

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: P

Luminaire Tested: **4APN-39L840-X-UNV-NP**

Issue Date: 06/06/2024



Test Information

Test Method: LM-79-08
Report Number: P
Test Lab: INNOVATION CENTER(G2)
Issue Date: 06/06/2024
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: 4APN-39L840-X-UNV-NP
Description: ArcMed Patient Recessed 4 FT x6 IN Fixture Ambient Light w/ Nature Pattern Lens
Light Source: 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

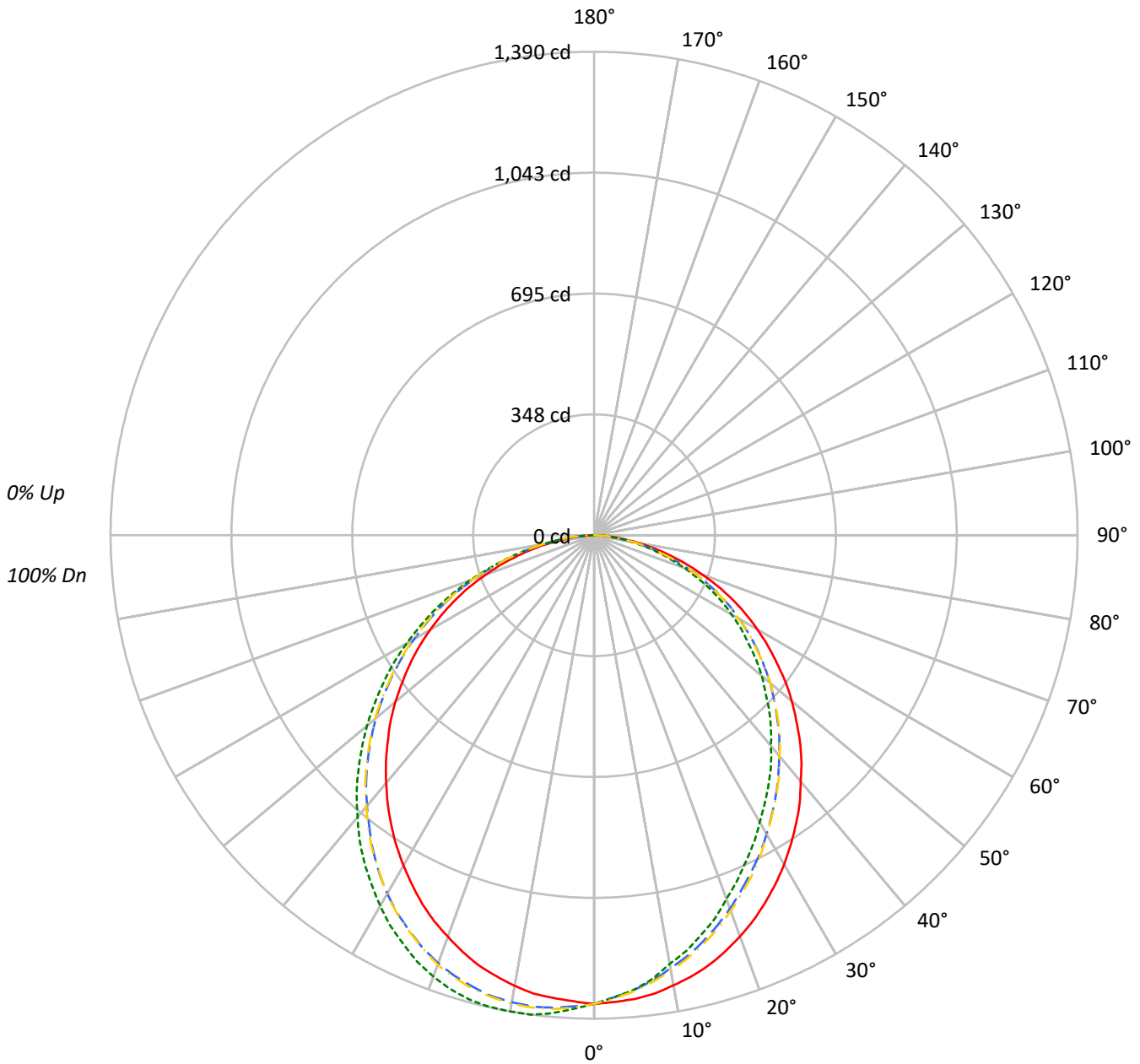
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3614.0 lumens
Efficiency: N/A
Efficacy: 78.9 lumens/watt
Spacing Criteria (0/90/45): 1.21 / 1.21 / 1.33
Luminous Opening: Rectangular (W 0.29' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 45.8
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



— 0°-180° - - 45°-225° - · - · 90°-270° - · - · 135°-315°



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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	0
RCR																					
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	102	102	102	100
1	109	104	100	96	106	102	98	95	98	94	92	94	91	89	90	88	86	86	86	86	84
2	99	91	84	78	96	89	83	77	85	80	76	82	78	74	79	76	72	72	72	72	70
3	90	80	72	65	88	78	71	65	75	69	64	73	67	62	70	65	61	61	61	61	59
4	83	71	62	55	81	70	61	55	67	60	54	65	59	54	63	57	53	53	53	53	51
5	76	63	54	48	74	62	54	48	60	53	47	58	52	47	56	51	46	46	46	46	44
6	70	57	48	42	68	56	48	42	54	47	41	53	46	41	51	45	41	41	41	41	38
7	65	52	43	37	64	51	43	37	49	42	37	48	41	36	47	41	36	36	36	36	34
8	61	47	39	33	59	47	39	33	45	38	33	44	37	33	43	37	32	32	32	32	30
9	57	43	35	30	55	43	35	30	42	35	30	41	34	29	40	34	29	29	29	29	27
10	53	40	32	27	52	40	32	27	39	32	27	38	31	27	37	31	27	27	27	27	25

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°	270°
0°	12432	12432	12432	12432
5°	12396	12156	12367	12776
10°	12310	11725	12324	13024
15°	12216	11357	12231	13206
20°	12048	10926	12064	13260
25°	11856	10521	11902	13206
30°	11643	10150	11676	13105
35°	11401	9855	11452	12962
40°	11126	9529	11198	12741
45°	10920	9289	10939	12510
50°	10656	9035	10699	12231
55°	10322	8704	10396	11894
60°	10014	8438	10042	11477
65°	9617	8088	9617	10981
70°	8964	7483	8924	10240
75°	8153	6794	8042	9183
80°	7045	5829	6806	7858
85°	5483	4351	5166	6447



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	127.3	3.5
10°-20°	361.4	10.0
20°-30°	537.2	14.9
30°-40°	633.2	17.5
40°-50°	644.7	17.8
50°-60°	574.3	15.9
60°-70°	432.7	12.0
70°-80°	240.6	6.7
80°-90°	62.5	1.7
90°-100°	0.0	0.0
100°-110°	0.0	0.0
110°-120°	0.0	0.0
120°-130°	0.0	0.0
130°-140°	0.0	0.0
140°-150°	0.0	0.0
150°-160°	0.0	0.0
160°-170°	0.0	0.0
170°-180°	0.0	0.0
0°-30°	1025.9	28.4
0°-40°	1659.1	45.9
0°-60°	2878.1	79.6
0°-90°	3614.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3614.0	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1348	1348	1348	1348	1348	
5°	1338	1312	1335	1380	1338	127
15°	1279	1189	1280	1383	1279	360
25°	1165	1034	1169	1297	1165	537
35°	1012	875	1017	1151	1012	633
45°	837	712	838	959	837	645
55°	642	541	646	739	642	575
65°	440	370	440	503	440	435
75°	229	191	226	258	229	243
85°	52	41	49	61	52	62
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	10°	20°	30°	40°	50°	60°	70°	80°	90°	100°
0°	1347.5	1347.5	1347.5	1347.5	1347.5	1347.5	1347.5	1347.5	1347.5	1347.5	1347.5
2.5°	1343.0	1343.0	1344.5	1338.4	1330.7	1327.7	1326.2	1324.6	1327.7	1329.2	1327.7
5°	1338.4	1335.3	1332.3	1324.6	1315.5	1309.4	1306.4	1304.8	1307.9	1312.5	1307.9
7.5°	1329.2	1323.2	1317.1	1306.4	1295.7	1286.6	1281.9	1278.9	1281.9	1286.6	1283.5
10°	1314.0	1306.4	1297.3	1285.0	1269.8	1259.1	1254.6	1250.0	1251.5	1251.5	1251.5
12.5°	1298.7	1288.0	1277.4	1262.1	1245.4	1233.2	1225.6	1219.4	1222.6	1224.0	1224.0
15°	1278.9	1265.2	1250.0	1233.2	1216.4	1202.7	1193.5	1187.4	1189.0	1189.0	1190.5
17.5°	1254.6	1239.3	1224.0	1204.2	1184.4	1169.2	1158.5	1150.8	1154.0	1155.5	1157.0
20°	1227.1	1210.3	1193.5	1172.2	1150.8	1134.2	1123.5	1114.3	1112.8	1112.8	1114.3
22.5°	1198.1	1179.9	1160.1	1137.2	1114.3	1096.0	1085.4	1076.2	1074.7	1074.7	1076.2
25°	1164.6	1144.8	1124.9	1102.1	1077.7	1059.5	1045.7	1036.6	1035.0	1033.5	1036.6
27.5°	1129.5	1109.7	1089.9	1067.0	1041.1	1022.9	1009.1	1000.0	997.0	995.4	998.4
30°	1092.9	1070.1	1048.8	1024.3	1001.5	983.2	969.5	958.8	955.7	952.7	955.7
32.5°	1053.3	1030.4	1007.6	983.2	960.4	942.0	928.4	917.7	914.6	913.1	916.1
35°	1012.2	989.3	968.0	943.6	920.7	902.5	888.7	879.6	876.5	875.0	876.5
37.5°	971.1	948.2	926.8	902.5	879.6	861.2	847.5	838.4	836.9	835.3	836.9
40°	923.8	903.9	882.6	859.8	836.9	818.6	807.9	797.3	794.2	791.2	795.7
42.5°	882.6	862.8	841.4	820.1	797.3	778.9	766.7	757.6	754.6	753.0	754.6
45°	836.9	815.5	794.2	774.4	753.0	736.2	724.0	714.9	713.4	711.9	713.4
47.5°	788.1	769.8	751.5	731.7	710.3	693.6	682.9	673.8	670.8	667.7	670.8
50°	742.4	724.0	705.8	687.4	667.7	652.4	641.7	632.6	631.1	629.5	631.1
52.5°	693.6	675.3	658.5	640.2	623.5	608.2	597.5	589.9	588.4	586.9	588.4
55°	641.7	626.5	611.3	596.0	579.3	565.6	556.4	547.2	544.2	541.1	544.2
57.5°	592.9	579.3	564.0	548.8	533.6	521.3	512.2	504.5	503.0	501.5	503.0
60°	542.7	530.5	516.8	503.0	487.8	475.6	468.0	461.9	458.8	457.3	458.8
62.5°	492.3	480.2	469.5	455.7	442.1	432.9	425.3	419.2	416.2	414.6	416.2
65°	440.5	429.8	419.2	407.0	396.4	387.1	379.6	373.5	371.9	370.5	370.5
67.5°	387.1	378.0	368.9	358.2	346.0	336.9	329.2	324.7	323.2	321.6	323.2
70°	332.3	324.7	315.5	306.4	297.3	289.6	285.1	280.5	279.0	277.4	277.4
72.5°	280.5	274.4	266.7	259.2	251.5	243.9	239.4	236.3	234.7	233.3	233.3
75°	228.7	222.6	218.0	211.9	204.2	199.7	195.1	192.1	190.6	190.6	190.6
77.5°	179.9	175.3	170.8	164.7	160.1	155.4	152.4	150.9	149.4	149.4	149.4
80°	132.6	129.5	126.5	123.5	118.9	114.3	112.8	111.3	109.7	109.7	109.7
82.5°	89.9	88.4	85.4	82.3	79.3	77.7	76.2	74.7	74.7	74.7	74.7
85°	51.8	50.3	48.8	47.3	45.7	45.7	44.2	42.7	41.1	41.1	41.1
87.5°	21.3	21.3	21.3	19.8	18.3	18.3	18.3	18.3	18.3	18.3	18.3
90°	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):

	110°	120°	130°	140°	150°	160°	170°	180°	190°	200°	210°
0°	1347.5	1347.5	1347.5	1347.5	1347.5	1347.5	1347.5	1347.5	1347.5	1347.5	1347.5
2.5°	1324.6	1327.7	1330.7	1335.3	1339.9	1344.5	1343.0	1341.4	1347.5	1355.2	1356.6
5°	1304.8	1307.9	1312.5	1320.1	1327.7	1333.8	1335.3	1335.3	1347.5	1358.2	1361.2
7.5°	1280.5	1285.0	1291.2	1298.7	1309.4	1318.6	1323.2	1329.2	1341.4	1355.2	1361.2
10°	1250.0	1257.6	1266.7	1277.4	1288.0	1298.7	1307.9	1315.5	1330.7	1346.0	1355.2
12.5°	1222.6	1230.1	1239.3	1251.5	1265.2	1278.9	1288.0	1298.7	1317.1	1335.3	1346.0
15°	1192.1	1199.7	1210.3	1222.6	1237.8	1253.0	1266.7	1280.5	1298.7	1318.6	1330.7
17.5°	1158.5	1166.1	1176.8	1192.1	1208.8	1225.6	1240.8	1256.0	1277.4	1298.7	1312.5
20°	1117.4	1128.1	1141.7	1157.0	1176.8	1196.6	1211.9	1228.7	1251.5	1274.4	1289.6
22.5°	1077.7	1088.4	1103.6	1121.9	1143.3	1164.6	1182.9	1201.2	1225.6	1248.5	1265.2
25°	1039.6	1051.8	1067.0	1085.4	1105.2	1126.5	1147.8	1169.2	1193.5	1218.0	1234.7
27.5°	1001.5	1012.2	1027.4	1045.7	1068.6	1089.9	1111.3	1132.6	1158.5	1184.4	1202.7
30°	958.8	971.1	984.7	1003.0	1027.4	1051.8	1073.1	1096.0	1121.9	1147.8	1166.1
32.5°	919.1	929.8	943.6	961.8	986.3	1010.6	1033.5	1057.9	1082.3	1108.2	1126.5
35°	879.6	890.2	903.9	922.3	946.6	971.1	993.9	1016.8	1041.1	1065.6	1083.8
37.5°	839.9	850.5	864.3	882.6	905.5	929.8	951.2	974.1	998.4	1022.9	1039.6
40°	798.7	809.4	820.1	838.4	861.2	885.7	907.0	929.8	954.3	978.6	995.4
42.5°	757.6	768.3	781.9	800.3	821.6	843.0	864.3	885.7	908.5	931.4	948.2
45°	716.5	725.6	739.4	756.0	777.4	797.3	818.6	838.4	861.2	882.6	899.4
47.5°	673.8	682.9	693.6	710.3	731.7	753.0	774.4	794.2	814.0	835.3	850.5
50°	632.6	641.7	654.0	669.2	689.0	708.8	727.1	745.4	765.3	785.1	798.7
52.5°	589.9	599.1	609.7	625.0	641.7	660.1	676.8	695.1	713.4	731.7	745.4
55°	547.2	553.4	562.5	576.2	594.5	612.8	629.5	646.3	663.1	678.3	692.1
57.5°	504.5	512.2	522.9	535.0	550.2	565.6	580.8	596.0	611.3	626.5	638.7
60°	461.9	468.0	475.6	486.3	501.5	515.2	530.5	544.2	557.9	571.6	582.3
62.5°	417.7	423.8	431.4	442.1	454.3	466.4	480.2	492.3	504.5	516.8	527.4
65°	371.9	378.0	385.7	394.8	405.5	416.2	428.4	440.5	449.7	458.8	469.5
67.5°	324.7	330.8	338.4	346.0	355.2	365.8	376.5	387.1	396.4	405.5	413.1
70°	279.0	283.5	291.2	297.3	304.9	312.5	321.6	330.8	336.9	344.5	353.7
72.5°	234.7	239.4	245.4	251.5	256.1	262.2	271.3	279.0	286.6	295.7	300.3
75°	192.1	195.1	199.7	204.2	208.8	213.4	219.5	225.6	231.7	236.3	242.4
77.5°	149.4	152.4	157.0	160.1	163.1	166.1	170.8	175.3	179.9	182.9	189.0
80°	109.7	112.8	115.9	118.9	122.0	125.0	126.5	128.1	134.2	138.8	141.8
82.5°	74.7	76.2	77.7	80.8	82.3	83.8	85.4	85.4	88.4	91.5	96.1
85°	42.7	44.2	45.7	45.7	45.7	45.7	47.3	48.8	50.3	53.4	56.4
87.5°	16.8	16.8	18.3	18.3	18.3	18.3	18.3	18.3	19.8	22.9	24.4
90°	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):

	220°	230°	240°	250°	260°	270°	280°	290°	300°	310°	320°
0°	1347.5	1347.5	1347.5	1347.5	1347.5	1347.5	1347.5	1347.5	1347.5	1347.5	1347.5
2.5°	1355.2	1356.6	1359.8	1361.2	1362.8	1362.8	1364.3	1365.9	1362.8	1359.8	1358.2
5°	1362.8	1364.3	1368.9	1373.4	1376.5	1379.5	1378.0	1376.5	1373.4	1368.9	1365.9
7.5°	1364.3	1368.9	1373.4	1379.5	1384.1	1390.2	1387.1	1384.1	1378.0	1371.9	1367.3
10°	1359.8	1365.9	1373.4	1381.1	1385.7	1390.2	1387.1	1384.1	1378.0	1370.4	1364.3
12.5°	1353.6	1361.2	1370.4	1378.0	1382.6	1388.7	1384.1	1379.5	1371.9	1364.3	1356.6
15°	1339.9	1349.1	1359.8	1368.9	1376.5	1382.6	1378.0	1375.0	1365.9	1355.2	1344.5
17.5°	1323.2	1335.3	1346.0	1356.6	1362.8	1368.9	1365.9	1362.8	1352.1	1339.9	1327.7
20°	1303.3	1315.5	1326.2	1336.9	1344.5	1350.5	1346.0	1341.4	1330.7	1320.1	1307.9
22.5°	1278.9	1291.2	1303.3	1314.0	1321.6	1327.7	1321.6	1314.0	1303.3	1292.6	1280.5
25°	1248.5	1262.1	1275.9	1286.6	1291.2	1297.3	1291.2	1285.0	1274.4	1263.7	1250.0
27.5°	1218.0	1231.7	1245.4	1256.0	1260.7	1266.7	1260.7	1254.6	1243.9	1233.2	1219.4
30°	1182.9	1196.6	1210.3	1221.0	1225.6	1230.1	1224.0	1218.0	1208.8	1198.1	1184.4
32.5°	1143.3	1157.0	1167.6	1178.3	1184.4	1190.5	1184.4	1179.9	1169.2	1155.5	1141.7
35°	1100.6	1114.3	1128.1	1138.7	1144.8	1150.8	1143.3	1135.6	1126.5	1115.8	1103.6
37.5°	1053.3	1068.6	1083.8	1096.0	1100.6	1106.7	1100.6	1092.9	1083.8	1073.1	1059.5
40°	1009.1	1022.9	1036.6	1048.8	1053.3	1057.9	1051.8	1045.7	1035.0	1024.3	1010.6
42.5°	963.4	977.1	989.3	1000.0	1004.5	1010.6	1004.5	997.0	989.3	980.2	968.0
45°	914.6	928.4	939.0	949.7	954.3	958.8	952.7	945.1	937.5	929.8	917.7
47.5°	864.3	876.5	887.1	897.8	900.9	905.5	899.4	894.8	887.1	879.6	868.9
50°	812.5	824.6	835.3	844.5	847.5	852.1	846.0	839.9	833.9	827.7	818.6
52.5°	759.1	769.8	780.5	789.6	792.6	795.7	789.6	783.5	777.4	771.3	762.2
55°	704.2	714.9	725.6	733.2	736.2	739.4	733.2	728.7	722.6	718.0	708.8
57.5°	649.4	660.1	669.2	676.8	679.9	682.9	676.8	670.8	666.1	661.5	654.0
60°	592.9	603.6	611.3	617.4	620.4	622.0	615.8	611.3	608.2	605.2	597.5
62.5°	538.1	545.7	553.4	557.9	560.9	562.5	557.9	554.9	551.8	548.8	542.7
65°	480.2	489.3	495.4	500.0	501.5	503.0	498.4	495.4	492.3	489.3	484.8
67.5°	422.3	429.8	434.4	439.1	440.5	440.5	440.5	439.1	435.9	431.4	426.8
70°	364.3	370.5	375.0	378.0	379.6	379.6	376.5	373.5	373.5	371.9	368.9
72.5°	304.9	309.4	312.5	315.5	315.5	315.5	315.5	317.1	315.5	312.5	307.9
75°	248.5	253.0	256.1	257.6	257.6	257.6	257.6	259.2	257.6	256.1	253.0
77.5°	195.1	198.1	199.7	201.2	201.2	201.2	202.7	204.2	202.7	201.2	199.7
80°	144.8	146.3	147.9	149.4	147.9	147.9	149.4	152.4	150.9	149.4	147.9
82.5°	99.1	100.6	102.2	102.2	103.6	105.2	105.2	105.2	105.2	103.6	102.2
85°	59.5	60.9	60.9	60.9	60.9	60.9	62.5	64.0	64.0	62.5	62.5
87.5°	27.5	29.0	27.5	25.9	24.4	24.4	27.5	30.5	30.5	29.0	29.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0



TEST NUMBER: P
 CATALOG NUMBER: 4APN-39L840-X-UNV-NP

CANDELA DISTRIBUTION (continued):

	330°	340°	350°	360°
0°	1347.5	1347.5	1347.5	1347.5
2.5°	1359.8	1358.2	1350.5	1343.0
5°	1364.3	1359.8	1349.1	1338.4
7.5°	1364.3	1358.2	1343.0	1329.2
10°	1356.6	1347.5	1330.7	1314.0
12.5°	1347.5	1336.9	1317.1	1298.7
15°	1333.8	1321.6	1300.3	1278.9
17.5°	1314.0	1298.7	1277.4	1254.6
20°	1294.2	1277.4	1251.5	1227.1
22.5°	1266.7	1251.5	1224.0	1198.1
25°	1236.2	1219.4	1192.1	1164.6
27.5°	1204.2	1184.4	1157.0	1129.5
30°	1167.6	1147.8	1120.4	1092.9
32.5°	1128.1	1109.7	1082.3	1053.3
35°	1088.4	1068.6	1041.1	1012.2
37.5°	1044.2	1025.9	998.4	971.1
40°	997.0	978.6	951.2	923.8
42.5°	952.7	935.9	908.5	882.6
45°	903.9	887.1	861.2	836.9
47.5°	853.7	836.9	812.5	788.1
50°	804.8	788.1	765.3	742.4
52.5°	750.0	736.2	714.9	693.6
55°	696.7	682.9	661.5	641.7
57.5°	643.3	631.1	611.3	592.9
60°	586.9	574.7	559.5	542.7
62.5°	533.6	522.9	507.7	492.3
65°	477.1	468.0	454.3	440.5
67.5°	419.2	411.6	399.4	387.1
70°	361.2	352.1	343.0	332.3
72.5°	303.3	298.7	289.6	280.5
75°	248.5	243.9	236.3	228.7
77.5°	196.7	192.1	186.0	179.9
80°	144.8	141.8	137.2	132.6
82.5°	100.6	97.5	94.5	89.9
85°	60.9	57.9	54.9	51.8
87.5°	27.5	25.9	22.9	21.3
90°	0.0	0.0	0.0	0.0

(END OF REPORT)