

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-35L840-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-35L840-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

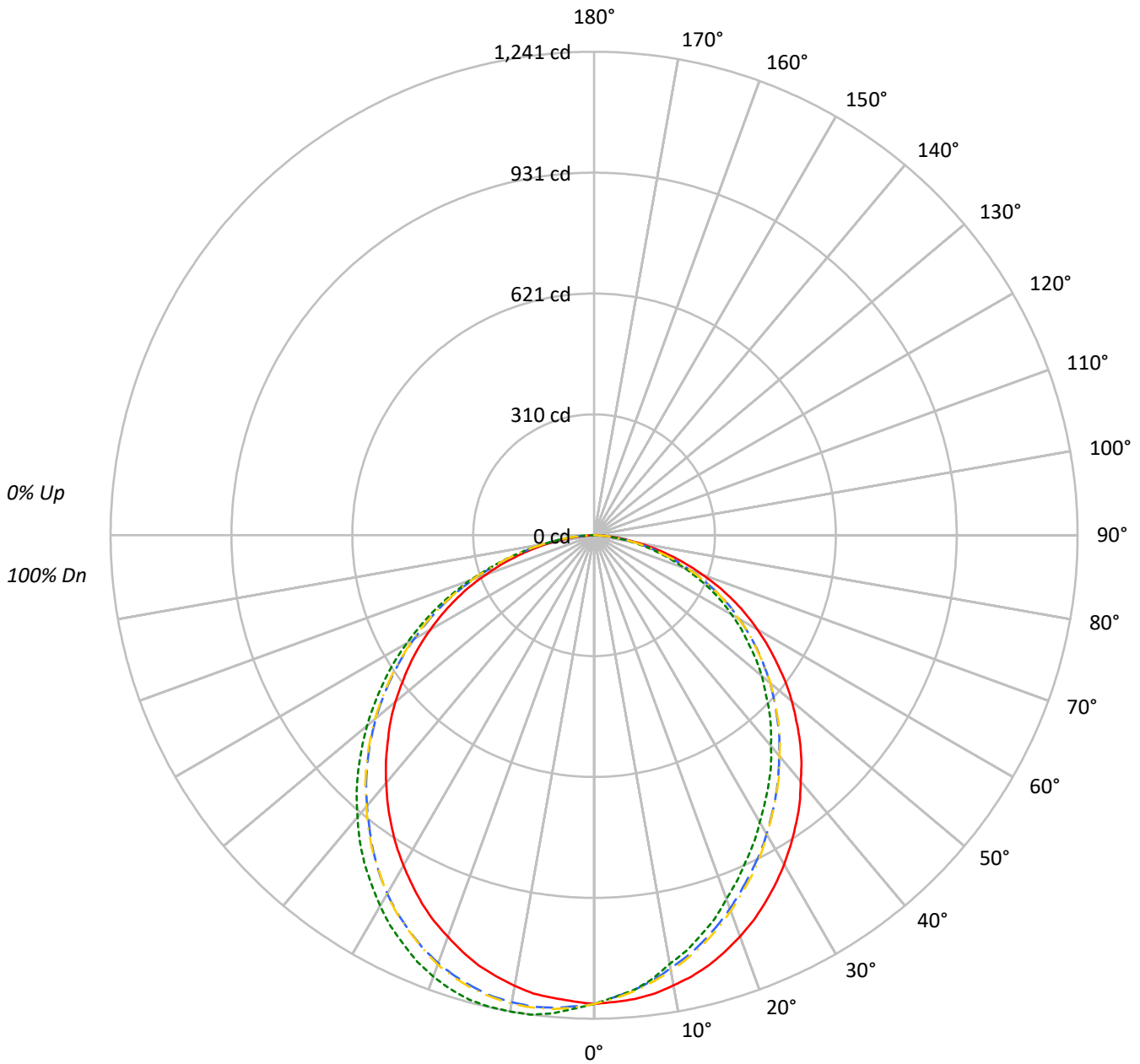
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3226.8 lumens
Efficiency: N/A
Efficacy: 79.9 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): 40.4
Input Voltage (V): 120
Input Current (A_{in}): 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°	11100	11100	11100	11100
5°	11067	10853	11041	11407
10°	10991	10468	11003	11629
15°	10907	10140	10920	11792
20°	10757	9755	10771	11840
25°	10585	9393	10627	11790
30°	10396	9062	10426	11702
35°	10178	8799	10225	11574
40°	9934	8507	10000	11377
45°	9749	8293	9768	11170
50°	9513	8068	9552	10920
55°	9217	7771	9283	10618
60°	8940	7536	8966	10247
65°	8586	7220	8586	9804
70°	8004	6682	7966	9142
75°	7276	6064	7183	8199
80°	6291	5207	6073	7013
85°	4901	3896	4605	5759



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	113.7	3.5
10°-20°	322.6	10.0
20°-30°	479.7	14.9
30°-40°	565.3	17.5
40°-50°	575.6	17.8
50°-60°	512.8	15.9
60°-70°	386.3	12.0
70°-80°	214.9	6.7
80°-90°	55.8	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°	916.0	28.4
0°-40°	1481.3	45.9
0°-60°	2569.8	79.6
0°-90°	3226.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3226.8	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1203	1203	1203	1203	1203	
5°	1195	1172	1192	1232	1195	113
15°	1142	1062	1143	1234	1142	322
25°	1040	923	1044	1158	1040	479
35°	904	781	908	1028	904	565
45°	747	636	749	856	747	576
55°	573	483	577	660	573	513
65°	393	331	393	449	393	388
75°	204	170	202	230	204	217
85°	46	37	44	54	46	56
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°	1203.1	1203.1	1203.1	1203.1	1203.1	1203.1	1203.1	1203.1	1203.1	1203.1	1203.1
2.5°	1199.1	1199.1	1200.4	1195.0	1188.2	1185.4	1184.1	1182.7	1185.4	1186.8	1185.4
5°	1195.0	1192.2	1189.6	1182.7	1174.5	1169.1	1166.4	1165.0	1167.8	1171.9	1167.8
7.5°	1186.8	1181.4	1175.9	1166.4	1156.8	1148.7	1144.7	1141.9	1144.7	1148.7	1146.0
10°	1173.2	1166.4	1158.2	1147.3	1133.7	1124.2	1120.1	1116.1	1117.4	1117.4	1117.4
12.5°	1159.6	1150.1	1140.5	1127.0	1111.9	1101.1	1094.2	1088.8	1091.6	1092.9	1092.9
15°	1141.9	1129.6	1116.1	1101.1	1086.1	1073.9	1065.6	1060.2	1061.6	1061.6	1063.0
17.5°	1120.1	1106.5	1092.9	1075.2	1057.5	1043.9	1034.4	1027.6	1030.3	1031.6	1033.0
20°	1095.6	1080.7	1065.6	1046.7	1027.6	1012.6	1003.0	994.9	993.5	993.5	994.9
22.5°	1069.8	1053.5	1035.8	1015.3	994.9	978.6	969.0	960.9	959.5	959.5	960.9
25°	1039.8	1022.1	1004.4	984.1	962.3	945.9	933.7	925.5	924.1	922.7	925.5
27.5°	1008.5	990.9	973.2	952.7	929.6	913.2	901.0	892.9	890.1	888.7	891.5
30°	975.8	955.5	936.4	914.6	894.2	877.8	865.6	856.1	853.4	850.6	853.4
32.5°	940.4	920.1	899.6	877.8	857.5	841.1	828.9	819.4	816.6	815.2	818.0
35°	903.7	883.3	864.3	842.4	822.1	805.7	793.5	785.4	782.6	781.2	782.6
37.5°	867.0	846.6	827.5	805.7	785.4	768.9	756.8	748.6	747.2	745.8	747.2
40°	824.8	807.1	788.0	767.7	747.2	730.9	721.4	711.8	709.1	706.3	710.5
42.5°	788.0	770.3	751.2	732.3	711.8	695.5	684.6	676.5	673.7	672.3	673.7
45°	747.2	728.2	709.1	691.4	672.3	657.4	646.5	638.3	636.9	635.6	636.9
47.5°	703.7	687.4	671.0	653.3	634.2	619.3	609.7	601.6	598.8	596.2	598.8
50°	662.8	646.5	630.2	613.9	596.2	582.5	573.0	564.8	563.4	562.1	563.4
52.5°	619.3	602.9	588.0	571.6	556.7	543.1	533.6	526.7	525.4	524.0	525.4
55°	573.0	559.4	545.7	532.2	517.1	505.0	496.8	488.6	485.9	483.1	485.9
57.5°	529.4	517.1	503.6	490.0	476.4	465.5	457.3	450.5	449.1	447.8	449.1
60°	484.5	473.6	461.4	449.1	435.6	424.7	417.9	412.4	409.6	408.4	409.6
62.5°	439.6	428.7	419.2	407.0	394.7	386.5	379.8	374.2	371.6	370.2	371.6
65°	393.3	383.8	374.2	363.4	353.9	345.7	338.9	333.5	332.1	330.7	330.7
67.5°	345.7	337.5	329.3	319.8	309.0	300.8	294.0	289.9	288.5	287.2	288.5
70°	296.7	289.9	281.8	273.6	265.4	258.6	254.5	250.4	249.0	247.7	247.7
72.5°	250.4	245.0	238.2	231.3	224.6	217.8	213.7	211.0	209.6	208.3	208.3
75°	204.1	198.7	194.6	189.2	182.4	178.3	174.2	171.5	170.1	170.1	170.1
77.5°	160.6	156.6	152.4	147.0	142.9	138.9	136.1	134.7	133.4	133.4	133.4
80°	118.4	115.7	112.9	110.3	106.1	102.1	100.7	99.4	98.0	98.0	98.0
82.5°	80.3	78.9	76.2	73.5	70.8	69.4	68.0	66.7	66.7	66.7	66.7
85°	46.3	44.9	43.5	42.2	40.8	40.8	39.5	38.1	36.8	36.8	36.8
87.5°	19.1	19.1	19.1	17.7	16.3	16.3	16.3	16.3	16.3	16.3	16.3
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°	1203.1	1203.1	1203.1	1203.1	1203.1	1203.1	1203.1	1203.1	1203.1	1203.1	1203.1
2.5°	1182.7	1185.4	1188.2	1192.2	1196.4	1200.4	1199.1	1197.7	1203.1	1209.9	1211.3
5°	1165.0	1167.8	1171.9	1178.7	1185.4	1190.9	1192.2	1192.2	1203.1	1212.7	1215.4
7.5°	1143.3	1147.3	1152.8	1159.6	1169.1	1177.3	1181.4	1186.8	1197.7	1209.9	1215.4
10°	1116.1	1122.8	1131.0	1140.5	1150.1	1159.6	1167.8	1174.5	1188.2	1201.8	1209.9
12.5°	1091.6	1098.4	1106.5	1117.4	1129.6	1141.9	1150.1	1159.6	1175.9	1192.2	1201.8
15°	1064.4	1071.1	1080.7	1091.6	1105.2	1118.8	1131.0	1143.3	1159.6	1177.3	1188.2
17.5°	1034.4	1041.2	1050.7	1064.4	1079.3	1094.2	1107.9	1121.5	1140.5	1159.6	1171.9
20°	997.6	1007.2	1019.5	1033.0	1050.7	1068.4	1082.1	1097.0	1117.4	1137.8	1151.4
22.5°	962.3	971.8	985.3	1001.8	1020.7	1039.8	1056.2	1072.5	1094.2	1114.7	1129.6
25°	928.2	939.1	952.7	969.0	986.7	1005.8	1024.9	1043.9	1065.6	1087.5	1102.4
27.5°	894.2	903.7	917.3	933.7	954.1	973.2	992.2	1011.2	1034.4	1057.5	1073.9
30°	856.1	867.0	879.2	895.5	917.3	939.1	958.1	978.6	1001.8	1024.9	1041.2
32.5°	820.7	830.3	842.4	858.8	880.6	902.4	922.7	944.6	966.3	989.5	1005.8
35°	785.4	794.9	807.1	823.4	845.2	867.0	887.4	907.8	929.6	951.3	967.7
37.5°	750.0	759.5	771.7	788.0	808.4	830.3	849.3	869.7	891.5	913.2	928.2
40°	713.2	722.7	732.3	748.6	768.9	790.8	809.8	830.3	852.0	873.8	888.7
42.5°	676.5	686.0	698.2	714.6	733.6	752.6	771.7	790.8	811.2	831.6	846.6
45°	639.7	647.9	660.1	675.1	694.1	711.8	730.9	748.6	768.9	788.0	803.0
47.5°	601.6	609.7	619.3	634.2	653.3	672.3	691.4	709.1	726.8	745.8	759.5
50°	564.8	573.0	583.9	597.5	615.2	632.9	649.2	665.5	683.2	700.9	713.2
52.5°	526.7	534.9	544.4	558.0	573.0	589.3	604.3	620.6	636.9	653.3	665.5
55°	488.6	494.0	502.2	514.5	530.8	547.1	562.1	577.1	592.0	605.7	617.9
57.5°	450.5	457.3	466.8	477.7	491.3	505.0	518.5	532.2	545.7	559.4	570.3
60°	412.4	417.9	424.7	434.2	447.8	460.0	473.6	485.9	498.2	510.4	519.9
62.5°	372.9	378.4	385.2	394.7	405.6	416.5	428.7	439.6	450.5	461.4	471.0
65°	332.1	337.5	344.4	352.5	362.1	371.6	382.4	393.3	401.5	409.6	419.2
67.5°	289.9	295.3	302.1	309.0	317.1	326.7	336.2	345.7	353.9	362.1	368.8
70°	249.0	253.2	259.9	265.4	272.2	279.0	287.2	295.3	300.8	307.6	315.8
72.5°	209.6	213.7	219.2	224.6	228.7	234.1	242.3	249.0	255.9	264.1	268.1
75°	171.5	174.2	178.3	182.4	186.4	190.6	196.0	201.5	206.9	211.0	216.4
77.5°	133.4	136.1	140.1	142.9	145.7	148.3	152.4	156.6	160.6	163.3	168.7
80°	98.0	100.7	103.4	106.1	108.9	111.6	112.9	114.3	119.8	123.8	126.6
82.5°	66.7	68.0	69.4	72.1	73.5	74.9	76.2	76.2	78.9	81.7	85.7
85°	38.1	39.5	40.8	40.8	40.8	40.8	42.2	43.5	44.9	47.7	50.3
87.5°	14.9	14.9	16.3	16.3	16.3	16.3	16.3	16.3	17.7	20.4	21.8
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°	1203.1	1203.1	1203.1	1203.1	1203.1	1203.1	1203.1	1203.1	1203.1	1203.1	1203.1
2.5°	1209.9	1211.3	1214.0	1215.4	1216.8	1216.8	1218.1	1219.4	1216.8	1214.0	1212.7
5°	1216.8	1218.1	1222.2	1226.3	1229.0	1231.7	1230.4	1229.0	1226.3	1222.2	1219.4
7.5°	1218.1	1222.2	1226.3	1231.7	1235.8	1241.3	1238.5	1235.8	1230.4	1225.0	1220.8
10°	1214.0	1219.4	1226.3	1233.1	1237.1	1241.3	1238.5	1235.8	1230.4	1223.6	1218.1
12.5°	1208.6	1215.4	1223.6	1230.4	1234.5	1239.9	1235.8	1231.7	1225.0	1218.1	1211.3
15°	1196.4	1204.5	1214.0	1222.2	1229.0	1234.5	1230.4	1227.6	1219.4	1209.9	1200.4
17.5°	1181.4	1192.2	1201.8	1211.3	1216.8	1222.2	1219.4	1216.8	1207.3	1196.4	1185.4
20°	1163.7	1174.5	1184.1	1193.6	1200.4	1205.9	1201.8	1197.7	1188.2	1178.7	1167.8
22.5°	1141.9	1152.8	1163.7	1173.2	1180.0	1185.4	1180.0	1173.2	1163.7	1154.2	1143.3
25°	1114.7	1127.0	1139.2	1148.7	1152.8	1158.2	1152.8	1147.3	1137.8	1128.3	1116.1
27.5°	1087.5	1099.7	1111.9	1121.5	1125.6	1131.0	1125.6	1120.1	1110.6	1101.1	1088.8
30°	1056.2	1068.4	1080.7	1090.2	1094.2	1098.4	1092.9	1087.5	1079.3	1069.8	1057.5
32.5°	1020.7	1033.0	1042.5	1052.1	1057.5	1063.0	1057.5	1053.5	1043.9	1031.6	1019.5
35°	982.7	994.9	1007.2	1016.7	1022.1	1027.6	1020.7	1013.9	1005.8	996.3	985.3
37.5°	940.4	954.1	967.7	978.6	982.7	988.1	982.7	975.8	967.7	958.1	945.9
40°	901.0	913.2	925.5	936.4	940.4	944.6	939.1	933.7	924.1	914.6	902.4
42.5°	860.1	872.4	883.3	892.9	896.9	902.4	896.9	890.1	883.3	875.2	864.3
45°	816.6	828.9	838.4	848.0	852.0	856.1	850.6	843.8	837.0	830.3	819.4
47.5°	771.7	782.6	792.1	801.7	804.4	808.4	803.0	798.9	792.1	785.4	775.8
50°	725.4	736.3	745.8	754.0	756.8	760.8	755.4	750.0	744.5	739.1	730.9
52.5°	677.8	687.4	696.8	705.1	707.7	710.5	705.1	699.6	694.1	688.6	680.5
55°	628.8	638.3	647.9	654.6	657.4	660.1	654.6	650.6	645.1	641.1	632.9
57.5°	579.8	589.3	597.5	604.3	607.0	609.7	604.3	598.8	594.8	590.7	583.9
60°	529.4	539.0	545.7	551.2	553.9	555.3	549.9	545.7	543.1	540.3	533.6
62.5°	480.5	487.3	494.0	498.2	500.8	502.2	498.2	495.4	492.7	490.0	484.5
65°	428.7	436.9	442.4	446.4	447.8	449.1	445.0	442.4	439.6	436.9	432.8
67.5°	377.0	383.8	387.9	391.9	393.3	393.3	393.3	391.9	389.3	385.2	381.1
70°	325.3	330.7	334.8	337.5	338.9	338.9	336.2	333.5	333.5	332.1	329.3
72.5°	272.2	276.3	279.0	281.8	281.8	281.8	281.8	283.1	281.8	279.0	274.9
75°	221.8	225.9	228.7	230.0	230.0	230.0	230.0	231.3	230.0	228.7	225.9
77.5°	174.2	176.9	178.3	179.7	179.7	179.7	181.0	182.4	181.0	179.7	178.3
80°	129.3	130.6	132.0	133.4	132.0	132.0	133.4	136.1	134.7	133.4	132.0
82.5°	88.5	89.8	91.2	91.2	92.6	94.0	94.0	94.0	94.0	92.6	91.2
85°	53.1	54.4	54.4	54.4	54.4	54.4	55.8	57.2	57.2	55.8	55.8
87.5°	24.5	25.8	24.5	23.1	21.8	21.8	24.5	27.2	27.2	25.8	25.8
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-35L840-X-UNV-NP

CANDELA DISTRIBUTION (continued):

	330°	340°	350°	360°
0°	1203.1	1203.1	1203.1	1203.1
2.5°	1214.0	1212.7	1205.9	1199.1
5°	1218.1	1214.0	1204.5	1195.0
7.5°	1218.1	1212.7	1199.1	1186.8
10°	1211.3	1203.1	1188.2	1173.2
12.5°	1203.1	1193.6	1175.9	1159.6
15°	1190.9	1180.0	1161.0	1141.9
17.5°	1173.2	1159.6	1140.5	1120.1
20°	1155.5	1140.5	1117.4	1095.6
22.5°	1131.0	1117.4	1092.9	1069.8
25°	1103.8	1088.8	1064.4	1039.8
27.5°	1075.2	1057.5	1033.0	1008.5
30°	1042.5	1024.9	1000.4	975.8
32.5°	1007.2	990.9	966.3	940.4
35°	971.8	954.1	929.6	903.7
37.5°	932.3	916.0	891.5	867.0
40°	890.1	873.8	849.3	824.8
42.5°	850.6	835.7	811.2	788.0
45°	807.1	792.1	768.9	747.2
47.5°	762.2	747.2	725.4	703.7
50°	718.6	703.7	683.2	662.8
52.5°	669.6	657.4	638.3	619.3
55°	622.0	609.7	590.7	573.0
57.5°	574.3	563.4	545.7	529.4
60°	524.0	513.1	499.5	484.5
62.5°	476.4	466.8	453.3	439.6
65°	426.0	417.9	405.6	393.3
67.5°	374.2	367.5	356.6	345.7
70°	322.6	314.4	306.2	296.7
72.5°	270.9	266.7	258.6	250.4
75°	221.8	217.8	211.0	204.1
77.5°	175.5	171.5	166.1	160.6
80°	129.3	126.6	122.5	118.4
82.5°	89.8	87.1	84.4	80.3
85°	54.4	51.7	49.0	46.3
87.5°	24.5	23.1	20.4	19.1
90°	0.0	0.0	0.0	0.0

(END OF REPORT)