

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: P241590

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

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P241590
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-LD4-35-3STD-O-UNV-EDC1
Description: FAILSAFE FVS8M LED FIXTURE
3FT LENGTH, 3-MODULE LED WITH OPAL LENS
Light Source: (252) 3500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

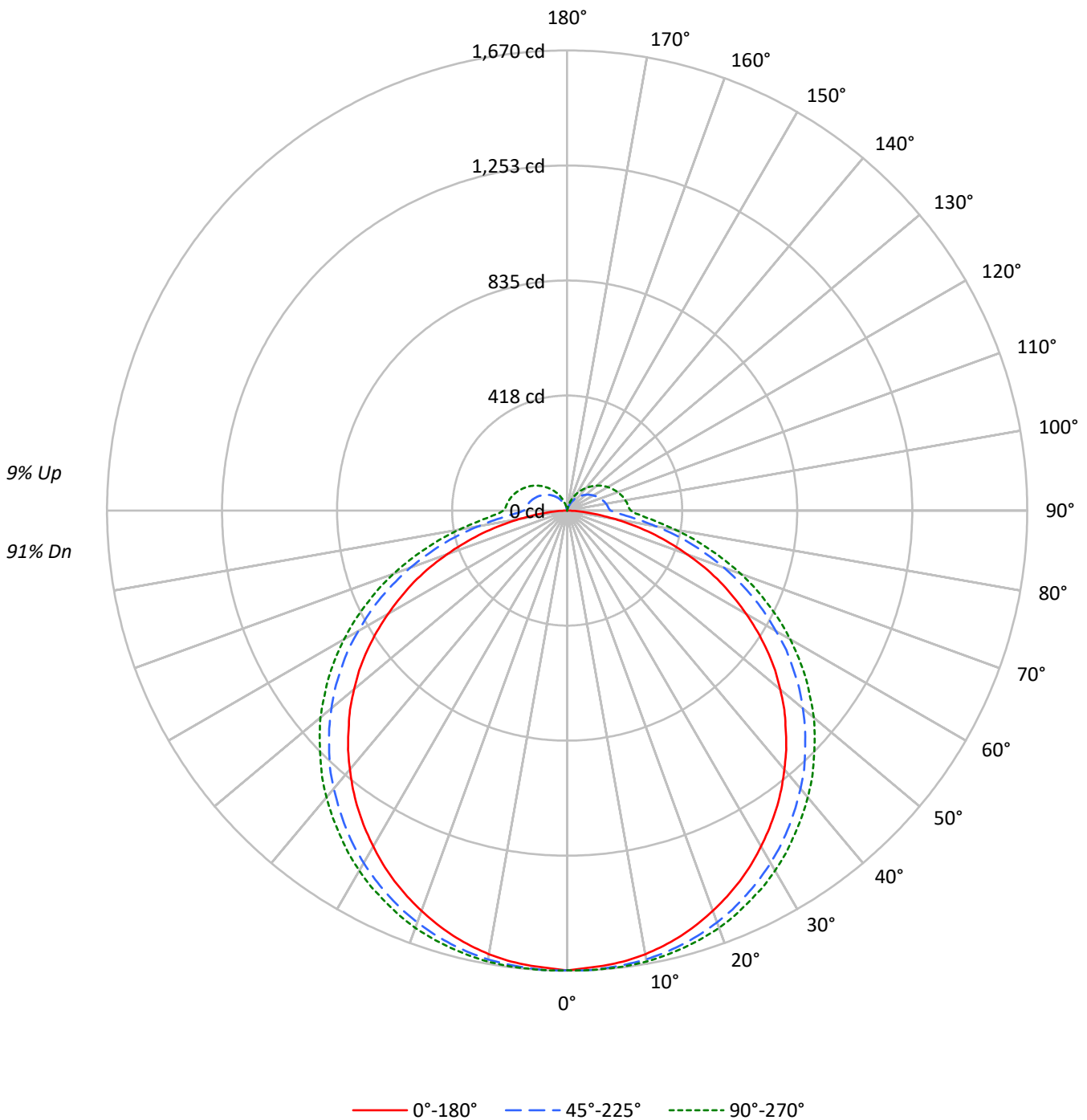
Lumens per Lamp: N/A
Luminaire Lumens: 5997.0 lumens
Efficiency: N/A
Efficacy: 72.3 lumens/watt
Spacing Criteria (0/90/45): 1.26 / 1.34 / 1.44
Luminous Opening: Rectangular w/ Sides (W: 0.65' x L: 2.85' x H: 0.15')
CIE Type: Direct

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°	9743	9743	9743
5°	9664	9601	9590
10°	9607	9478	9477
15°	9530	9353	9361
20°	9429	9227	9256
25°	9335	9087	9119
30°	9217	8946	9000
35°	9105	8791	8849
40°	8964	8624	8709
45°	8812	8435	8532
50°	8644	8225	8368
55°	8412	7966	8136
60°	8055	7632	7849
65°	7636	7242	7484
70°	6938	6725	7065
75°	6035	6062	6486
80°	4547	5191	5854
85°	2457	4422	5375



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	158.5	2.6
10°-20°	458.8	7.6
20°-30°	706.7	11.8
30°-40°	872.0	14.5
40°-50°	934.6	15.6
50°-60°	883.8	14.7
60°-70°	721.1	12.0
70°-80°	472.9	7.9
80°-90°	225.7	3.8
90°-100°	145.4	2.4
100°-110°	128.8	2.1
110°-120°	106.3	1.8
120°-130°	80.6	1.3
130°-140°	54.6	0.9
140°-150°	31.2	0.5
150°-160°	13.3	0.2
160°-170°	3.0	0.0
170°-180°	0.1	0.0
0°-30°	1323.9	22.1
0°-40°	2195.9	36.6
0°-60°	4014.2	66.9
0°-90°	5433.8	90.6
90°-120°	380.5	6.3
90°-150°	546.8	9.1
90°-180°	563.0	9.4
0°-180°	5997.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1668	1668	1668	1668	1668	
5°	1656	1660	1666	1668	1668	157
15°	1598	1610	1628	1640	1642	451
25°	1483	1507	1539	1559	1564	684
35°	1323	1357	1402	1430	1438	827
45°	1122	1169	1221	1257	1266	866
55°	887	938	1001	1044	1057	791
65°	613	673	744	792	804	604
75°	318	386	465	513	530	335
85°	58	132	214	267	287	72
90°	2	74	157	213	231	3
95°	1	68	149	203	221	1
105°	1	60	136	188	206	1
115°	1	51	120	167	183	1
125°	1	40	100	142	156	1
135°	1	30	78	112	124	1
145°	2	17	55	81	90	1
155°	2	7	29	49	54	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°	1668.4	1668.4	1668.4	1668.4	1668.4	1668.4	1668.4	1668.4	1668.4	1668.4	1668.4
2.5°	1661.0	1662.7	1663.5	1662.7	1663.5	1665.1	1666.0	1667.6	1668.4	1669.2	1670.0
5°	1656.1	1657.0	1658.6	1658.6	1659.4	1660.2	1661.9	1662.7	1664.3	1665.1	1666.0
7.5°	1647.9	1648.8	1649.6	1650.4	1651.2	1652.0	1652.9	1655.3	1657.8	1659.4	1661.0
10°	1634.8	1635.7	1637.3	1637.3	1638.9	1640.6	1643.0	1646.3	1649.6	1652.0	1653.7
12.5°	1617.7	1619.3	1620.1	1621.7	1624.2	1625.8	1628.3	1632.4	1637.3	1639.8	1643.0
15°	1598.0	1599.6	1599.6	1602.1	1606.2	1609.5	1611.9	1616.0	1621.7	1625.0	1628.3
17.5°	1573.4	1576.7	1576.7	1580.0	1584.9	1588.2	1590.6	1596.4	1602.9	1606.2	1611.1
20°	1545.6	1548.1	1549.7	1553.8	1560.3	1564.4	1566.9	1572.6	1580.8	1585.7	1590.6
22.5°	1516.1	1517.0	1521.9	1526.0	1533.3	1536.6	1541.5	1548.9	1553.8	1561.2	1566.9
25°	1483.4	1484.2	1488.3	1494.0	1501.4	1507.1	1510.4	1518.6	1526.8	1534.2	1539.1
27.5°	1447.4	1447.4	1452.3	1460.5	1468.7	1472.8	1479.3	1488.3	1495.7	1502.2	1509.6
30°	1407.3	1408.9	1413.8	1423.6	1431.8	1436.7	1443.3	1452.3	1462.1	1469.5	1476.8
32.5°	1366.3	1368.0	1375.3	1383.5	1394.2	1398.3	1404.8	1416.3	1425.3	1435.1	1441.6
35°	1322.9	1322.1	1332.8	1341.0	1351.6	1357.3	1364.7	1375.3	1385.2	1395.8	1402.3
37.5°	1276.3	1277.9	1286.1	1295.9	1307.4	1314.8	1322.1	1331.9	1341.8	1354.0	1360.6
40°	1226.3	1228.0	1238.6	1249.3	1262.4	1268.9	1274.6	1286.1	1298.4	1309.0	1317.2
42.5°	1177.2	1178.9	1187.0	1199.3	1212.4	1217.3	1226.3	1238.6	1251.7	1263.2	1273.8
45°	1121.6	1124.0	1134.7	1147.7	1160.8	1169.0	1173.9	1187.9	1200.1	1213.2	1221.4
47.5°	1069.2	1070.0	1081.4	1093.7	1107.6	1117.5	1123.2	1139.6	1149.4	1161.7	1171.5
50°	1009.4	1011.9	1022.5	1035.6	1052.0	1058.5	1065.1	1080.6	1094.5	1105.2	1116.6
52.5°	951.3	952.1	962.7	978.3	993.0	999.6	1006.1	1022.5	1038.0	1051.1	1061.8
55°	886.6	892.3	902.2	914.4	930.8	938.2	945.5	962.7	976.7	990.6	1001.2
57.5°	819.5	825.2	836.7	850.6	867.0	875.1	883.3	898.9	915.3	928.4	943.1
60°	750.7	758.1	770.4	784.3	802.3	808.0	817.0	831.7	848.9	864.5	875.1
62.5°	681.1	688.5	701.6	714.7	733.5	743.3	750.7	767.9	784.3	798.2	811.3
65°	613.2	618.1	628.7	647.6	663.9	672.9	681.1	700.8	713.0	732.7	744.2
67.5°	539.5	543.6	557.5	576.3	593.5	600.9	611.5	630.4	644.3	662.3	673.8
70°	463.4	471.5	483.8	501.8	521.5	528.8	538.7	556.7	576.3	590.2	605.8
72.5°	389.7	397.0	412.6	428.2	447.0	457.6	465.8	485.5	502.7	522.3	532.9
75°	318.5	322.5	338.1	356.1	374.1	385.6	392.1	412.6	429.8	448.6	465.0
77.5°	242.3	251.3	266.9	284.9	307.0	317.6	324.2	345.5	362.7	380.7	396.2
80°	174.4	179.3	195.7	215.3	234.1	245.6	254.6	275.1	291.4	314.4	325.8
82.5°	110.5	120.3	132.6	153.1	174.4	185.0	197.3	214.5	231.7	248.1	265.2
85°	58.1	65.5	79.4	99.9	120.3	131.8	140.8	162.1	180.1	195.7	213.7
87.5°	19.6	26.2	41.8	59.8	81.9	92.5	102.3	122.0	141.6	158.0	175.2
90°	2.5	9.0	23.7	42.6	63.0	73.7	83.5	103.2	122.8	140.0	157.2
92.5°	0.8	6.5	21.3	40.1	59.8	69.6	80.2	99.9	117.9	135.1	151.5
95°	0.8	6.5	19.6	38.5	58.1	67.9	77.8	97.4	115.4	132.6	149.0
97.5°	0.8	5.7	18.8	36.8	55.7	66.3	76.1	95.0	113.8	131.0	146.5
100°	0.8	5.7	18.0	35.2	54.0	63.9	73.7	92.5	110.5	127.7	143.3
102.5°	0.8	4.9	17.2	33.6	52.4	61.4	71.2	89.2	107.2	124.4	140.0
105°	0.8	4.9	16.4	32.7	50.8	59.8	68.8	86.8	104.0	121.2	135.9
107.5°	0.8	4.1	15.6	31.1	48.3	57.3	66.3	84.3	100.7	117.1	132.6
110°	0.8	4.1	14.7	29.5	46.7	54.8	63.9	81.0	97.4	113.8	127.7



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	0.8	3.3	13.9	27.8	44.2	53.2	61.4	78.6	94.1	109.7	123.6
115°	0.8	3.3	12.3	26.2	42.6	50.8	58.9	74.5	90.9	105.6	119.5
117.5°	0.8	2.5	11.5	24.6	40.1	48.3	55.7	71.2	86.8	101.5	114.6
120°	0.8	2.5	10.6	23.7	37.7	45.0	53.2	67.9	82.7	96.6	109.7
122.5°	0.8	1.6	9.8	22.1	36.0	42.6	49.9	64.7	78.6	92.5	104.8
125°	0.8	1.6	9.0	20.5	33.6	40.1	47.5	61.4	74.5	87.6	99.9
127.5°	0.8	1.6	8.2	18.8	31.1	37.7	44.2	57.3	70.4	82.7	95.0
130°	0.8	1.6	6.5	17.2	28.7	35.2	40.9	54.0	66.3	77.8	89.2
132.5°	0.8	1.6	5.7	15.6	26.2	31.9	38.5	49.9	62.2	72.9	83.5
135°	0.8	0.8	4.9	13.1	23.7	29.5	35.2	46.7	57.3	67.9	77.8
137.5°	0.8	0.8	4.1	11.5	21.3	26.2	31.9	42.6	53.2	63.0	72.0
140°	0.8	0.8	3.3	9.8	18.0	22.9	27.8	38.5	48.3	57.3	66.3
142.5°	1.6	1.6	2.5	8.2	15.6	19.6	24.6	33.6	43.4	52.4	60.6
145°	1.6	1.6	1.6	6.5	13.1	17.2	21.3	29.5	37.7	46.7	54.8
147.5°	1.6	1.6	1.6	5.7	10.6	13.9	18.0	25.4	32.7	40.9	48.3
150°	1.6	1.6	1.6	4.1	9.0	11.5	14.7	20.5	27.8	34.4	40.9
152.5°	1.6	1.6	1.6	3.3	6.5	9.0	11.5	17.2	22.9	28.7	34.4
155°	1.6	1.6	1.6	2.5	4.9	7.4	9.0	13.9	18.0	23.7	28.7
157.5°	1.6	1.6	1.6	1.6	3.3	4.9	6.5	10.6	13.9	18.0	22.1
160°	1.6	1.6	1.6	1.6	2.5	4.1	4.9	7.4	10.6	13.9	17.2
162.5°	1.6	1.6	1.6	1.6	1.6	2.5	3.3	4.9	7.4	9.8	12.3
165°	1.6	1.6	1.6	1.6	1.6	1.6	1.6	3.3	4.9	5.7	8.2
167.5°	1.6	1.6	1.6	1.6	1.6	1.6	1.6	1.6	2.5	3.3	4.1
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°	1668.4	1668.4	1668.4	1668.4	1668.4	1668.4	1668.4	1668.4	1668.4	1668.4
2.5°	1670.0	1670.0	1670.9	1670.9	1670.9	1670.0	1670.9	1670.0	1670.0	1670.0
5°	1666.0	1666.8	1667.6	1668.4	1668.4	1668.4	1668.4	1667.6	1668.4	1668.4
7.5°	1662.7	1662.7	1664.3	1665.1	1666.0	1666.0	1666.0	1666.0	1666.8	1666.8
10°	1655.3	1657.0	1658.6	1660.2	1660.2	1661.0	1661.9	1661.0	1661.9	1661.9
12.5°	1644.7	1646.3	1648.8	1650.4	1652.0	1651.2	1652.9	1652.9	1652.9	1652.9
15°	1630.8	1634.0	1635.7	1638.1	1639.8	1640.6	1640.6	1642.2	1642.2	1642.2
17.5°	1613.6	1617.7	1620.1	1623.4	1624.2	1625.8	1626.7	1626.7	1628.3	1628.3
20°	1594.7	1598.0	1601.3	1604.6	1606.2	1607.8	1609.5	1609.5	1610.3	1611.9
22.5°	1570.2	1575.9	1579.2	1583.3	1585.7	1585.7	1587.4	1589.8	1589.8	1590.6
25°	1544.0	1548.9	1553.8	1557.9	1558.7	1560.3	1562.8	1564.4	1566.9	1564.4
27.5°	1515.3	1521.1	1526.8	1530.1	1530.9	1532.5	1535.8	1537.4	1538.2	1539.9
30°	1481.8	1489.1	1494.9	1498.1	1499.8	1502.2	1504.7	1506.3	1508.8	1508.8
32.5°	1447.4	1453.1	1461.3	1465.4	1467.8	1470.3	1471.9	1474.4	1476.0	1476.0
35°	1409.7	1417.9	1421.2	1428.5	1430.2	1431.8	1435.9	1438.4	1438.4	1437.6
37.5°	1372.1	1378.6	1382.7	1389.3	1392.5	1393.3	1396.6	1398.3	1400.7	1399.9
40°	1325.4	1336.0	1342.6	1345.9	1349.1	1353.2	1354.9	1357.3	1359.8	1359.0
42.5°	1282.0	1286.9	1296.7	1303.3	1304.9	1307.4	1311.5	1313.1	1316.4	1315.6
45°	1232.1	1241.9	1248.4	1254.2	1257.4	1260.7	1263.2	1265.6	1269.7	1266.5
47.5°	1182.1	1190.3	1199.3	1206.7	1208.3	1211.6	1214.9	1218.2	1219.8	1218.2
50°	1128.9	1137.1	1146.1	1151.8	1155.1	1157.6	1163.3	1166.6	1167.4	1169.0
52.5°	1073.3	1084.7	1091.3	1098.6	1101.9	1106.8	1109.3	1114.2	1112.5	1111.7
55°	1014.3	1021.7	1033.1	1040.5	1043.8	1045.4	1049.5	1053.6	1053.6	1056.9
57.5°	951.3	963.6	972.6	980.7	982.4	987.3	991.4	993.8	995.5	996.3
60°	888.2	900.5	909.5	919.3	921.8	925.1	927.5	931.6	934.9	934.9
62.5°	823.6	833.4	844.8	853.0	856.3	859.6	865.3	868.6	870.2	871.9
65°	758.1	770.4	777.7	788.4	791.6	794.1	795.7	804.7	803.9	803.9
67.5°	689.3	698.3	709.8	720.4	722.9	726.1	731.1	736.8	736.0	739.2
70°	619.7	629.5	642.6	650.0	655.7	659.8	660.7	665.6	669.7	670.5
72.5°	546.9	560.8	572.2	580.4	583.7	589.4	594.3	599.3	600.1	600.1
75°	477.3	488.7	501.8	509.2	513.3	517.4	522.3	528.8	528.8	529.7
77.5°	409.3	423.2	432.2	440.4	445.3	447.8	456.0	457.6	460.1	465.0
80°	340.6	352.8	365.1	374.1	378.2	382.3	388.9	393.0	395.4	397.0
82.5°	280.8	293.1	305.4	314.4	318.5	323.4	326.6	334.8	336.5	336.5
85°	226.8	240.7	253.8	262.0	266.9	271.8	277.5	283.3	284.9	287.3
87.5°	191.6	205.5	216.9	227.6	231.7	235.0	241.5	247.2	248.9	249.7
90°	171.9	185.0	198.1	207.9	212.8	216.1	223.5	227.6	230.0	230.9
92.5°	166.2	179.3	191.6	201.4	206.3	209.6	216.1	221.0	223.5	224.3
95°	163.7	176.8	188.3	198.9	203.0	207.1	213.7	217.8	220.2	221.0
97.5°	161.3	174.4	185.8	195.7	200.6	204.7	210.4	215.3	217.8	218.6
100°	158.0	171.1	182.6	192.4	196.5	200.6	207.1	211.2	213.7	214.5
102.5°	154.7	167.0	178.5	188.3	192.4	196.5	202.2	207.1	209.6	210.4
105°	150.6	162.9	174.4	183.4	188.3	191.6	198.1	202.2	205.5	206.3
107.5°	146.5	158.8	169.5	179.3	183.4	186.7	193.2	198.1	200.6	200.6
110°	141.6	153.9	164.5	174.4	178.5	181.7	187.5	192.4	194.8	195.7



TEST NUMBER: P241590

CATALOG NUMBER: FVS8M-3-LD4-35-3STD-O-UNV-EDC1

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
112.5°	137.5	149.0	159.6	168.6	172.7	176.0	181.7	186.7	188.3	189.1
115°	131.8	144.1	153.9	162.9	167.0	170.3	176.0	180.1	182.6	183.4
117.5°	126.9	138.4	148.2	157.2	160.5	163.7	169.5	173.6	176.0	176.8
120°	122.0	132.6	142.4	150.6	154.7	158.0	162.9	167.0	169.5	170.3
122.5°	116.2	126.9	136.7	144.1	148.2	150.6	156.4	160.5	162.9	163.7
125°	111.3	121.2	130.2	137.5	141.6	144.1	149.0	153.1	155.5	156.4
127.5°	105.6	115.4	123.6	131.0	134.3	137.5	141.6	145.7	147.4	148.2
130°	99.9	108.9	117.1	123.6	126.9	129.3	134.3	137.5	140.0	140.8
132.5°	93.3	102.3	109.7	116.2	119.5	122.0	126.9	130.2	131.8	132.6
135°	87.6	95.8	103.2	108.9	112.2	114.6	118.7	122.0	123.6	124.4
137.5°	81.0	89.2	95.8	101.5	104.8	106.4	110.5	113.8	115.4	116.2
140°	74.5	81.9	88.4	94.1	96.6	99.1	102.3	104.8	106.4	107.2
142.5°	68.8	75.3	81.0	86.0	88.4	90.9	94.1	96.6	98.2	99.1
145°	62.2	67.9	73.7	78.6	81.0	82.7	86.0	88.4	89.2	90.1
147.5°	55.7	61.4	66.3	71.2	72.9	74.5	77.8	79.4	81.0	81.0
150°	48.3	54.0	58.9	63.0	64.7	66.3	68.8	70.4	72.0	72.9
152.5°	40.9	46.7	51.6	54.8	56.5	58.1	60.6	62.2	63.0	63.9
155°	33.6	38.5	44.2	47.5	49.1	49.9	51.6	53.2	54.0	54.0
157.5°	26.2	31.1	35.2	39.3	40.1	41.8	43.4	45.0	45.0	45.8
160°	20.5	23.7	27.0	31.1	31.9	33.6	35.2	36.0	36.8	36.8
162.5°	14.7	17.2	19.6	22.9	23.7	25.4	27.0	27.8	27.8	28.7
165°	9.8	11.5	13.1	15.6	16.4	17.2	18.8	19.6	19.6	20.5
167.5°	5.7	6.5	8.2	9.0	9.8	9.8	11.5	12.3	12.3	12.3
170°	2.5	2.5	3.3	4.1	4.1	4.1	4.9	5.7	5.7	5.7
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)