

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: P232002

Luminaire Tested: **FVS4M-4-LD4-40-2HI-PFS125-UNV-EDC1**

Issue Date: 3/3/2020



Test Information

Test Method: LM-79-08
Report Number: P232002
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-1706-121-19)
Test Lab: INNOVATION CENTER(G3)
Issue Date: 3/3/2020
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: FVS4M-4-LD4-40-2HI-PFS125-UNV-EDC1
Description: FAILSAFE FVS LED FIXTURE
4FT LENGTH, 2-MODULE LED WITH PFS125 LENS
Light Source: (168) 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

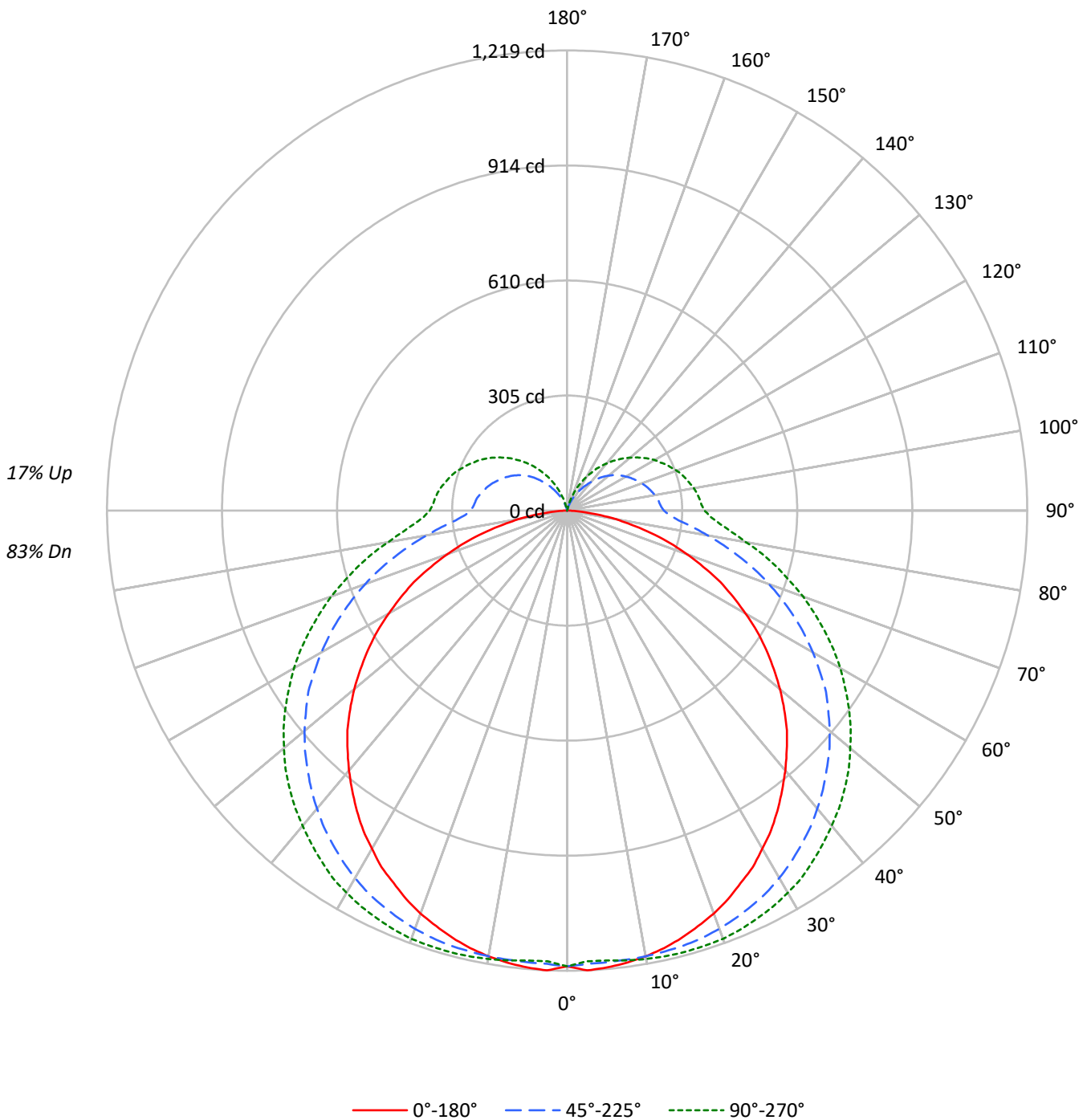
Lumens per Lamp: N/A
Luminaire Lumens: 5409.9 lumens
Efficiency: N/A
Efficacy: 60.6 lumens/watt
Spacing Criteria (0/90/45): 1.27 / 1.44 / 1.52
Luminous Opening: Rectangular w/ Sides (W: 0.31' x L: 3.79' x H: 0.19')
CIE Type: Semi-Direct

Input Watts (W): 89.3
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	115	115	115	115	110	110	110	110	102	102	102	94	94	94	87	87	87	83
1	103	97	92	88	98	93	89	85	86	82	79	79	76	74	73	71	68	65
2	93	83	76	69	88	80	73	67	74	68	63	68	63	59	63	59	56	52
3	84	72	64	57	80	70	62	55	64	57	52	59	54	49	55	50	46	43
4	76	64	54	47	73	61	53	46	57	49	44	52	46	41	48	43	39	36
5	70	56	47	40	67	54	46	39	50	43	37	47	40	35	43	38	33	31
6	64	51	41	35	61	49	40	34	45	38	32	42	36	31	39	33	29	27
7	59	46	37	30	57	44	36	30	41	34	28	38	32	27	35	30	26	23
8	55	41	33	27	53	40	32	26	37	30	25	35	28	24	32	27	23	21
9	51	38	29	24	49	37	29	23	34	27	22	32	26	21	30	24	20	18
10	48	35	27	21	46	34	26	21	32	25	20	29	24	19	28	22	18	17

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	10966	10966	10966
5°	11033	10530	10363
10°	10965	10232	10061
15°	10879	9991	9804
20°	10789	9766	9578
25°	10661	9544	9337
30°	10546	9320	9108
35°	10409	9072	8856
40°	10236	8826	8598
45°	10075	8558	8351
50°	9823	8293	8068
55°	9527	8006	7770
60°	9137	7610	7448
65°	8707	7180	7069
70°	7904	6682	6669
75°	6845	6104	6220
80°	5352	5472	5715
85°	2730	4937	5385



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	115.0	2.1
10°-20°	337.7	6.2
20°-30°	531.1	9.8
30°-40°	670.0	12.4
40°-50°	737.4	13.6
50°-60°	724.6	13.4
60°-70°	630.0	11.6
70°-80°	468.3	8.7
80°-90°	299.0	5.5
90°-100°	236.1	4.4
100°-110°	209.2	3.9
110°-120°	171.8	3.2
120°-130°	129.2	2.4
130°-140°	85.0	1.6
140°-150°	45.9	0.8
150°-160°	17.4	0.3
160°-170°	2.4	0.0
170°-180°	0.0	0.0
0°-30°	983.8	18.2
0°-40°	1653.8	30.6
0°-60°	3115.8	57.6
0°-90°	4513.1	83.4
90°-120°	617.0	11.4
90°-150°	877.1	16.2
90°-180°	897.0	16.6
0°-180°	5409.9	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1207	1207	1207	1207	1207	
5°	1215	1211	1201	1203	1196	115
15°	1172	1179	1193	1212	1210	331
25°	1088	1118	1156	1190	1192	502
35°	971	1020	1081	1127	1134	607
45°	823	890	972	1028	1040	634
55°	644	735	837	896	911	575
65°	448	549	663	734	752	440
75°	231	346	472	550	574	244
85°	41	166	296	379	406	52
90°	0	122	256	339	364	2
95°	0	114	245	327	352	0
105°	0	100	224	302	326	0
115°	0	84	196	268	289	0
125°	0	66	163	226	244	0
135°	0	44	123	176	191	0
145°	1	24	77	124	135	1
155°	1	8	36	62	74	0
165°	1	0	6	10	17	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°	25°	30°	35°	40°	45°	50°
0°	1207.1	1207.1	1207.1	1207.1	1207.1	1207.1	1207.1	1207.1	1207.1	1207.1	1207.1
2.5°	1219.1	1217.1	1214.1	1213.1	1214.1	1214.1	1214.1	1212.1	1207.1	1202.1	1202.1
5°	1215.1	1214.1	1210.1	1209.1	1210.1	1211.1	1211.1	1209.1	1205.1	1201.1	1201.1
7.5°	1208.1	1207.1	1204.1	1203.1	1205.1	1206.1	1207.1	1205.1	1203.1	1200.1	1201.1
10°	1199.1	1197.1	1195.1	1194.1	1196.1	1199.1	1201.1	1201.1	1200.1	1199.1	1202.1
12.5°	1187.1	1186.1	1183.1	1184.1	1187.1	1192.1	1195.1	1197.1	1197.1	1196.1	1201.1
15°	1172.1	1172.1	1170.1	1171.1	1175.1	1182.1	1187.1	1190.1	1191.1	1193.1	1198.1
17.5°	1154.1	1155.1	1153.1	1155.1	1163.1	1171.1	1178.1	1181.1	1184.1	1187.1	1194.1
20°	1136.1	1136.1	1134.1	1139.1	1147.1	1157.1	1164.1	1170.1	1174.1	1179.1	1186.1
22.5°	1114.1	1114.1	1114.1	1120.1	1130.1	1140.1	1151.1	1158.1	1163.1	1168.1	1177.1
25°	1088.1	1091.1	1090.1	1099.1	1111.1	1124.1	1134.1	1141.1	1149.1	1156.1	1166.1
27.5°	1065.1	1063.1	1065.1	1075.1	1089.1	1101.1	1115.1	1123.1	1132.1	1142.1	1152.1
30°	1034.1	1033.1	1038.1	1050.1	1064.1	1080.1	1093.1	1103.1	1114.1	1124.1	1136.1
32.5°	1005.1	1002.1	1009.1	1024.1	1038.1	1057.1	1069.1	1080.1	1091.1	1104.1	1116.1
35°	971.1	970.1	978.1	993.1	1011.1	1029.1	1045.1	1058.1	1069.1	1081.1	1096.1
37.5°	935.0	939.0	946.0	961.0	981.1	1000.1	1016.1	1029.1	1042.1	1058.1	1073.1
40°	899.0	901.0	909.0	928.0	949.0	969.1	986.1	998.1	1016.1	1031.1	1046.1
42.5°	861.0	860.0	876.0	895.0	915.0	937.0	954.0	970.1	987.1	1003.1	1019.1
45°	823.0	820.0	836.0	857.0	879.0	902.0	922.0	940.0	956.0	972.1	988.1
47.5°	780.0	781.0	798.0	819.0	843.0	866.0	894.0	905.0	922.0	942.0	958.0
50°	736.0	736.0	756.0	779.0	802.0	829.0	849.0	869.0	890.0	908.0	925.0
52.5°	690.0	694.0	712.0	738.0	765.0	788.0	809.0	833.0	853.0	872.0	889.0
55°	644.0	648.0	671.0	694.0	723.0	747.0	770.0	792.0	813.0	837.0	852.0
57.5°	597.0	603.0	624.0	649.0	676.0	704.0	730.0	751.0	774.0	794.0	813.0
60°	546.0	555.0	575.0	600.0	631.0	659.0	684.0	707.0	730.0	752.0	770.0
62.5°	496.0	504.0	526.0	552.0	583.0	614.0	636.0	664.0	687.0	708.0	728.0
65°	448.0	454.0	478.0	504.0	535.0	563.0	591.0	617.0	640.0	663.0	684.0
67.5°	391.0	402.0	425.0	454.0	485.0	514.0	541.0	569.0	594.0	616.0	637.0
70°	338.0	348.0	371.0	402.0	435.0	467.0	495.0	521.0	547.0	569.0	590.0
72.5°	285.0	296.0	319.0	347.0	381.0	411.0	442.0	471.0	499.0	522.0	543.0
75°	231.0	241.0	267.0	298.0	332.0	359.0	394.0	421.0	448.0	472.0	496.0
77.5°	174.0	189.0	213.0	246.0	278.0	312.0	344.0	373.0	399.0	425.0	450.0
80°	131.0	139.0	162.0	198.0	229.0	264.0	294.0	325.0	354.0	377.0	400.0
82.5°	80.0	92.0	121.0	149.0	187.0	217.0	251.0	281.0	309.0	335.0	357.0
85°	41.0	54.0	79.0	113.0	148.0	183.0	212.0	243.0	271.0	296.0	319.0
87.5°	12.0	24.0	52.0	84.0	119.0	154.0	186.0	216.0	244.0	270.0	293.0
90°	0.0	12.0	39.0	71.0	105.0	139.0	171.0	202.0	230.0	256.0	279.0
92.5°	0.0	11.0	36.0	67.0	101.0	134.0	166.0	196.0	223.0	249.0	272.0
95°	0.0	10.0	34.0	65.0	98.0	131.0	163.0	193.0	220.0	245.0	268.0
97.5°	0.0	9.0	32.0	62.0	95.0	127.0	159.0	189.0	216.0	242.0	265.0
100°	0.0	8.0	31.0	60.0	92.0	123.0	155.0	184.0	211.0	236.0	259.0
102.5°	0.0	7.0	29.0	57.0	88.0	120.0	150.0	179.0	206.0	230.0	253.0
105°	0.0	7.0	27.0	55.0	85.0	116.0	145.0	174.0	200.0	224.0	247.0
107.5°	0.0	6.0	26.0	52.0	82.0	111.0	140.0	168.0	194.0	218.0	240.0
110°	0.0	5.0	24.0	50.0	78.0	107.0	136.0	163.0	188.0	211.0	233.0



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CANDELA DISTRIBUTION (continued):

	0°	5°	10°	15°	20°	25°	30°	35°	40°	45°	50°
112.5°	0.0	4.0	22.0	47.0	74.0	102.0	130.0	156.0	181.0	203.0	224.0
115°	0.0	3.0	21.0	44.0	71.0	98.0	124.0	150.0	174.0	196.0	216.0
117.5°	0.0	2.0	19.0	41.0	67.0	93.0	119.0	144.0	167.0	188.0	208.0
120°	0.0	2.0	17.0	39.0	63.0	88.0	113.0	137.0	160.0	180.0	199.0
122.5°	0.0	1.0	15.0	36.0	59.0	83.0	107.0	130.0	151.0	172.0	190.0
125°	0.0	1.0	13.0	33.0	55.0	78.0	101.0	123.0	144.0	163.0	181.0
127.5°	0.0	1.0	11.0	29.0	50.0	72.0	94.0	115.0	136.0	154.0	171.0
130°	0.0	1.0	9.0	26.0	45.0	66.0	87.0	107.0	127.0	144.0	161.0
132.5°	0.0	1.0	7.0	22.0	40.0	59.0	78.0	98.0	116.0	134.0	150.0
135°	0.0	0.0	5.0	19.0	35.0	53.0	70.0	88.0	106.0	123.0	139.0
137.5°	1.0	1.0	4.0	16.0	31.0	46.0	63.0	79.0	95.0	111.0	127.0
140°	1.0	1.0	3.0	13.0	26.0	41.0	55.0	70.0	85.0	99.0	113.0
142.5°	1.0	1.0	2.0	10.0	22.0	35.0	48.0	62.0	75.0	87.0	100.0
145°	1.0	1.0	2.0	7.0	18.0	29.0	42.0	53.0	65.0	77.0	87.0
147.5°	1.0	1.0	1.0	5.0	14.0	24.0	35.0	45.0	56.0	66.0	75.0
150°	1.0	1.0	1.0	4.0	11.0	20.0	29.0	37.0	47.0	55.0	64.0
152.5°	1.0	1.0	1.0	3.0	8.0	16.0	23.0	31.0	38.0	46.0	52.0
155°	1.0	1.0	1.0	2.0	5.0	11.0	18.0	24.0	30.0	36.0	42.0
157.5°	1.0	1.0	1.0	1.0	3.0	7.0	13.0	18.0	23.0	27.0	33.0
160°	1.0	1.0	1.0	1.0	2.0	4.0	8.0	12.0	16.0	20.0	23.0
162.5°	1.0	1.0	1.0	0.0	1.0	2.0	4.0	7.0	10.0	13.0	15.0
165°	1.0	1.0	1.0	0.0	0.0	0.0	1.0	2.0	4.0	6.0	7.0
167.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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):

	55°	60°	65°	70°	75°	80°	85°	90°
0°	1207.1	1207.1	1207.1	1207.1	1207.1	1207.1	1207.1	1207.1
2.5°	1203.1	1204.1	1203.1	1202.1	1200.1	1198.1	1196.1	1195.1
5°	1203.1	1204.1	1203.1	1203.1	1201.1	1199.1	1197.1	1196.1
7.5°	1205.1	1206.1	1206.1	1206.1	1206.1	1205.1	1203.1	1202.1
10°	1206.1	1209.1	1210.1	1210.1	1210.1	1209.1	1208.1	1206.1
12.5°	1206.1	1210.1	1211.1	1212.1	1213.1	1212.1	1210.1	1209.1
15°	1204.1	1209.1	1211.1	1212.1	1213.1	1213.1	1211.1	1210.1
17.5°	1201.1	1206.1	1209.1	1210.1	1212.1	1211.1	1210.1	1209.1
20°	1194.1	1200.1	1204.1	1207.1	1208.1	1209.1	1208.1	1207.1
22.5°	1186.1	1192.1	1197.1	1200.1	1202.1	1203.1	1202.1	1201.1
25°	1175.1	1182.1	1188.1	1191.1	1193.1	1195.1	1194.1	1192.1
27.5°	1162.1	1169.1	1175.1	1179.1	1183.1	1183.1	1183.1	1182.1
30°	1145.1	1154.1	1160.1	1165.1	1168.1	1170.1	1170.1	1169.1
32.5°	1128.1	1137.1	1143.1	1149.1	1152.1	1153.1	1154.1	1155.1
35°	1107.1	1116.1	1124.1	1129.1	1133.1	1135.1	1135.1	1134.1
37.5°	1084.1	1095.1	1103.1	1108.1	1114.1	1114.1	1114.1	1113.1
40°	1058.1	1068.1	1078.1	1084.1	1090.1	1091.1	1090.1	1090.1
42.5°	1033.1	1043.1	1052.1	1059.1	1063.1	1065.1	1066.1	1067.1
45°	1003.1	1015.1	1024.1	1032.1	1036.1	1039.1	1040.1	1040.1
47.5°	971.1	984.1	994.1	1001.1	1007.1	1011.1	1009.1	1012.1
50°	940.0	951.0	963.0	969.1	975.1	980.1	979.1	979.1
52.5°	905.0	916.0	928.0	937.0	942.0	946.0	947.0	947.0
55°	867.0	880.0	892.0	900.0	906.0	909.0	911.0	911.0
57.5°	829.0	842.0	853.0	864.0	870.0	875.0	875.0	873.0
60°	788.0	802.0	814.0	823.0	833.0	834.0	835.0	836.0
62.5°	746.0	760.0	773.0	784.0	789.0	794.0	797.0	795.0
65°	702.0	714.0	731.0	738.0	745.0	748.0	753.0	752.0
67.5°	658.0	673.0	684.0	696.0	704.0	705.0	711.0	708.0
70°	608.0	623.0	639.0	647.0	656.0	659.0	662.0	665.0
72.5°	562.0	578.0	591.0	603.0	608.0	613.0	617.0	618.0
75°	514.0	533.0	543.0	556.0	563.0	567.0	573.0	574.0
77.5°	466.0	483.0	498.0	507.0	516.0	521.0	525.0	529.0
80°	419.0	434.0	451.0	464.0	473.0	477.0	482.0	481.0
82.5°	377.0	394.0	409.0	420.0	430.0	436.0	441.0	441.0
85°	342.0	361.0	373.0	385.0	394.0	400.0	405.0	406.0
87.5°	316.0	333.0	349.0	359.0	369.0	375.0	379.0	380.0
90°	300.0	318.0	333.0	345.0	354.0	360.0	364.0	364.0
92.5°	293.0	310.0	326.0	337.0	346.0	352.0	355.0	356.0
95°	289.0	306.0	321.0	333.0	342.0	348.0	351.0	352.0
97.5°	285.0	302.0	316.0	329.0	337.0	343.0	346.0	347.0
100°	279.0	296.0	311.0	322.0	332.0	337.0	340.0	341.0
102.5°	273.0	289.0	304.0	315.0	324.0	329.0	333.0	333.0
105°	266.0	284.0	297.0	308.0	317.0	323.0	325.0	326.0
107.5°	259.0	276.0	290.0	301.0	309.0	314.0	318.0	318.0
110°	252.0	268.0	281.0	292.0	300.0	305.0	308.0	309.0



TEST NUMBER: P232002

CATALOG NUMBER: FVS4M-4-LD4-40-2HI-PFS125-UNV-EDC1

CANDELA DISTRIBUTION (continued):

	55°	60°	65°	70°	75°	80°	85°	90°
112.5°	243.0	259.0	272.0	283.0	290.0	295.0	298.0	298.0
115°	234.0	250.0	263.0	274.0	281.0	286.0	288.0	289.0
117.5°	225.0	240.0	253.0	263.0	270.0	275.0	277.0	277.0
120°	216.0	231.0	243.0	253.0	260.0	264.0	267.0	268.0
122.5°	206.0	220.0	232.0	242.0	249.0	253.0	255.0	256.0
125°	196.0	210.0	221.0	230.0	237.0	241.0	244.0	244.0
127.5°	186.0	199.0	210.0	218.0	224.0	228.0	230.0	231.0
130°	175.0	186.0	197.0	205.0	212.0	215.0	218.0	218.0
132.5°	164.0	175.0	185.0	194.0	198.0	202.0	205.0	205.0
135°	153.0	163.0	173.0	180.0	185.0	189.0	191.0	191.0
137.5°	141.0	152.0	161.0	167.0	172.0	175.0	177.0	178.0
140°	128.0	140.0	147.0	153.0	158.0	161.0	163.0	163.0
142.5°	113.0	125.0	134.0	141.0	144.0	146.0	149.0	149.0
145°	99.0	110.0	121.0	127.0	131.0	133.0	134.0	135.0
147.5°	85.0	95.0	105.0	112.0	116.0	117.0	118.0	118.0
150°	72.0	80.0	89.0	98.0	101.0	103.0	104.0	105.0
152.5°	60.0	66.0	74.0	81.0	87.0	88.0	89.0	89.0
155°	48.0	54.0	59.0	65.0	72.0	73.0	74.0	74.0
157.5°	37.0	41.0	45.0	49.0	55.0	59.0	59.0	60.0
160°	26.0	30.0	32.0	35.0	39.0	44.0	44.0	44.0
162.5°	17.0	19.0	21.0	22.0	24.0	28.0	30.0	30.0
165°	9.0	9.0	10.0	11.0	12.0	13.0	16.0	17.0
167.5°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
170°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
172.5°	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
177.5°	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

(END OF REPORT)