

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-35L850-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-35L850-X-UNV-NP
Description: ArcMed Patient Recessed 4 FT x6 IN Fixture Ambient Light w/ Nature Pattern Lens
Light Source: 5000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

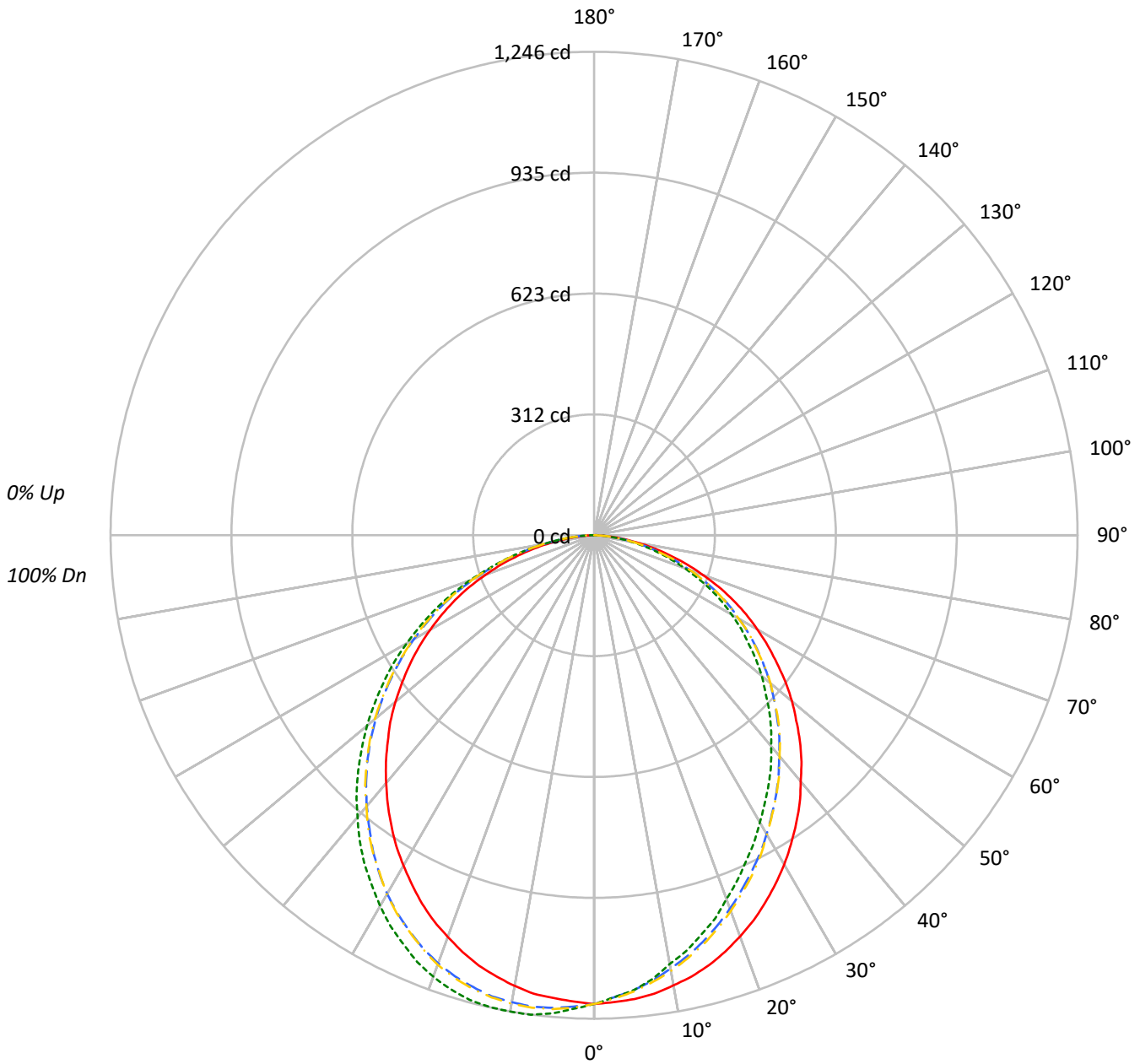
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3240.3 lumens
Efficiency: N/A
Efficacy: 80.2 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°	11147	11147	11147	11147
5°	11114	10898	11089	11455
10°	11037	10512	11050	11678
15°	10953	10182	10966	11840
20°	10802	9796	10816	11890
25°	10630	9433	10672	11840
30°	10440	9100	10469	11751
35°	10221	8836	10267	11622
40°	9975	8544	10041	11425
45°	9790	8328	9808	11217
50°	9554	8101	9594	10966
55°	9256	7805	9321	10661
60°	8977	7565	9003	10289
65°	8623	7250	8623	9846
70°	8039	6712	8001	9180
75°	7311	6089	7211	8235
80°	6317	5228	6100	7045
85°	4922	3906	4626	5790



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	114.2	3.5
10°-20°	324.0	10.0
20°-30°	481.7	14.9
30°-40°	567.7	17.5
40°-50°	578.0	17.8
50°-60°	515.0	15.9
60°-70°	388.0	12.0
70°-80°	215.8	6.7
80°-90°	56.1	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°	919.8	28.4
0°-40°	1487.5	45.9
0°-60°	2580.5	79.6
0°-90°	3240.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3240.3	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1208	1208	1208	1208	1208	
5°	1200	1177	1197	1237	1200	114
15°	1147	1066	1148	1240	1147	323
25°	1044	927	1048	1163	1044	481
35°	908	784	912	1032	908	568
45°	750	638	752	860	750	578
55°	575	485	580	663	575	515
65°	395	332	395	451	395	390
75°	205	171	202	231	205	218
85°	46	37	44	55	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°	1208.2	1208.2	1208.2	1208.2	1208.2	1208.2	1208.2	1208.2	1208.2	1208.2	1208.2
2.5°	1204.1	1204.1	1205.5	1200.0	1193.2	1190.4	1189.1	1187.7	1190.4	1191.8	1190.4
5°	1200.0	1197.3	1194.5	1187.7	1179.5	1174.1	1171.3	1169.9	1172.7	1176.7	1172.7
7.5°	1191.8	1186.3	1180.9	1171.3	1161.7	1153.5	1149.5	1146.7	1149.5	1153.5	1150.8
10°	1178.1	1171.3	1163.1	1152.1	1138.5	1128.9	1124.8	1120.7	1122.1	1122.1	1122.1
12.5°	1164.5	1154.9	1145.3	1131.7	1116.6	1105.7	1098.8	1093.4	1096.2	1097.5	1097.5
15°	1146.7	1134.4	1120.7	1105.7	1090.6	1078.4	1070.2	1064.7	1066.0	1066.0	1067.4
17.5°	1124.8	1111.2	1097.5	1079.8	1062.0	1048.3	1038.7	1031.9	1034.7	1036.0	1037.3
20°	1100.2	1085.2	1070.2	1051.0	1031.9	1016.9	1007.3	999.1	997.7	997.7	999.1
22.5°	1074.2	1057.9	1040.1	1019.5	999.1	982.7	973.1	965.0	963.6	963.6	965.0
25°	1044.2	1026.5	1008.7	988.2	966.3	949.8	937.6	929.4	928.0	926.6	929.4
27.5°	1012.7	995.0	977.2	956.8	933.5	917.1	904.8	896.6	893.9	892.5	895.3
30°	980.0	959.4	940.3	918.5	897.9	881.5	869.3	859.7	856.9	854.2	856.9
32.5°	944.4	923.9	903.4	881.5	861.1	844.6	832.4	822.8	820.0	818.6	821.4
35°	907.5	887.1	867.9	846.0	825.6	809.1	796.8	788.6	785.9	784.5	785.9
37.5°	870.6	850.1	831.0	809.1	788.6	772.2	759.9	751.7	750.3	748.9	750.3
40°	828.2	810.4	791.4	770.9	750.3	733.9	724.4	714.8	712.1	709.4	713.4
42.5°	791.4	773.6	754.5	735.3	714.8	698.4	687.4	679.2	676.6	675.2	676.6
45°	750.3	731.2	712.1	694.3	675.2	660.2	649.2	641.0	639.6	638.3	639.6
47.5°	706.6	690.2	673.8	656.0	636.9	621.9	612.3	604.1	601.3	598.7	601.3
50°	665.6	649.2	632.8	616.4	598.7	585.0	575.4	567.2	565.8	564.4	565.8
52.5°	621.9	605.5	590.4	574.0	559.0	545.4	535.8	529.0	527.6	526.2	527.6
55°	575.4	561.8	548.0	534.4	519.4	507.1	498.9	490.7	487.9	485.2	487.9
57.5°	531.6	519.4	505.7	492.1	478.3	467.5	459.2	452.4	451.0	449.7	451.0
60°	486.5	475.7	463.3	451.0	437.4	426.4	419.6	414.2	411.4	410.0	411.4
62.5°	441.5	430.5	421.0	408.6	396.4	388.2	381.3	375.9	373.1	371.8	373.1
65°	395.0	385.4	375.9	364.9	355.3	347.1	340.3	334.9	333.5	332.1	332.1
67.5°	347.1	338.9	330.7	321.2	310.3	302.0	295.2	291.1	289.8	288.4	289.8
70°	298.0	291.1	283.0	274.8	266.6	259.7	255.6	251.5	250.1	248.8	248.8
72.5°	251.5	246.0	239.2	232.3	225.5	218.7	214.5	211.9	210.5	209.1	209.1
75°	205.1	199.5	195.5	189.9	183.1	179.1	174.9	172.2	170.8	170.8	170.8
77.5°	161.3	157.2	153.1	147.6	143.5	139.4	136.6	135.3	134.0	134.0	134.0
80°	118.9	116.2	113.4	110.7	106.6	102.5	101.1	99.8	98.4	98.4	98.4
82.5°	80.7	79.3	76.5	73.8	71.1	69.7	68.3	66.9	66.9	66.9	66.9
85°	46.5	45.1	43.7	42.4	41.0	41.0	39.6	38.3	36.9	36.9	36.9
87.5°	19.2	19.2	19.2	17.8	16.4	16.4	16.4	16.4	16.4	16.4	16.4
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):

	110°	120°	130°	140°	150°	160°	170°	180°	190°	200°	210°
0°	1208.2	1208.2	1208.2	1208.2	1208.2	1208.2	1208.2	1208.2	1208.2	1208.2	1208.2
2.5°	1187.7	1190.4	1193.2	1197.3	1201.4	1205.5	1204.1	1202.7	1208.2	1215.0	1216.4
5°	1169.9	1172.7	1176.7	1183.6	1190.4	1195.9	1197.3	1197.3	1208.2	1217.8	1220.5
7.5°	1148.1	1152.1	1157.7	1164.5	1174.1	1182.3	1186.3	1191.8	1202.7	1215.0	1220.5
10°	1120.7	1127.6	1135.7	1145.3	1154.9	1164.5	1172.7	1179.5	1193.2	1206.8	1215.0
12.5°	1096.2	1103.0	1111.2	1122.1	1134.4	1146.7	1154.9	1164.5	1180.9	1197.3	1206.8
15°	1068.8	1075.6	1085.2	1096.2	1109.8	1123.5	1135.7	1148.1	1164.5	1182.3	1193.2
17.5°	1038.7	1045.5	1055.1	1068.8	1083.8	1098.8	1112.5	1126.2	1145.3	1164.5	1176.7
20°	1001.8	1011.4	1023.7	1037.3	1055.1	1072.9	1086.6	1101.6	1122.1	1142.6	1156.3
22.5°	966.3	975.8	989.5	1005.9	1025.1	1044.2	1060.6	1077.0	1098.8	1119.4	1134.4
25°	932.1	943.0	956.8	973.1	990.9	1010.1	1029.1	1048.3	1070.2	1092.0	1107.0
27.5°	897.9	907.5	921.2	937.6	958.1	977.2	996.3	1015.5	1038.7	1062.0	1078.4
30°	859.7	870.6	882.9	899.3	921.2	943.0	962.2	982.7	1005.9	1029.1	1045.5
32.5°	824.2	833.7	846.0	862.4	884.3	906.1	926.6	948.6	970.4	993.6	1010.1
35°	788.6	798.2	810.4	826.8	848.8	870.6	891.1	911.6	933.5	955.4	971.8
37.5°	753.1	762.7	774.9	791.4	811.8	833.7	852.8	873.3	895.3	917.1	932.1
40°	716.2	725.7	735.3	751.7	772.2	794.1	813.2	833.7	855.6	877.5	892.5
42.5°	679.2	688.8	701.2	717.5	736.7	755.9	774.9	794.1	814.6	835.1	850.1
45°	642.4	650.6	662.8	677.9	697.0	714.8	733.9	751.7	772.2	791.4	806.4
47.5°	604.1	612.3	621.9	636.9	656.0	675.2	694.3	712.1	729.9	748.9	762.7
50°	567.2	575.4	586.3	600.0	617.7	635.5	651.9	668.4	686.1	703.9	716.2
52.5°	529.0	537.2	546.7	560.4	575.4	591.8	606.9	623.3	639.6	656.0	668.4
55°	490.7	496.1	504.3	516.6	533.0	549.4	564.4	579.5	594.5	608.2	620.5
57.5°	452.4	459.2	468.8	479.7	493.4	507.1	520.7	534.4	548.0	561.8	572.7
60°	414.2	419.6	426.4	436.0	449.7	461.9	475.7	487.9	500.2	512.5	522.1
62.5°	374.5	380.0	386.8	396.4	407.2	418.2	430.5	441.5	452.4	463.3	472.9
65°	333.5	338.9	345.8	354.0	363.5	373.1	384.0	395.0	403.2	411.4	421.0
67.5°	291.1	296.6	303.4	310.3	318.5	328.0	337.5	347.1	355.3	363.5	370.4
70°	250.1	254.2	261.0	266.6	273.4	280.2	288.4	296.6	302.0	308.9	317.1
72.5°	210.5	214.5	220.1	225.5	229.6	235.1	243.3	250.1	257.0	265.2	269.2
75°	172.2	174.9	179.1	183.1	187.3	191.3	196.8	202.3	207.7	211.9	217.3
77.5°	134.0	136.6	140.8	143.5	146.2	149.0	153.1	157.2	161.3	164.0	169.5
80°	98.4	101.1	103.9	106.6	109.3	112.1	113.4	114.8	120.2	124.4	127.1
82.5°	66.9	68.3	69.7	72.5	73.8	75.1	76.5	76.5	79.3	82.0	86.1
85°	38.3	39.6	41.0	41.0	41.0	41.0	42.4	43.7	45.1	47.9	50.5
87.5°	15.0	15.0	16.4	16.4	16.4	16.4	16.4	16.4	17.8	20.5	21.9
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°	1208.2	1208.2	1208.2	1208.2	1208.2	1208.2	1208.2	1208.2	1208.2	1208.2	1208.2
2.5°	1215.0	1216.4	1219.2	1220.5	1221.8	1221.8	1223.2	1224.6	1221.8	1219.2	1217.8
5°	1221.8	1223.2	1227.4	1231.4	1234.2	1236.9	1235.6	1234.2	1231.4	1227.4	1224.6
7.5°	1223.2	1227.4	1231.4	1236.9	1241.0	1246.5	1243.8	1241.0	1235.6	1230.0	1226.0
10°	1219.2	1224.6	1231.4	1238.2	1242.4	1246.5	1243.8	1241.0	1235.6	1228.7	1223.2
12.5°	1213.6	1220.5	1228.7	1235.6	1239.6	1245.1	1241.0	1236.9	1230.0	1223.2	1216.4
15°	1201.4	1209.6	1219.2	1227.4	1234.2	1239.6	1235.6	1232.8	1224.6	1215.0	1205.5
17.5°	1186.3	1197.3	1206.8	1216.4	1221.8	1227.4	1224.6	1221.8	1212.3	1201.4	1190.4
20°	1168.5	1179.5	1189.1	1198.6	1205.5	1211.0	1206.8	1202.7	1193.2	1183.6	1172.7
22.5°	1146.7	1157.7	1168.5	1178.1	1185.0	1190.4	1185.0	1178.1	1168.5	1159.0	1148.1
25°	1119.4	1131.7	1143.9	1153.5	1157.7	1163.1	1157.7	1152.1	1142.6	1133.0	1120.7
27.5°	1092.0	1104.4	1116.6	1126.2	1130.3	1135.7	1130.3	1124.8	1115.3	1105.7	1093.4
30°	1060.6	1072.9	1085.2	1094.8	1098.8	1103.0	1097.5	1092.0	1083.8	1074.2	1062.0
32.5°	1025.1	1037.3	1046.9	1056.5	1062.0	1067.4	1062.0	1057.9	1048.3	1036.0	1023.7
35°	986.8	999.1	1011.4	1020.9	1026.5	1031.9	1025.1	1018.3	1010.1	1000.5	989.5
37.5°	944.4	958.1	971.8	982.7	986.8	992.3	986.8	980.0	971.8	962.2	949.8
40°	904.8	917.1	929.4	940.3	944.4	948.6	943.0	937.6	928.0	918.5	906.1
42.5°	863.8	876.1	887.1	896.6	900.7	906.1	900.7	893.9	887.1	878.9	867.9
45°	820.0	832.4	841.9	851.5	855.6	859.7	854.2	847.4	840.6	833.7	822.8
47.5°	774.9	785.9	795.4	805.0	807.8	811.8	806.4	802.3	795.4	788.6	779.1
50°	728.5	739.4	748.9	757.1	759.9	764.0	758.5	753.1	747.6	742.1	733.9
52.5°	680.6	690.2	699.8	708.0	710.7	713.4	708.0	702.5	697.0	691.6	683.4
55°	631.5	641.0	650.6	657.4	660.2	662.8	657.4	653.3	647.8	643.7	635.5
57.5°	582.2	591.8	600.0	606.9	609.5	612.3	606.9	601.3	597.3	593.1	586.3
60°	531.6	541.2	548.0	553.6	556.2	557.6	552.2	548.0	545.4	542.6	535.8
62.5°	482.5	489.3	496.1	500.2	503.0	504.3	500.2	497.5	494.7	492.1	486.5
65°	430.5	438.7	444.2	448.3	449.7	451.0	446.9	444.2	441.5	438.7	434.6
67.5°	378.6	385.4	389.5	393.6	395.0	395.0	395.0	393.6	390.9	386.8	382.7
70°	326.7	332.1	336.3	338.9	340.3	340.3	337.5	334.9	334.9	333.5	330.7
72.5°	273.4	277.4	280.2	283.0	283.0	283.0	283.0	284.3	283.0	280.2	276.0
75°	222.8	226.9	229.6	231.0	231.0	231.0	231.0	232.3	231.0	229.6	226.9
77.5°	174.9	177.7	179.1	180.4	180.4	180.4	181.8	183.1	181.8	180.4	179.1
80°	129.8	131.2	132.6	134.0	132.6	132.6	134.0	136.6	135.3	134.0	132.6
82.5°	88.9	90.2	91.6	91.6	92.9	94.3	94.3	94.3	94.3	92.9	91.6
85°	53.3	54.7	54.7	54.7	54.7	54.7	56.1	57.4	57.4	56.1	56.1
87.5°	24.6	26.0	24.6	23.2	21.9	21.9	24.6	27.3	27.3	26.0	26.0
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-35L850-X-UNV-NP

CANDELA DISTRIBUTION (continued):

	330°	340°	350°	360°
0°	1208.2	1208.2	1208.2	1208.2
2.5°	1219.2	1217.8	1211.0	1204.1
5°	1223.2	1219.2	1209.6	1200.0
7.5°	1223.2	1217.8	1204.1	1191.8
10°	1216.4	1208.2	1193.2	1178.1
12.5°	1208.2	1198.6	1180.9	1164.5
15°	1195.9	1185.0	1165.9	1146.7
17.5°	1178.1	1164.5	1145.3	1124.8
20°	1160.3	1145.3	1122.1	1100.2
22.5°	1135.7	1122.1	1097.5	1074.2
25°	1108.4	1093.4	1068.8	1044.2
27.5°	1079.8	1062.0	1037.3	1012.7
30°	1046.9	1029.1	1004.5	980.0
32.5°	1011.4	995.0	970.4	944.4
35°	975.8	958.1	933.5	907.5
37.5°	936.2	919.8	895.3	870.6
40°	893.9	877.5	852.8	828.2
42.5°	854.2	839.2	814.6	791.4
45°	810.4	795.4	772.2	750.3
47.5°	765.4	750.3	728.5	706.6
50°	721.6	706.6	686.1	665.6
52.5°	672.4	660.2	641.0	621.9
55°	624.6	612.3	593.1	575.4
57.5°	576.8	565.8	548.0	531.6
60°	526.2	515.3	501.6	486.5
62.5°	478.3	468.8	455.1	441.5
65°	427.8	419.6	407.2	395.0
67.5°	375.9	369.0	358.1	347.1
70°	323.9	315.7	307.5	298.0
72.5°	272.0	267.8	259.7	251.5
75°	222.8	218.7	211.9	205.1
77.5°	176.3	172.2	166.7	161.3
80°	129.8	127.1	123.0	118.9
82.5°	90.2	87.5	84.7	80.7
85°	54.7	51.9	49.2	46.5
87.5°	24.6	23.2	20.5	19.2
90°	0.0	0.0	0.0	0.0

(END OF REPORT)