

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: P241495

Luminaire Tested: **FVS8M-4-LD4-40-1STD-PA187-UNV-EDC1**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P241495
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1711-410-35)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: FVS8M-4-LD4-40-1STD-PA187-UNV-EDC1
Description: FAILSAFE FVS8M LED FIXTURE
4FT LENGTH, 1-MODULE LED WITH PA187 LENS
Light Source: (84) 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

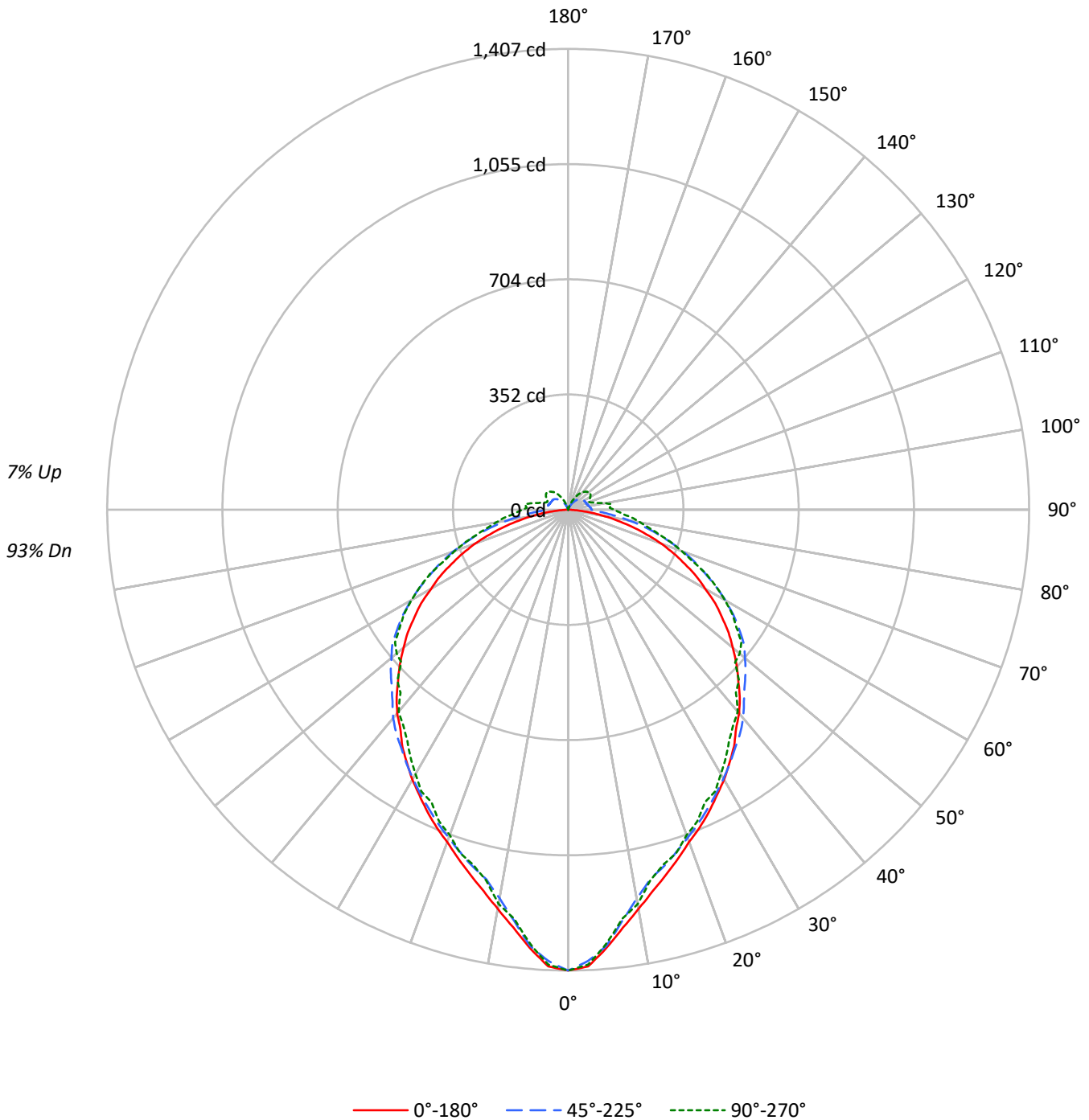
Lumens per Lamp: N/A
Luminaire Lumens: 3717.0 lumens
Efficiency: N/A
Efficacy: 111.0 lumens/watt
Spacing Criteria (0/90/45): 1.01 / 0.99 / 1.23
Luminous Opening: Rectangular w/ Sides (W: 0.65' x L: 3.73' x H: 0.15')
CIE Type: Direct

Input Watts (W): 33.5
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	50	30	10	50	30	10	0		
RCR																										
0	117	117	117	117	114	114	114	114	107	107	107	101	101	101	95	95	95	93								
1	106	101	97	92	103	98	94	90	92	89	86	87	85	82	83	80	78	76								
2	96	88	81	75	93	85	79	73	80	75	70	76	72	68	72	68	65	62								
3	88	77	68	62	84	75	67	61	71	64	59	67	61	57	63	59	55	52								
4	80	68	59	52	77	66	58	51	63	55	50	59	53	48	56	51	47	44								
5	74	61	51	45	71	59	50	44	56	49	43	53	47	42	51	45	41	38								
6	68	54	45	39	65	53	45	38	51	43	38	48	42	37	46	40	36	34								
7	63	49	41	34	61	48	40	34	46	39	33	44	37	32	42	36	32	30								
8	59	45	36	31	57	44	36	30	42	35	30	40	34	29	39	33	28	26								
9	55	41	33	28	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	34	28	24	33	27	23	22								

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	6288	6288	6288
5°	6004	5899	5854
10°	5576	5293	5332
15°	5282	4968	4895
20°	5063	4746	4645
25°	4926	4568	4400
30°	4801	4415	4254
35°	4685	4283	4038
40°	4585	4190	3949
45°	4462	4052	3799
50°	4355	4003	3743
55°	4226	3920	3695
60°	4047	3745	3549
65°	3836	3481	3317
70°	3556	3217	2968
75°	3036	2841	2664
80°	2361	2352	2512
85°	1237	1791	2454



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	123.6	3.3
10°-20°	320.4	8.6
20°-30°	465.4	12.5
30°-40°	553.6	14.9
40°-50°	579.9	15.6
50°-60°	553.1	14.9
60°-70°	441.3	11.9
70°-80°	279.3	7.5
80°-90°	124.1	3.3
90°-100°	70.9	1.9
100°-110°	57.0	1.5
110°-120°	47.3	1.3
120°-130°	43.0	1.2
130°-140°	32.1	0.9
140°-150°	18.5	0.5
150°-160°	6.6	0.2
160°-170°	1.0	0.0
170°-180°	0.0	0.0
0°-30°	909.4	24.5
0°-40°	1462.9	39.4
0°-60°	2595.9	69.8
0°-90°	3440.6	92.6
90°-120°	175.2	4.7
90°-150°	268.8	7.2
90°-180°	276.0	7.4
0°-180°	3717.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1407	1407	1407	1407	1407	
5°	1343	1336	1336	1336	1331	125
15°	1154	1146	1128	1131	1122	325
25°	1017	1018	1007	1010	986	469
35°	882	893	888	877	857	551
45°	734	760	761	746	737	567
55°	573	604	638	643	627	513
65°	393	426	461	464	466	390
75°	202	240	280	292	284	214
85°	35	67	110	150	171	46
90°	1	29	71	110	140	2
95°	0	28	69	98	130	0
105°	0	27	61	84	82	0
115°	0	25	57	72	72	0
125°	1	22	54	76	83	1
135°	1	15	45	67	78	1
145°	1	7	29	51	59	1
155°	1	2	12	24	29	0
165°	2	1	2	5	6	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°	1407.0	1407.0	1407.0	1407.0	1407.0	1407.0	1407.0	1407.0	1407.0	1407.0	1407.0
2.5°	1395.7	1393.2	1387.5	1389.2	1390.8	1389.2	1390.8	1390.8	1387.5	1384.3	1379.4
5°	1342.9	1338.0	1337.2	1338.0	1338.8	1336.4	1338.0	1339.6	1337.2	1340.4	1336.4
7.5°	1286.0	1281.9	1281.1	1280.3	1279.5	1277.9	1278.7	1281.1	1277.9	1270.6	1265.7
10°	1237.2	1231.6	1228.3	1225.9	1225.9	1225.1	1226.7	1222.6	1216.1	1211.3	1204.8
12.5°	1192.6	1189.3	1186.1	1187.7	1184.4	1183.6	1182.0	1175.5	1170.6	1164.9	1155.2
15°	1153.6	1152.8	1147.9	1149.5	1145.5	1146.3	1144.6	1142.2	1133.3	1127.6	1127.6
17.5°	1116.2	1117.0	1117.0	1117.8	1111.3	1111.3	1111.3	1108.1	1100.8	1098.3	1096.7
20°	1079.6	1081.3	1080.5	1078.8	1079.6	1078.8	1079.6	1076.4	1069.1	1069.9	1065.8
22.5°	1049.6	1048.8	1047.2	1048.8	1048.0	1046.3	1047.2	1043.9	1040.7	1039.8	1037.4
25°	1017.1	1017.1	1013.0	1017.1	1016.3	1017.9	1017.1	1019.5	1014.7	1013.0	1007.3
27.5°	983.0	980.5	981.4	985.4	987.8	987.8	984.6	986.2	987.0	978.1	977.3
30°	951.3	950.5	948.0	952.9	956.2	953.7	955.4	958.6	958.6	949.7	948.0
32.5°	916.4	914.7	916.4	921.2	922.0	926.9	929.4	927.7	926.9	918.8	918.8
35°	882.2	881.4	883.9	887.1	891.2	892.8	897.7	900.9	896.1	888.7	887.9
37.5°	841.6	846.5	846.5	852.2	857.9	861.9	864.4	868.4	861.9	857.1	861.9
40°	811.6	809.1	808.3	818.1	822.9	827.0	831.1	833.5	827.8	829.4	831.1
42.5°	775.0	770.9	776.6	783.1	789.6	793.7	795.3	801.8	796.1	799.4	793.7
45°	733.6	735.2	738.4	741.7	755.5	759.6	761.2	762.0	766.9	766.1	761.2
47.5°	696.2	696.2	701.1	706.8	717.3	723.0	725.5	727.1	728.7	728.7	734.4
50°	655.6	656.4	661.3	669.4	677.5	682.4	686.5	693.0	697.8	700.3	704.3
52.5°	617.4	616.6	625.5	631.2	638.5	645.0	649.1	658.0	663.7	667.0	676.7
55°	572.7	575.2	580.8	589.0	599.5	604.4	608.5	618.2	623.9	632.0	637.7
57.5°	532.1	533.7	537.0	545.1	557.3	559.7	565.4	576.0	580.8	590.6	597.1
60°	483.4	489.9	493.9	503.7	509.4	513.4	522.4	536.2	541.9	550.0	554.9
62.5°	441.9	442.7	448.4	457.4	463.9	471.2	480.1	489.9	498.0	504.5	507.7
65°	393.2	396.4	405.4	410.2	420.8	425.7	433.0	441.9	450.1	457.4	461.4
67.5°	347.7	350.1	355.0	363.9	374.5	379.4	383.4	394.0	406.2	413.5	419.2
70°	301.4	304.6	307.1	318.5	325.0	331.4	337.1	350.9	362.3	366.4	372.9
72.5°	250.2	255.1	259.1	269.7	280.3	285.1	292.5	304.6	312.8	320.1	325.0
75°	201.5	206.3	213.7	221.8	230.7	239.7	245.3	254.3	264.0	272.1	279.5
77.5°	155.2	157.6	165.7	176.3	184.4	192.5	196.6	206.3	217.7	225.0	234.8
80°	112.1	113.7	122.7	129.2	140.5	144.6	149.5	160.9	171.4	180.3	188.5
82.5°	72.3	73.1	80.4	89.4	97.5	104.0	108.0	118.6	129.2	138.9	146.2
85°	34.9	38.2	44.7	52.8	63.4	66.6	71.5	82.9	91.8	100.7	109.7
87.5°	11.4	13.8	19.5	27.6	36.6	40.6	45.5	54.4	65.0	74.7	82.9
90°	0.8	3.2	8.9	16.2	25.2	29.2	33.3	43.1	52.8	61.7	70.7
92.5°	0.0	2.4	8.1	15.4	23.6	27.6	32.5	42.2	51.2	60.9	70.7
95°	0.0	2.4	7.3	14.6	23.6	27.6	32.5	42.2	51.2	60.9	69.1
97.5°	0.0	1.6	7.3	14.6	23.6	27.6	32.5	41.4	51.2	58.5	65.8
100°	0.0	1.6	7.3	14.6	22.7	27.6	31.7	41.4	48.7	56.9	64.2
102.5°	0.0	1.6	7.3	14.6	22.7	26.8	31.7	39.8	47.9	55.2	62.6
105°	0.0	1.6	6.5	14.6	22.7	26.8	30.9	39.0	46.3	53.6	60.9
107.5°	0.0	1.6	6.5	13.8	21.9	26.0	30.9	38.2	46.3	52.8	59.3
110°	0.0	1.6	6.5	13.8	21.9	26.0	30.1	38.2	45.5	52.0	58.5



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	22.5°	25°	30°	35°	40°	45°
112.5°	0.0	0.8	5.7	13.0	21.9	26.0	30.1	37.4	44.7	52.0	57.7
115°	0.0	0.8	5.7	13.0	21.1	25.2	29.2	37.4	44.7	51.2	56.9
117.5°	0.8	0.8	5.7	12.2	20.3	24.4	28.4	36.6	43.9	50.4	56.1
120°	0.8	0.8	4.9	11.4	19.5	23.6	27.6	35.7	43.1	50.4	56.1
122.5°	0.8	0.8	4.1	10.6	18.7	22.7	26.8	34.9	42.2	49.6	56.1
125°	0.8	0.8	4.1	10.6	17.9	21.9	26.0	33.3	40.6	47.9	54.4
127.5°	0.8	0.8	3.2	9.7	17.1	20.3	24.4	32.5	39.0	46.3	52.8
130°	0.8	0.8	2.4	8.1	15.4	18.7	22.7	30.1	37.4	43.9	50.4
132.5°	0.8	0.8	2.4	7.3	13.8	17.1	20.3	28.4	34.9	41.4	47.9
135°	0.8	0.8	1.6	6.5	12.2	15.4	17.9	25.2	32.5	38.2	44.7
137.5°	0.8	0.8	1.6	4.9	10.6	13.0	16.2	21.9	29.2	34.9	41.4
140°	0.8	0.8	1.6	4.1	8.9	11.4	13.8	19.5	25.2	31.7	37.4
142.5°	0.8	0.8	0.8	3.2	7.3	8.9	11.4	16.2	21.9	27.6	33.3
145°	0.8	0.8	0.8	2.4	5.7	7.3	9.7	13.8	18.7	24.4	29.2
147.5°	0.8	0.8	0.8	1.6	4.1	5.7	7.3	11.4	15.4	20.3	24.4
150°	0.8	0.8	0.8	1.6	3.2	4.9	5.7	8.9	12.2	16.2	20.3
152.5°	0.8	0.8	0.8	0.8	2.4	3.2	4.9	7.3	9.7	13.0	16.2
155°	0.8	0.8	0.8	0.8	1.6	2.4	3.2	4.9	7.3	9.7	12.2
157.5°	0.8	0.8	0.8	0.8	1.6	1.6	2.4	3.2	4.9	7.3	8.9
160°	0.8	0.8	0.8	0.8	0.8	1.6	1.6	2.4	3.2	4.9	5.7
162.5°	1.6	0.8	0.8	0.8	0.8	0.8	1.6	1.6	2.4	3.2	4.1
165°	1.6	0.8	0.8	0.8	0.8	0.8	0.8	0.8	1.6	1.6	2.4
167.5°	1.6	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
170°	1.6	1.6	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
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°	1407.0	1407.0	1407.0	1407.0	1407.0	1407.0	1407.0	1407.0	1407.0	1407.0
2.5°	1378.6	1385.1	1386.7	1389.2	1388.4	1390.8	1391.6	1393.2	1391.6	1390.0
5°	1335.5	1339.6	1338.0	1335.5	1335.5	1334.7	1333.1	1333.1	1333.9	1330.7
7.5°	1260.8	1265.7	1267.3	1268.1	1268.9	1267.3	1267.3	1266.5	1261.6	1260.0
10°	1198.3	1197.4	1199.9	1204.8	1208.8	1209.6	1216.1	1219.4	1219.4	1221.8
12.5°	1157.6	1164.9	1164.1	1166.6	1160.9	1158.4	1164.9	1160.1	1159.3	1158.4
15°	1125.1	1125.1	1126.8	1129.2	1130.8	1131.6	1129.2	1123.5	1118.6	1121.9
17.5°	1093.5	1098.3	1094.3	1084.5	1083.7	1087.0	1091.0	1095.1	1096.7	1098.3
20°	1067.5	1061.0	1061.8	1072.3	1074.8	1074.0	1068.3	1064.2	1060.2	1056.9
22.5°	1030.1	1039.8	1043.9	1035.8	1031.7	1031.7	1035.0	1034.2	1036.6	1030.1
25°	1008.2	1009.0	1003.3	1009.8	1009.8	1010.6	1001.7	995.2	987.0	986.2
27.5°	976.5	974.0	981.4	976.5	967.5	965.1	964.3	967.5	969.2	970.0
30°	947.2	949.7	935.9	942.4	948.0	949.7	948.9	935.9	931.8	931.8
32.5°	924.5	913.9	919.6	920.4	913.1	908.2	899.3	900.1	899.3	896.1
35°	887.9	887.1	892.8	880.6	877.4	876.6	880.6	875.7	865.2	857.1
37.5°	853.8	859.5	850.6	857.1	853.8	845.7	833.5	828.6	827.8	827.8
40°	831.1	822.1	825.4	809.9	804.3	807.5	809.9	809.1	805.9	805.1
42.5°	796.1	796.1	786.4	780.7	782.3	783.1	775.0	766.9	762.0	757.9
45°	762.8	757.1	753.9	754.7	745.8	740.1	735.2	738.4	734.4	736.8
47.5°	733.6	724.6	724.6	709.2	710.0	714.1	711.6	698.6	694.6	690.5
50°	702.7	709.2	695.4	699.5	697.8	690.5	683.2	683.2	688.1	683.2
52.5°	674.3	678.3	679.1	674.3	668.6	669.4	675.9	671.8	667.0	666.1
55°	641.0	639.3	642.6	641.0	642.6	645.0	636.1	632.0	630.4	627.2
57.5°	598.7	603.6	597.9	607.7	603.6	597.1	597.9	597.9	597.9	593.8
60°	556.5	557.3	562.2	556.5	554.9	558.1	558.1	554.9	551.6	552.4
62.5°	513.4	514.2	513.4	510.2	514.2	511.0	506.1	506.1	511.0	509.4
65°	464.7	469.6	465.5	464.7	463.9	460.6	464.7	466.3	464.7	465.5
67.5°	423.2	424.1	423.2	419.2	417.6	419.2	416.7	411.9	412.7	410.2
70°	377.8	376.9	378.6	376.1	376.9	377.8	371.3	367.2	368.0	368.0
72.5°	330.6	333.1	333.1	335.5	334.7	332.3	329.8	328.2	327.4	327.4
75°	286.0	290.0	290.8	292.5	291.6	290.8	290.8	287.6	285.1	284.3
77.5°	240.5	244.5	251.0	249.4	251.0	251.0	252.6	248.6	251.0	251.0
80°	195.8	200.7	207.2	212.0	213.7	214.5	216.1	217.7	222.6	222.6
82.5°	155.2	160.9	169.0	175.5	180.3	182.0	188.5	195.0	198.2	199.8
85°	118.6	127.5	135.7	143.8	150.3	155.2	160.9	163.3	168.2	171.4
87.5°	92.6	102.4	112.9	123.5	127.5	130.0	134.9	140.5	148.7	153.5
90°	81.2	91.8	101.5	108.9	110.5	112.9	118.6	125.1	134.0	140.5
92.5°	80.4	88.5	95.0	99.9	102.4	105.6	110.5	113.7	121.0	126.7
95°	76.4	83.7	90.2	95.0	97.5	99.9	104.8	112.9	123.5	130.0
97.5°	73.9	81.2	86.1	91.8	95.0	98.3	108.9	121.0	130.0	132.4
100°	71.5	78.0	83.7	91.0	95.0	99.1	108.0	112.9	114.5	112.9
102.5°	69.1	75.6	82.0	88.5	91.0	94.2	98.3	97.5	96.7	95.0
105°	67.4	73.1	78.8	82.9	83.7	85.3	86.1	85.3	83.7	82.0
107.5°	65.8	70.7	74.7	76.4	77.2	78.0	78.0	76.4	74.7	73.1
110°	63.4	68.2	70.7	72.3	72.3	73.1	72.3	71.5	69.1	68.2



TEST NUMBER: P241495

CATALOG NUMBER: FVS8M-4-LD4-40-1STD-PA187-UNV-EDC1

CANDELA DISTRIBUTION (continued):

	50°	55°	60°	65°	67.5°	70°	75°	80°	85°	90°
112.5°	62.6	65.8	68.2	69.9	70.7	71.5	71.5	70.7	69.1	68.2
115°	61.7	65.8	68.2	70.7	71.5	72.3	73.1	73.1	71.5	71.5
117.5°	61.7	66.6	69.9	72.3	73.9	74.7	75.6	76.4	75.6	74.7
120°	61.7	67.4	70.7	74.7	75.6	76.4	78.0	78.8	78.8	78.0
122.5°	61.7	67.4	71.5	74.7	76.4	77.2	79.6	80.4	80.4	80.4
125°	60.9	66.6	70.7	73.9	75.6	77.2	79.6	81.2	82.0	82.9
127.5°	59.3	65.0	69.1	73.1	74.7	76.4	78.8	80.4	82.0	83.7
130°	56.9	62.6	67.4	71.5	73.1	74.7	77.2	79.6	81.2	82.0
132.5°	54.4	59.3	65.0	69.1	70.7	72.3	75.6	78.0	79.6	80.4
135°	51.2	56.1	61.7	65.8	67.4	69.9	73.1	75.6	77.2	78.0
137.5°	47.1	52.8	57.7	62.6	64.2	65.8	69.9	72.3	73.9	73.9
140°	43.9	48.7	54.4	58.5	60.9	62.6	65.8	68.2	69.9	70.7
142.5°	39.8	45.5	50.4	54.4	56.1	57.7	60.9	63.4	65.0	65.8
145°	34.9	40.6	44.7	48.7	51.2	52.8	55.2	57.7	59.3	59.3
147.5°	30.1	34.9	39.0	42.2	44.7	46.3	48.7	51.2	52.8	52.8
150°	24.4	28.4	33.3	36.6	37.4	39.0	41.4	43.1	43.9	44.7
152.5°	19.5	22.7	26.8	29.2	30.9	32.5	34.1	35.7	36.6	36.6
155°	14.6	17.9	20.3	23.6	24.4	26.0	26.8	28.4	28.4	29.2
157.5°	10.6	13.0	14.6	17.1	17.9	19.5	20.3	21.1	21.9	21.9
160°	7.3	8.9	10.6	12.2	13.0	13.8	14.6	15.4	16.2	15.4
162.5°	4.9	5.7	6.5	8.1	8.1	8.9	9.7	10.6	10.6	10.6
165°	2.4	3.2	4.1	4.1	4.9	4.9	5.7	6.5	6.5	6.5
167.5°	1.6	1.6	1.6	2.4	2.4	2.4	2.4	3.2	3.2	3.2
170°	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8	0.8
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)