9
140°-150°	30.0	0.5
150°-160°	12.7	0.2
160°-170°	2.8	0.0
170°-180°	0.1	0.0
0°-30°	1269.8	22.1
0°-40°	2106.2	36.6
0°-60°	3850.2	66.9
0°-90°	5211.8	90.6
90°-120°	364.9	6.3
90°-150°	524.5	9.1
90°-180°	540.0	9.4
0°-180°	5752.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1600	1600	1600	1600	1600	
5°	1588	1592	1598	1600	1600	151
15°	1533	1544	1562	1573	1575	432
25°	1423	1446	1476	1495	1500	656
35°	1269	1302	1345	1372	1379	794
45°	1076	1121	1172	1206	1215	831
55°	850	900	960	1001	1014	759
65°	588	645	714	759	771	579
75°	305	370	446	492	508	321
85°	56	126	205	256	276	69
90°	2	71	151	204	221	3
95°	1	65	143	195	212	1
105°	1	57	130	181	198	1
115°	1	49	115	160	176	1
125°	1	38	96	136	150	1
135°	1	28	75	108	119	1
145°	2	16	53	78	86	1
155°	2	7	28	47	52	1
165°	2	2	8	16	20	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°	1600.3	1600.3	1600.3	1600.3	1600.3	1600.3	1600.3	1600.3	1600.3	1600.3	1600.3
2.5°	1593.2	1594.8	1595.5	1594.8	1595.5	1597.1	1597.9	1599.5	1600.3	1601.0	1601.8
5°	1588.5	1589.3	1590.8	1590.8	1591.6	1592.4	1594.0	1594.8	1596.3	1597.1	1597.9
7.5°	1580.6	1581.4	1582.2	1583.0	1583.8	1584.5	1585.3	1587.7	1590.0	1591.6	1593.2
10°	1568.1	1568.8	1570.4	1570.4	1572.0	1573.6	1575.9	1579.0	1582.2	1584.5	1586.1
12.5°	1551.6	1553.1	1553.9	1555.5	1557.8	1559.4	1561.8	1565.7	1570.4	1572.8	1575.9
15°	1532.7	1534.3	1534.3	1536.6	1540.6	1543.7	1546.1	1550.0	1555.5	1558.6	1561.8
17.5°	1509.2	1512.3	1512.3	1515.4	1520.2	1523.3	1525.7	1531.2	1537.4	1540.6	1545.3
20°	1482.5	1484.8	1486.4	1490.3	1496.6	1500.5	1502.9	1508.4	1516.2	1520.9	1525.7
22.5°	1454.2	1455.0	1459.7	1463.6	1470.7	1473.8	1478.5	1485.6	1490.3	1497.4	1502.9
25°	1422.8	1423.6	1427.5	1433.0	1440.1	1445.6	1448.7	1456.6	1464.4	1471.5	1476.2
27.5°	1388.2	1388.2	1393.0	1400.8	1408.7	1412.6	1418.9	1427.5	1434.6	1440.9	1447.9
30°	1349.8	1351.3	1356.1	1365.5	1373.3	1378.0	1384.3	1393.0	1402.4	1409.4	1416.5
32.5°	1310.5	1312.1	1319.1	1327.0	1337.2	1341.1	1347.4	1358.4	1367.0	1376.5	1382.7
35°	1268.9	1268.1	1278.3	1286.2	1296.4	1301.9	1308.9	1319.1	1328.6	1338.8	1345.1
37.5°	1224.1	1225.7	1233.6	1243.0	1254.0	1261.0	1268.1	1277.5	1287.0	1298.7	1305.0
40°	1176.2	1177.8	1188.0	1198.2	1210.8	1217.1	1222.6	1233.6	1245.3	1255.5	1263.4
42.5°	1129.1	1130.7	1138.5	1150.3	1162.9	1167.6	1176.2	1188.0	1200.6	1211.6	1221.8
45°	1075.7	1078.1	1088.3	1100.9	1113.4	1121.3	1126.0	1139.3	1151.1	1163.7	1171.5
47.5°	1025.5	1026.3	1037.3	1049.0	1062.4	1071.8	1077.3	1093.0	1102.4	1114.2	1123.6
50°	968.2	970.5	980.7	993.3	1009.0	1015.3	1021.6	1036.5	1049.8	1060.0	1071.0
52.5°	912.4	913.2	923.4	938.3	952.5	958.7	965.0	980.7	995.6	1008.2	1018.4
55°	850.4	855.9	865.3	877.1	892.8	899.8	906.9	923.4	936.8	950.1	960.3
57.5°	786.0	791.5	802.5	815.8	831.5	839.4	847.2	862.2	877.9	890.4	904.6
60°	720.0	727.1	738.9	752.2	769.5	775.0	783.6	797.8	814.3	829.2	839.4
62.5°	653.3	660.4	672.9	685.5	703.5	713.0	720.0	736.5	752.2	765.6	778.1
65°	588.1	592.8	603.0	621.1	636.8	645.4	653.3	672.1	683.9	702.8	713.8
67.5°	517.5	521.4	534.7	552.8	569.3	576.3	586.5	604.6	618.0	635.2	646.2
70°	444.4	452.3	464.1	481.3	500.2	507.2	516.7	533.9	552.8	566.1	581.1
72.5°	373.8	380.8	395.7	410.7	428.7	438.9	446.8	465.6	482.1	501.0	511.2
75°	305.4	309.4	324.3	341.6	358.8	369.8	376.1	395.7	412.2	430.3	446.0
77.5°	232.4	241.1	256.0	273.3	294.5	304.7	310.9	331.4	347.8	365.1	380.0
80°	167.2	172.0	187.7	206.5	224.6	235.6	244.2	263.8	279.5	301.5	312.5
82.5°	106.0	115.4	127.2	146.8	167.2	177.5	189.2	205.7	222.2	237.9	254.4
85°	55.7	62.8	76.2	95.8	115.4	126.4	135.1	155.5	172.7	187.7	204.9
87.5°	18.8	25.1	40.0	57.3	78.5	88.7	98.2	117.0	135.8	151.5	168.0
90°	2.4	8.6	22.8	40.8	60.5	70.7	80.1	98.9	117.8	134.3	150.8
92.5°	0.8	6.3	20.4	38.5	57.3	66.7	77.0	95.8	113.1	129.6	145.3
95°	0.8	6.3	18.8	36.9	55.7	65.2	74.6	93.4	110.7	127.2	142.9
97.5°	0.8	5.5	18.1	35.3	53.4	63.6	73.0	91.1	109.1	125.6	140.6
100°	0.8	5.5	17.3	33.8	51.8	61.2	70.7	88.7	106.0	122.5	137.4
102.5°	0.8	4.7	16.5	32.2	50.3	58.9	68.3	85.6	102.9	119.4	134.3
105°	0.8	4.7	15.7	31.4	48.7	57.3	66.0	83.2	99.7	116.2	130.3
107.5°	0.8	3.9	14.9	29.8	46.3	55.0	63.6	80.9	96.6	112.3	127.2
110°	0.8	3.9	14.1	28.3	44.8	52.6	61.2	77.7	93.4	109.1	122.5



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	0.8	3.1	13.3	26.7	42.4	51.0	58.9	75.4	90.3	105.2	118.6
115°	0.8	3.1	11.8	25.1	40.8	48.7	56.5	71.5	87.2	101.3	114.6
117.5°	0.8	2.4	11.0	23.6	38.5	46.3	53.4	68.3	83.2	97.4	109.9
120°	0.8	2.4	10.2	22.8	36.1	43.2	51.0	65.2	79.3	92.7	105.2
122.5°	0.8	1.6	9.4	21.2	34.5	40.8	47.9	62.0	75.4	88.7	100.5
125°	0.8	1.6	8.6	19.6	32.2	38.5	45.5	58.9	71.5	84.0	95.8
127.5°	0.8	1.6	7.9	18.1	29.8	36.1	42.4	55.0	67.5	79.3	91.1
130°	0.8	1.6	6.3	16.5	27.5	33.8	39.3	51.8	63.6	74.6	85.6
132.5°	0.8	1.6	5.5	14.9	25.1	30.6	36.9	47.9	59.7	69.9	80.1
135°	0.8	0.8	4.7	12.6	22.8	28.3	33.8	44.8	55.0	65.2	74.6
137.5°	0.8	0.8	3.9	11.0	20.4	25.1	30.6	40.8	51.0	60.5	69.1
140°	0.8	0.8	3.1	9.4	17.3	22.0	26.7	36.9	46.3	55.0	63.6
142.5°	1.6	1.6	2.4	7.9	14.9	18.8	23.6	32.2	41.6	50.3	58.1
145°	1.6	1.6	1.6	6.3	12.6	16.5	20.4	28.3	36.1	44.8	52.6
147.5°	1.6	1.6	1.6	5.5	10.2	13.3	17.3	24.3	31.4	39.3	46.3
150°	1.6	1.6	1.6	3.9	8.6	11.0	14.1	19.6	26.7	33.0	39.3
152.5°	1.6	1.6	1.6	3.1	6.3	8.6	11.0	16.5	22.0	27.5	33.0
155°	1.6	1.6	1.6	2.4	4.7	7.1	8.6	13.3	17.3	22.8	27.5
157.5°	1.6	1.6	1.6	1.6	3.1	4.7	6.3	10.2	13.3	17.3	21.2
160°	1.6	1.6	1.6	1.6	2.4	3.9	4.7	7.1	10.2	13.3	16.5
162.5°	1.6	1.6	1.6	1.6	1.6	2.4	3.1	4.7	7.1	9.4	11.8
165°	1.6	1.6	1.6	1.6	1.6	1.6	1.6	3.1	4.7	5.5	7.9
167.5°	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	2.4	3.1	3.9
170°	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	0.8	1.6	1.6
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°	1600.3	1600.3	1600.3	1600.3	1600.3	1600.3	1600.3	1600.3	1600.3	1600.3
2.5°	1601.8	1601.8	1602.6	1602.6	1602.6	1601.8	1602.6	1601.8	1601.8	1601.8
5°	1597.9	1598.7	1599.5	1600.3	1600.3	1600.3	1600.3	1599.5	1600.3	1600.3
7.5°	1594.8	1594.8	1596.3	1597.1	1597.9	1597.9	1597.9	1597.9	1598.7	1598.7
10°	1587.7	1589.3	1590.8	1592.4	1592.4	1593.2	1594.0	1593.2	1594.0	1594.0
12.5°	1577.5	1579.0	1581.4	1583.0	1584.5	1583.8	1585.3	1585.3	1585.3	1585.3
15°	1564.1	1567.3	1568.8	1571.2	1572.8	1573.6	1573.6	1575.1	1575.1	1575.1
17.5°	1547.6	1551.6	1553.9	1557.1	1557.8	1559.4	1560.2	1560.2	1561.8	1561.8
20°	1529.6	1532.7	1535.9	1539.0	1540.6	1542.1	1543.7	1543.7	1544.5	1546.1
22.5°	1506.0	1511.5	1514.7	1518.6	1520.9	1520.9	1522.5	1524.9	1524.9	1525.7
25°	1480.9	1485.6	1490.3	1494.2	1495.0	1496.6	1499.0	1500.5	1502.9	1500.5
27.5°	1453.4	1458.9	1464.4	1467.6	1468.3	1469.9	1473.0	1474.6	1475.4	1477.0
30°	1421.2	1428.3	1433.8	1436.9	1438.5	1440.9	1443.2	1444.8	1447.1	1447.1
32.5°	1388.2	1393.7	1401.6	1405.5	1407.9	1410.2	1411.8	1414.2	1415.7	1415.7
35°	1352.1	1360.0	1363.1	1370.2	1371.8	1373.3	1377.3	1379.6	1379.6	1378.8
37.5°	1316.0	1322.3	1326.2	1332.5	1335.6	1336.4	1339.6	1341.1	1343.5	1342.7
40°	1271.2	1281.5	1287.7	1290.9	1294.0	1297.9	1299.5	1301.9	1304.2	1303.4
42.5°	1229.6	1234.3	1243.8	1250.0	1251.6	1254.0	1257.9	1259.5	1262.6	1261.8
45°	1181.7	1191.2	1197.4	1202.9	1206.1	1209.2	1211.6	1213.9	1217.9	1214.7
47.5°	1133.8	1141.7	1150.3	1157.4	1159.0	1162.1	1165.2	1168.4	1170.0	1168.4
50°	1082.8	1090.7	1099.3	1104.8	1107.9	1110.3	1115.8	1118.9	1119.7	1121.3
52.5°	1029.4	1040.4	1046.7	1053.7	1056.9	1061.6	1064.0	1068.7	1067.1	1066.3
55°	972.9	979.9	990.9	998.0	1001.1	1002.7	1006.6	1010.6	1010.6	1013.7
57.5°	912.4	924.2	932.8	940.7	942.2	947.0	950.9	953.2	954.8	955.6
60°	851.9	863.7	872.4	881.8	884.1	887.3	889.6	893.6	896.7	896.7
62.5°	789.9	799.3	810.3	818.2	821.3	824.5	830.0	833.1	834.7	836.2
65°	727.1	738.9	745.9	756.2	759.3	761.7	763.2	771.9	771.1	771.1
67.5°	661.1	669.8	680.8	691.0	693.3	696.5	701.2	706.7	705.9	709.0
70°	594.4	603.8	616.4	623.5	629.0	632.9	633.7	638.4	642.3	643.1
72.5°	524.5	537.9	548.9	556.7	559.9	565.3	570.1	574.8	575.6	575.6
75°	457.8	468.8	481.3	488.4	492.3	496.3	501.0	507.2	507.2	508.0
77.5°	392.6	406.0	414.6	422.4	427.2	429.5	437.4	438.9	441.3	446.0
80°	326.6	338.4	350.2	358.8	362.8	366.7	373.0	376.9	379.3	380.8
82.5°	269.3	281.1	292.9	301.5	305.4	310.2	313.3	321.1	322.7	322.7
85°	217.5	230.9	243.4	251.3	256.0	260.7	266.2	271.7	273.3	275.6
87.5°	183.7	197.1	208.1	218.3	222.2	225.4	231.6	237.1	238.7	239.5
90°	164.9	177.5	190.0	199.4	204.2	207.3	214.4	218.3	220.6	221.4
92.5°	159.4	172.0	183.7	193.2	197.9	201.0	207.3	212.0	214.4	215.1
95°	157.0	169.6	180.6	190.8	194.7	198.7	204.9	208.9	211.2	212.0
97.5°	154.7	167.2	178.2	187.7	192.4	196.3	201.8	206.5	208.9	209.7
100°	151.5	164.1	175.1	184.5	188.4	192.4	198.7	202.6	204.9	205.7
102.5°	148.4	160.2	171.2	180.6	184.5	188.4	193.9	198.7	201.0	201.8
105°	144.5	156.3	167.2	175.9	180.6	183.7	190.0	193.9	197.1	197.9
107.5°	140.6	152.3	162.5	172.0	175.9	179.0	185.3	190.0	192.4	192.4
110°	135.8	147.6	157.8	167.2	171.2	174.3	179.8	184.5	186.9	187.7



TEST NUMBER: P241589

CATALOG NUMBER: FVS8M-3-LD4-30-3STD-O-UNV-EDC1

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
112.5°	131.9	142.9	153.1	161.8	165.7	168.8	174.3	179.0	180.6	181.4
115°	126.4	138.2	147.6	156.3	160.2	163.3	168.8	172.7	175.1	175.9
117.5°	121.7	132.7	142.1	150.8	153.9	157.0	162.5	166.5	168.8	169.6
120°	117.0	127.2	136.6	144.5	148.4	151.5	156.3	160.2	162.5	163.3
122.5°	111.5	121.7	131.1	138.2	142.1	144.5	150.0	153.9	156.3	157.0
125°	106.8	116.2	124.8	131.9	135.8	138.2	142.9	146.8	149.2	150.0
127.5°	101.3	110.7	118.6	125.6	128.8	131.9	135.8	139.8	141.3	142.1
130°	95.8	104.4	112.3	118.6	121.7	124.1	128.8	131.9	134.3	135.1
132.5°	89.5	98.2	105.2	111.5	114.6	117.0	121.7	124.8	126.4	127.2
135°	84.0	91.9	98.9	104.4	107.6	109.9	113.9	117.0	118.6	119.4
137.5°	77.7	85.6	91.9	97.4	100.5	102.1	106.0	109.1	110.7	111.5
140°	71.5	78.5	84.8	90.3	92.7	95.0	98.2	100.5	102.1	102.9
142.5°	66.0	72.2	77.7	82.4	84.8	87.2	90.3	92.7	94.2	95.0
145°	59.7	65.2	70.7	75.4	77.7	79.3	82.4	84.8	85.6	86.4
147.5°	53.4	58.9	63.6	68.3	69.9	71.5	74.6	76.2	77.7	77.7
150°	46.3	51.8	56.5	60.5	62.0	63.6	66.0	67.5	69.1	69.9
152.5°	39.3	44.8	49.5	52.6	54.2	55.7	58.1	59.7	60.5	61.2
155°	32.2	36.9	42.4	45.5	47.1	47.9	49.5	51.0	51.8	51.8
157.5°	25.1	29.8	33.8	37.7	38.5	40.0	41.6	43.2	43.2	44.0
160°	19.6	22.8	25.9	29.8	30.6	32.2	33.8	34.5	35.3	35.3
162.5°	14.1	16.5	18.8	22.0	22.8	24.3	25.9	26.7	26.7	27.5
165°	9.4	11.0	12.6	14.9	15.7	16.5	18.1	18.8	18.8	19.6
167.5°	5.5	6.3	7.9	8.6	9.4	9.4	11.0	11.8	11.8	11.8
170°	2.4	2.4	3.1	3.9	3.9	3.9	4.7	5.5	5.5	5.5
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)