

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: P241619

Luminaire Tested: **FVS8M-4-LD4-40-2HI-O-UNV-EDC1**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P241619
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-LD4-40-2HI-O-UNV-EDC1
Description: FAILSAFE FVS8M LED FIXTURE
4FT LENGTH, 2-MODULE LED WITH OPAL LENS
Light Source: (168) 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

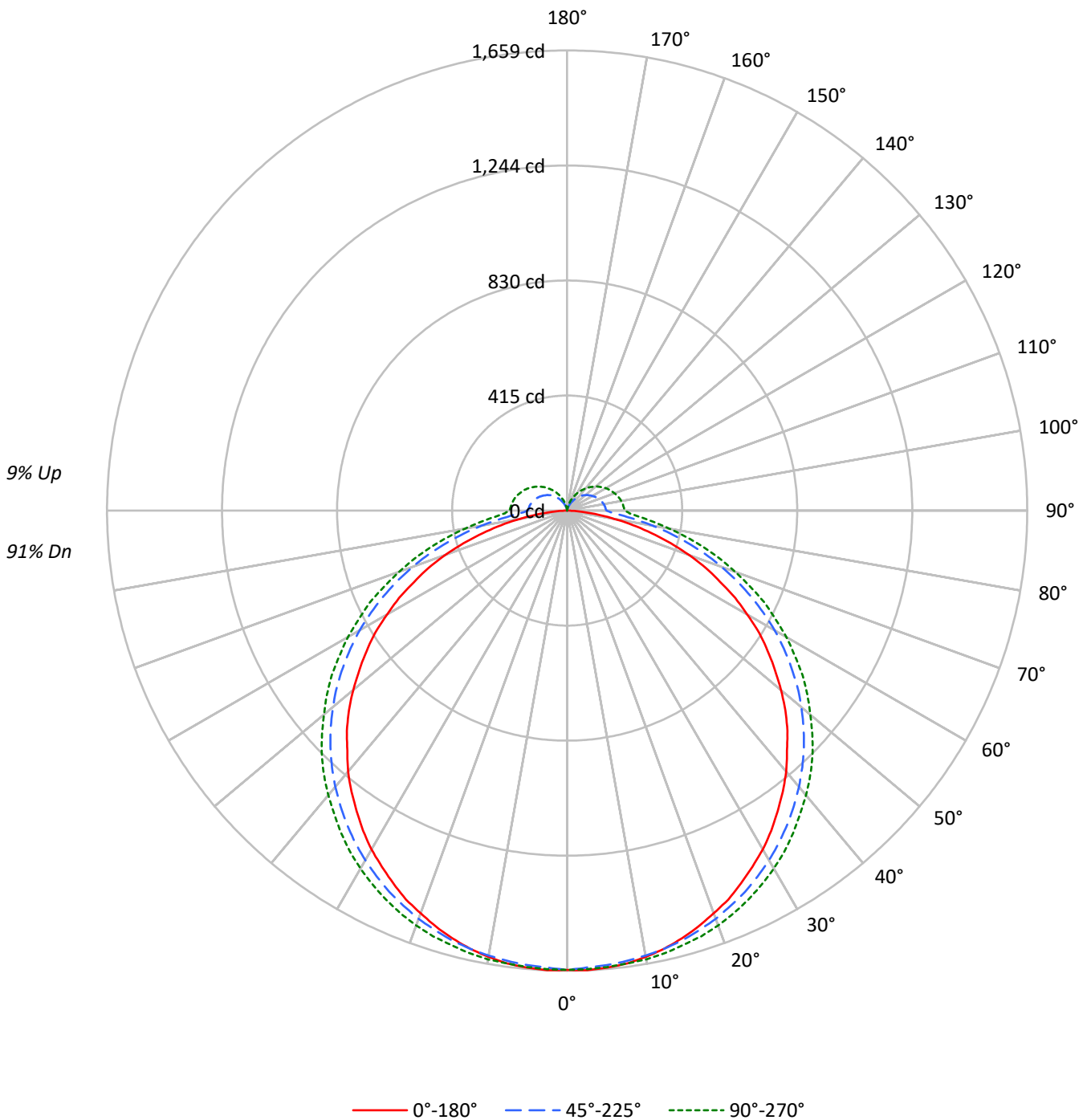
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5880.0 lumens
Efficiency: N/A
Efficacy: 68.9 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: P241619

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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	31	26	22	20

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	7401	7401	7401
5°	7395	7261	7267
10°	7364	7156	7170
15°	7312	7066	7072
20°	7245	6972	6996
25°	7182	6879	6902
30°	7120	6780	6802
35°	7025	6670	6689
40°	6942	6554	6572
45°	6830	6425	6450
50°	6690	6263	6272
55°	6516	6067	6104
60°	6270	5831	5866
65°	5942	5507	5593
70°	5510	5107	5185
75°	4747	4553	4770
80°	3665	3894	4209
85°	1949	3216	3766



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	157.1	2.7
10°-20°	454.2	7.7
20°-30°	699.6	11.9
30°-40°	862.7	14.7
40°-50°	923.7	15.7
50°-60°	871.2	14.8
60°-70°	708.0	12.0
70°-80°	458.9	7.8
80°-90°	209.8	3.6
90°-100°	133.8	2.3
100°-110°	120.6	2.1
110°-120°	101.0	1.7
120°-130°	77.7	1.3
130°-140°	53.4	0.9
140°-150°	30.9	0.5
150°-160°	13.7	0.2
160°-170°	3.6	0.1
170°-180°	0.1	0.0
0°-30°	1310.9	22.3
0°-40°	2173.6	37.0
0°-60°	3968.6	67.5
0°-90°	5345.2	90.9
90°-120°	355.4	6.0
90°-150°	517.5	8.8
90°-180°	535.0	9.1
0°-180°	5880.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1656	1656	1656	1656	1656	
5°	1654	1653	1645	1652	1652	157
15°	1597	1599	1604	1619	1621	451
25°	1483	1494	1517	1542	1547	684
35°	1323	1348	1383	1412	1420	828
45°	1123	1159	1207	1239	1251	865
55°	883	930	987	1023	1036	789
65°	609	666	730	769	785	604
75°	315	378	448	492	509	335
85°	55	123	197	245	263	72
90°	1	67	142	191	208	3
95°	1	63	138	187	203	1
105°	1	58	128	175	191	1
115°	1	50	114	157	173	1
125°	1	41	96	134	148	1
135°	1	30	77	108	120	1
145°	1	19	53	79	88	1
155°	2	10	29	50	55	1
165°	2	3	11	18	24	1
175°	0	0	0	0	0	0
180°	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°	1655.9	1655.9	1655.9	1655.9	1655.9	1655.9	1655.9	1655.9	1655.9	1655.9	1655.9
2.5°	1658.9	1658.9	1657.9	1656.9	1656.9	1657.9	1657.9	1656.9	1653.9	1649.9	1648.9
5°	1653.9	1652.9	1653.9	1651.9	1652.9	1652.9	1651.9	1651.9	1648.9	1646.9	1644.9
7.5°	1646.9	1645.9	1644.9	1643.9	1643.9	1644.9	1643.9	1643.9	1641.9	1638.9	1637.9
10°	1633.9	1632.9	1633.9	1631.9	1631.9	1632.9	1633.9	1633.9	1631.9	1630.9	1628.9
12.5°	1617.9	1617.9	1616.9	1615.9	1616.9	1617.9	1618.9	1618.9	1617.9	1618.9	1617.9
15°	1596.9	1597.9	1595.9	1594.9	1598.9	1598.9	1600.9	1602.9	1602.9	1601.9	1603.9
17.5°	1572.9	1572.9	1572.9	1573.9	1574.9	1576.9	1578.9	1580.9	1581.9	1583.9	1585.9
20°	1544.9	1546.9	1546.9	1547.9	1551.9	1554.9	1554.9	1559.9	1560.9	1561.9	1565.9
22.5°	1517.9	1516.9	1516.9	1518.9	1523.9	1526.9	1529.9	1532.9	1534.9	1537.9	1541.9
25°	1482.9	1483.9	1484.9	1487.9	1493.9	1493.9	1498.9	1502.9	1506.9	1510.9	1516.9
27.5°	1446.9	1448.9	1449.9	1452.9	1459.9	1463.9	1466.9	1471.9	1475.9	1480.9	1486.9
30°	1410.9	1410.9	1411.9	1415.9	1422.9	1427.9	1430.9	1436.9	1442.9	1449.9	1455.9
32.5°	1368.9	1368.9	1369.9	1376.9	1383.9	1388.9	1393.9	1399.9	1405.9	1412.9	1420.9
35°	1322.9	1321.9	1324.9	1334.9	1341.9	1347.9	1353.9	1360.9	1368.9	1375.9	1382.9
37.5°	1276.9	1277.9	1278.9	1288.9	1299.9	1302.9	1309.9	1316.9	1324.9	1332.9	1342.9
40°	1228.9	1228.9	1232.9	1239.9	1252.9	1257.9	1263.9	1272.9	1279.9	1290.9	1299.9
42.5°	1172.9	1177.9	1182.9	1190.9	1203.9	1209.9	1215.9	1226.9	1235.9	1242.9	1254.9
45°	1122.9	1123.9	1128.9	1140.9	1152.9	1158.9	1166.9	1177.9	1188.9	1196.9	1206.9
47.5°	1067.0	1067.0	1074.0	1085.0	1099.0	1105.9	1112.9	1123.9	1133.9	1147.9	1155.9
50°	1007.0	1009.0	1017.0	1031.0	1045.0	1049.0	1056.0	1071.0	1080.0	1091.0	1101.9
52.5°	944.0	948.0	959.0	971.0	983.0	992.0	998.0	1014.0	1025.0	1036.0	1047.0
55°	883.0	884.0	893.0	909.0	924.0	930.0	940.0	953.0	965.0	977.0	987.0
57.5°	821.0	819.0	830.0	847.0	862.0	867.0	876.0	892.0	904.0	915.0	926.0
60°	749.0	754.0	764.0	780.0	796.0	801.0	809.0	827.0	838.0	851.0	864.0
62.5°	683.0	684.0	700.0	712.0	729.0	739.0	744.0	759.0	771.0	785.0	797.0
65°	609.0	618.0	627.0	641.0	658.0	666.0	672.0	692.0	705.0	718.0	730.0
67.5°	542.0	545.0	557.0	572.0	589.0	596.0	606.0	620.0	635.0	646.0	662.0
70°	467.0	470.0	481.0	499.0	515.0	525.0	533.0	549.0	563.0	577.0	592.0
72.5°	392.0	395.0	409.0	425.0	444.0	450.0	459.0	476.0	491.0	506.0	522.0
75°	315.0	323.0	338.0	352.0	371.0	378.0	389.0	408.0	423.0	436.0	448.0
77.5°	243.0	254.0	266.0	281.0	298.0	308.0	317.0	335.0	351.0	368.0	381.0
80°	174.0	182.0	195.0	210.0	229.0	242.0	249.0	266.0	281.0	297.0	312.0
82.5°	113.0	117.0	130.0	149.0	167.0	177.0	186.0	204.0	219.0	234.0	249.0
85°	55.0	62.0	75.0	95.0	113.0	123.0	132.0	150.0	166.0	183.0	197.0
87.5°	18.0	26.0	39.0	56.0	75.0	84.0	93.0	111.0	128.0	143.0	159.0
90°	1.0	7.0	21.0	39.0	57.0	67.0	76.0	94.0	111.0	127.0	142.0
92.5°	1.0	6.0	20.0	37.0	55.0	65.0	74.0	92.0	109.0	125.0	139.0
95°	1.0	6.0	19.0	36.0	54.0	63.0	73.0	90.0	107.0	123.0	138.0
97.5°	1.0	6.0	18.0	35.0	53.0	62.0	71.0	89.0	106.0	122.0	136.0
100°	1.0	5.0	18.0	34.0	52.0	61.0	70.0	87.0	104.0	119.0	134.0
102.5°	1.0	5.0	17.0	33.0	50.0	59.0	68.0	85.0	101.0	116.0	131.0
105°	1.0	5.0	17.0	32.0	49.0	58.0	66.0	83.0	99.0	114.0	128.0
107.5°	1.0	5.0	16.0	31.0	47.0	56.0	64.0	80.0	96.0	111.0	125.0
110°	1.0	4.0	15.0	30.0	46.0	54.0	62.0	78.0	93.0	108.0	121.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	1.0	4.0	15.0	29.0	44.0	52.0	60.0	75.0	90.0	104.0	118.0
115°	1.0	4.0	14.0	27.0	42.0	50.0	58.0	73.0	87.0	101.0	114.0
117.5°	1.0	3.0	13.0	26.0	40.0	48.0	55.0	70.0	84.0	97.0	110.0
120°	1.0	3.0	12.0	25.0	38.0	46.0	53.0	67.0	80.0	94.0	105.0
122.5°	1.0	3.0	11.0	23.0	37.0	43.0	50.0	64.0	77.0	90.0	101.0
125°	1.0	2.0	11.0	22.0	35.0	41.0	48.0	61.0	73.0	85.0	96.0
127.5°	1.0	2.0	10.0	21.0	33.0	39.0	45.0	57.0	70.0	81.0	92.0
130°	1.0	2.0	9.0	19.0	30.0	36.0	42.0	54.0	65.0	77.0	87.0
132.5°	1.0	2.0	8.0	17.0	28.0	33.0	39.0	51.0	62.0	72.0	82.0
135°	1.0	2.0	7.0	15.0	25.0	30.0	36.0	46.0	57.0	67.0	77.0
137.5°	1.0	2.0	6.0	14.0	22.0	27.0	32.0	42.0	52.0	62.0	71.0
140°	1.0	1.0	5.0	12.0	20.0	24.0	29.0	38.0	47.0	56.0	65.0
142.5°	1.0	1.0	4.0	10.0	18.0	21.0	26.0	34.0	42.0	51.0	59.0
145°	1.0	1.0	3.0	9.0	15.0	19.0	23.0	30.0	37.0	45.0	53.0
147.5°	1.0	1.0	3.0	7.0	13.0	16.0	19.0	26.0	33.0	40.0	46.0
150°	2.0	2.0	3.0	6.0	11.0	14.0	17.0	23.0	29.0	35.0	40.0
152.5°	2.0	2.0	2.0	5.0	9.0	12.0	14.0	19.0	24.0	30.0	35.0
155°	2.0	2.0	2.0	4.0	8.0	10.0	12.0	16.0	20.0	25.0	29.0
157.5°	2.0	2.0	2.0	3.0	6.0	8.0	9.0	13.0	17.0	20.0	24.0
160°	2.0	2.0	2.0	3.0	5.0	6.0	7.0	10.0	13.0	16.0	19.0
162.5°	2.0	2.0	2.0	2.0	4.0	5.0	6.0	8.0	10.0	13.0	15.0
165°	2.0	2.0	2.0	2.0	3.0	3.0	4.0	6.0	7.0	9.0	11.0
167.5°	2.0	2.0	2.0	2.0	2.0	3.0	3.0	4.0	5.0	6.0	7.0
170°	2.0	2.0	2.0	2.0	2.0	2.0	2.0	3.0	3.0	4.0	4.0
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°	1655.9	1655.9	1655.9	1655.9	1655.9	1655.9	1655.9	1655.9	1655.9	1655.9
2.5°	1650.9	1651.9	1653.9	1655.9	1654.9	1654.9	1655.9	1654.9	1655.9	1654.9
5°	1644.9	1647.9	1649.9	1651.9	1651.9	1651.9	1651.9	1651.9	1651.9	1651.9
7.5°	1638.9	1640.9	1643.9	1646.9	1646.9	1647.9	1647.9	1646.9	1647.9	1646.9
10°	1630.9	1634.9	1637.9	1639.9	1640.9	1640.9	1641.9	1641.9	1641.9	1642.9
12.5°	1619.9	1623.9	1627.9	1630.9	1631.9	1630.9	1632.9	1633.9	1632.9	1633.9
15°	1606.9	1609.9	1615.9	1617.9	1618.9	1619.9	1620.9	1621.9	1621.9	1620.9
17.5°	1589.9	1594.9	1597.9	1603.9	1603.9	1604.9	1606.9	1607.9	1606.9	1608.9
20°	1570.9	1575.9	1580.9	1584.9	1584.9	1586.9	1588.9	1589.9	1591.9	1591.9
22.5°	1547.9	1553.9	1559.9	1563.9	1565.9	1565.9	1568.9	1569.9	1571.9	1570.9
25°	1521.9	1529.9	1535.9	1538.9	1541.9	1542.9	1544.9	1545.9	1545.9	1546.9
27.5°	1493.9	1499.9	1506.9	1511.9	1514.9	1514.9	1517.9	1518.9	1518.9	1519.9
30°	1461.9	1470.9	1475.9	1480.9	1481.9	1483.9	1486.9	1487.9	1490.9	1489.9
32.5°	1427.9	1435.9	1441.9	1445.9	1449.9	1450.9	1452.9	1455.9	1455.9	1457.9
35°	1391.9	1397.9	1403.9	1409.9	1411.9	1414.9	1417.9	1418.9	1420.9	1419.9
37.5°	1351.9	1359.9	1365.9	1367.9	1372.9	1374.9	1378.9	1379.9	1380.9	1378.9
40°	1308.9	1315.9	1323.9	1327.9	1330.9	1331.9	1336.9	1337.9	1338.9	1339.9
42.5°	1263.9	1272.9	1278.9	1283.9	1286.9	1287.9	1292.9	1292.9	1295.9	1296.9
45°	1215.9	1224.9	1231.9	1237.9	1238.9	1241.9	1245.9	1247.9	1246.9	1250.9
47.5°	1165.9	1174.9	1181.9	1186.9	1187.9	1189.9	1194.9	1195.9	1197.9	1198.9
50°	1110.9	1119.9	1127.9	1133.9	1135.9	1138.9	1142.9	1144.9	1145.9	1144.9
52.5°	1057.0	1066.0	1071.0	1079.0	1082.0	1081.0	1087.0	1091.0	1090.0	1092.0
55°	999.0	1007.0	1015.0	1021.0	1023.0	1026.0	1030.0	1031.0	1033.0	1036.0
57.5°	935.0	949.0	955.0	958.0	962.0	965.0	967.0	974.0	974.0	973.0
60°	873.0	883.0	891.0	898.0	900.0	904.0	908.0	911.0	911.0	913.0
62.5°	810.0	819.0	827.0	833.0	834.0	839.0	844.0	846.0	847.0	846.0
65°	743.0	749.0	762.0	765.0	769.0	774.0	777.0	780.0	782.0	785.0
67.5°	673.0	682.0	692.0	700.0	704.0	706.0	710.0	713.0	715.0	713.0
70°	604.0	613.0	621.0	629.0	633.0	634.0	638.0	642.0	644.0	643.0
72.5°	533.0	543.0	553.0	559.0	563.0	566.0	573.0	574.0	574.0	578.0
75°	462.0	473.0	483.0	491.0	492.0	496.0	500.0	504.0	510.0	509.0
77.5°	392.0	404.0	412.0	419.0	424.0	428.0	432.0	435.0	437.0	440.0
80°	326.0	339.0	345.0	354.0	358.0	362.0	366.0	371.0	375.0	373.0
82.5°	262.0	276.0	286.0	295.0	297.0	304.0	306.0	310.0	311.0	314.0
85°	210.0	223.0	232.0	243.0	245.0	250.0	255.0	258.0	260.0	263.0
87.5°	172.0	184.0	194.0	204.0	207.0	210.0	216.0	221.0	223.0	225.0
90°	155.0	167.0	178.0	187.0	191.0	194.0	200.0	205.0	207.0	208.0
92.5°	153.0	165.0	175.0	184.0	188.0	192.0	198.0	202.0	204.0	205.0
95°	151.0	163.0	174.0	183.0	187.0	190.0	196.0	200.0	202.0	203.0
97.5°	149.0	161.0	172.0	181.0	185.0	188.0	194.0	198.0	200.0	201.0
100°	147.0	159.0	169.0	178.0	182.0	185.0	191.0	195.0	197.0	198.0
102.5°	144.0	156.0	166.0	175.0	179.0	182.0	187.0	192.0	194.0	195.0
105°	141.0	152.0	162.0	171.0	175.0	178.0	184.0	188.0	190.0	191.0
107.5°	137.0	149.0	158.0	167.0	171.0	174.0	180.0	183.0	186.0	187.0
110°	134.0	145.0	154.0	163.0	167.0	170.0	175.0	179.0	181.0	182.0



TEST NUMBER: P241619

CATALOG NUMBER: FVS8M-4-LD4-40-2HI-O-UNV-EDC1

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
112.5°	130.0	141.0	150.0	158.0	162.0	165.0	171.0	174.0	177.0	177.0
115°	125.0	136.0	145.0	153.0	157.0	160.0	165.0	169.0	171.0	173.0
117.5°	121.0	131.0	141.0	148.0	152.0	155.0	160.0	164.0	166.0	167.0
120°	117.0	127.0	135.0	143.0	146.0	149.0	154.0	158.0	160.0	161.0
122.5°	112.0	122.0	130.0	137.0	140.0	143.0	148.0	152.0	154.0	155.0
125°	107.0	116.0	124.0	131.0	134.0	137.0	142.0	145.0	147.0	148.0
127.5°	102.0	111.0	119.0	125.0	128.0	131.0	135.0	139.0	141.0	142.0
130°	96.0	105.0	113.0	119.0	122.0	124.0	128.0	132.0	134.0	135.0
132.5°	91.0	99.0	106.0	113.0	115.0	118.0	121.0	125.0	127.0	127.0
135°	85.0	93.0	100.0	106.0	108.0	111.0	115.0	118.0	119.0	120.0
137.5°	80.0	87.0	94.0	99.0	101.0	104.0	107.0	110.0	112.0	112.0
140°	74.0	81.0	87.0	92.0	94.0	96.0	100.0	102.0	104.0	104.0
142.5°	67.0	74.0	80.0	85.0	87.0	89.0	92.0	95.0	96.0	96.0
145°	60.0	68.0	73.0	78.0	79.0	81.0	84.0	86.0	88.0	88.0
147.5°	53.0	60.0	66.0	70.0	72.0	74.0	76.0	78.0	80.0	80.0
150°	47.0	53.0	59.0	63.0	65.0	66.0	69.0	70.0	71.0	72.0
152.5°	40.0	45.0	51.0	56.0	57.0	58.0	61.0	63.0	63.0	64.0
155°	33.0	38.0	42.0	47.0	50.0	51.0	53.0	54.0	55.0	55.0
157.5°	28.0	32.0	35.0	39.0	41.0	43.0	45.0	47.0	47.0	47.0
160°	22.0	25.0	28.0	31.0	33.0	35.0	38.0	38.0	39.0	40.0
162.5°	17.0	19.0	22.0	24.0	26.0	27.0	30.0	31.0	31.0	31.0
165°	12.0	14.0	16.0	18.0	18.0	19.0	22.0	23.0	23.0	24.0
167.5°	8.0	9.0	11.0	12.0	12.0	13.0	14.0	17.0	16.0	16.0
170°	5.0	5.0	6.0	7.0	7.0	7.0	8.0	9.0	10.0	10.0
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)