

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-32L835-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-32L835-X-UNV-NP
Description: ArcMed Patient Recessed 4 FT x6 IN Fixture Ambient Light w/ Nature Pattern Lens
Light Source: 3500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

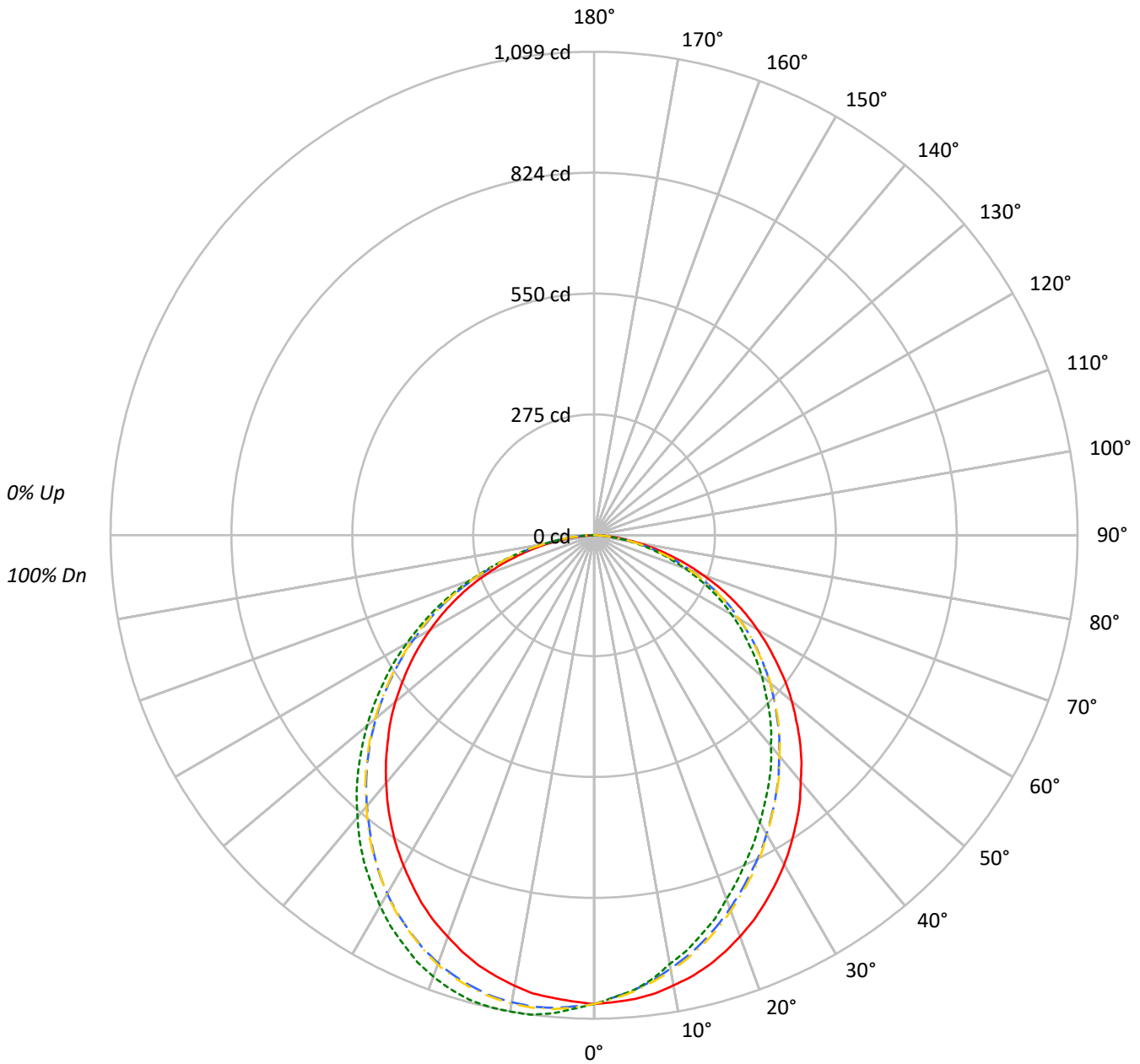
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2857.8 lumens
Efficiency: N/A
Efficacy: 78.5 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): 36.4
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				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°	9831	9831	9831	9831
5°	9802	9612	9780	10103
10°	9735	9272	9746	10299
15°	9660	8981	9671	10443
20°	9527	8640	9538	10486
25°	9375	8320	9412	10443
30°	9208	8026	9233	10364
35°	9015	7793	9056	10251
40°	8798	7535	8856	10075
45°	8634	7345	8651	9893
50°	8425	7145	8460	9671
55°	8163	6883	8221	9404
60°	7918	6672	7940	9075
65°	7604	6394	7604	8684
70°	7089	5916	7057	8095
75°	6445	5372	6359	7261
80°	5568	4612	5377	6211
85°	4340	3440	4076	5102



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	100.7	3.5
10°-20°	285.7	10.0
20°-30°	424.8	14.9
30°-40°	500.7	17.5
40°-50°	509.8	17.8
50°-60°	454.2	15.9
60°-70°	342.2	12.0
70°-80°	190.3	6.7
80°-90°	49.4	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°	811.2	28.4
0°-40°	1311.9	45.9
0°-60°	2275.9	79.6
0°-90°	2857.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2857.8	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1066	1066	1066	1066	1066	
5°	1058	1038	1056	1091	1058	100
15°	1011	940	1012	1093	1011	285
25°	921	817	925	1026	921	424
35°	800	692	804	910	800	501
45°	662	563	663	758	662	510
55°	508	428	511	585	508	455
65°	348	293	348	398	348	344
75°	181	151	178	204	181	192
85°	41	32	38	48	41	49
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°	1065.6	1065.6	1065.6	1065.6	1065.6	1065.6	1065.6	1065.6	1065.6	1065.6	1065.6
2.5°	1062.0	1062.0	1063.2	1058.4	1052.3	1049.9	1048.7	1047.5	1049.9	1051.1	1049.9
5°	1058.4	1056.0	1053.5	1047.5	1040.3	1035.4	1033.0	1031.8	1034.2	1037.9	1034.2
7.5°	1051.1	1046.3	1041.5	1033.0	1024.6	1017.3	1013.7	1011.3	1013.7	1017.3	1014.9
10°	1039.1	1033.0	1025.8	1016.1	1004.1	995.7	992.1	988.4	989.7	989.7	989.7
12.5°	1027.0	1018.5	1010.1	998.1	984.8	975.2	969.1	964.3	966.7	967.9	967.9
15°	1011.3	1000.5	988.4	975.2	961.9	951.0	943.9	939.0	940.3	940.3	941.5
17.5°	992.1	980.0	967.9	952.2	936.6	924.6	916.1	910.1	912.5	913.7	914.9
20°	970.3	957.1	943.9	927.0	910.1	896.8	888.3	881.2	880.0	880.0	881.2
22.5°	947.4	933.0	917.3	899.2	881.2	866.7	858.3	851.0	849.8	849.8	851.0
25°	920.9	905.2	889.5	871.5	852.2	837.7	826.9	819.7	818.5	817.3	819.7
27.5°	893.2	877.6	861.9	843.8	823.3	808.8	798.0	790.7	788.3	787.1	789.5
30°	864.3	846.2	829.3	810.1	791.9	777.5	766.6	758.2	755.8	753.4	755.8
32.5°	832.9	814.9	796.8	777.5	759.4	745.0	734.1	725.6	723.2	722.0	724.4
35°	800.4	782.3	765.4	746.2	728.1	713.6	702.7	695.6	693.1	691.9	693.1
37.5°	767.8	749.8	732.9	713.6	695.6	681.1	670.2	663.0	661.7	660.5	661.7
40°	730.5	714.8	698.0	679.9	661.7	647.3	638.9	630.5	628.0	625.6	629.3
42.5°	698.0	682.3	665.4	648.5	630.5	616.0	606.3	599.1	596.7	595.4	596.7
45°	661.7	644.8	628.0	612.3	595.4	582.2	572.6	565.4	564.2	562.9	564.2
47.5°	623.2	608.7	594.2	578.6	561.7	548.5	540.0	532.8	530.3	527.9	530.3
50°	587.0	572.6	558.1	543.6	527.9	516.0	507.5	500.3	499.1	497.8	499.1
52.5°	548.5	534.0	520.7	506.3	493.0	480.9	472.5	466.5	465.2	464.0	465.2
55°	507.5	495.4	483.4	471.3	458.0	447.2	440.0	432.7	430.3	427.9	430.3
57.5°	468.9	458.0	446.0	434.0	421.9	412.2	405.0	398.9	397.8	396.6	397.8
60°	429.1	419.5	408.6	397.8	385.8	376.1	370.1	365.2	362.8	361.6	362.8
62.5°	389.4	379.7	371.3	360.4	349.5	342.3	336.3	331.5	329.1	327.9	329.1
65°	348.3	339.9	331.5	321.9	313.4	306.2	300.1	295.3	294.1	292.9	292.9
67.5°	306.2	298.9	291.7	283.2	273.6	266.4	260.4	256.8	255.6	254.4	255.6
70°	262.8	256.8	249.5	242.3	235.0	229.0	225.4	221.8	220.5	219.3	219.3
72.5°	221.8	216.9	211.0	205.0	198.9	192.9	189.3	186.8	185.6	184.4	184.4
75°	180.8	176.0	172.4	167.5	161.5	157.9	154.3	151.9	150.7	150.7	150.7
77.5°	142.3	138.6	135.0	130.2	126.6	123.0	120.5	119.3	118.1	118.1	118.1
80°	104.8	102.4	100.0	97.6	94.0	90.4	89.2	88.0	86.8	86.8	86.8
82.5°	71.1	69.9	67.5	65.1	62.7	61.5	60.3	59.1	59.1	59.1	59.1
85°	41.0	39.7	38.5	37.3	36.1	36.1	34.9	33.7	32.5	32.5	32.5
87.5°	16.9	16.9	16.9	15.7	14.5	14.5	14.5	14.5	14.5	14.5	14.5
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°	1065.6	1065.6	1065.6	1065.6	1065.6	1065.6	1065.6	1065.6	1065.6	1065.6	1065.6
2.5°	1047.5	1049.9	1052.3	1056.0	1059.6	1063.2	1062.0	1060.8	1065.6	1071.6	1072.8
5°	1031.8	1034.2	1037.9	1043.9	1049.9	1054.8	1056.0	1056.0	1065.6	1074.0	1076.4
7.5°	1012.5	1016.1	1020.9	1027.0	1035.4	1042.7	1046.3	1051.1	1060.8	1071.6	1076.4
10°	988.4	994.5	1001.7	1010.1	1018.5	1027.0	1034.2	1040.3	1052.3	1064.4	1071.6
12.5°	966.7	972.8	980.0	989.7	1000.5	1011.3	1018.5	1027.0	1041.5	1056.0	1064.4
15°	942.7	948.6	957.1	966.7	978.8	990.9	1001.7	1012.5	1027.0	1042.7	1052.3
17.5°	916.1	922.1	930.6	942.7	955.8	969.1	981.2	993.3	1010.1	1027.0	1037.9
20°	883.6	892.0	902.8	914.9	930.6	946.2	958.3	971.5	989.7	1007.7	1019.7
22.5°	852.2	860.7	872.7	887.1	904.0	920.9	935.4	949.8	969.1	987.2	1000.5
25°	822.1	831.7	843.8	858.3	873.9	890.8	907.7	924.6	943.9	963.1	976.4
27.5°	791.9	800.4	812.5	826.9	845.0	861.9	878.8	895.6	916.1	936.6	951.0
30°	758.2	767.8	778.7	793.2	812.5	831.7	848.6	866.7	887.1	907.7	922.1
32.5°	726.8	735.3	746.2	760.7	779.9	799.2	817.3	836.5	855.8	876.4	890.8
35°	695.6	703.9	714.8	729.3	748.6	767.8	785.9	804.0	823.3	842.6	857.0
37.5°	664.2	672.6	683.5	698.0	716.0	735.3	752.2	770.2	789.5	808.8	822.1
40°	631.7	640.1	648.5	663.0	681.1	700.4	717.2	735.3	754.6	773.8	787.1
42.5°	599.1	607.5	618.4	632.9	649.7	666.6	683.5	700.4	718.4	736.5	749.8
45°	566.6	573.8	584.6	597.9	614.8	630.5	647.3	663.0	681.1	698.0	711.2
47.5°	532.8	540.0	548.5	561.7	578.6	595.4	612.3	628.0	643.6	660.5	672.6
50°	500.3	507.5	517.1	529.1	544.8	560.5	575.0	589.4	605.1	620.8	631.7
52.5°	466.5	473.7	482.2	494.2	507.5	521.9	535.2	549.7	564.2	578.6	589.4
55°	432.7	437.6	444.8	455.7	470.1	484.6	497.8	511.1	524.3	536.4	547.2
57.5°	398.9	405.0	413.4	423.1	435.2	447.2	459.2	471.3	483.4	495.4	505.1
60°	365.2	370.1	376.1	384.6	396.6	407.4	419.5	430.3	441.2	452.1	460.4
62.5°	330.3	335.1	341.1	349.5	359.2	368.9	379.7	389.4	398.9	408.6	417.1
65°	294.1	298.9	305.0	312.2	320.7	329.1	338.7	348.3	355.6	362.8	371.3
67.5°	256.8	261.6	267.6	273.6	280.8	289.3	297.7	306.2	313.4	320.7	326.7
70°	220.5	224.2	230.2	235.0	241.1	247.1	254.4	261.6	266.4	272.5	279.6
72.5°	185.6	189.3	194.1	198.9	202.5	207.4	214.5	220.5	226.6	233.8	237.5
75°	151.9	154.3	157.9	161.5	165.1	168.7	173.6	178.4	183.2	186.8	191.7
77.5°	118.1	120.5	124.2	126.6	129.0	131.4	135.0	138.6	142.3	144.7	149.5
80°	86.8	89.2	91.6	94.0	96.4	98.8	100.0	101.2	106.0	109.7	112.1
82.5°	59.1	60.3	61.5	63.9	65.1	66.3	67.5	67.5	69.9	72.3	76.0
85°	33.7	34.9	36.1	36.1	36.1	36.1	37.3	38.5	39.7	42.2	44.6
87.5°	13.3	13.3	14.5	14.5	14.5	14.5	14.5	14.5	15.7	18.1	19.3
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):

	220°	230°	240°	250°	260°	270°	280°	290°	300°	310°	320°
0°	1065.6	1065.6	1065.6	1065.6	1065.6	1065.6	1065.6	1065.6	1065.6	1065.6	1065.6
2.5°	1071.6	1072.8	1075.2	1076.4	1077.6	1077.6	1078.8	1080.0	1077.6	1075.2	1074.0
5°	1077.6	1078.8	1082.4	1086.0	1088.5	1090.9	1089.7	1088.5	1086.0	1082.4	1080.0
7.5°	1078.8	1082.4	1086.0	1090.9	1094.5	1099.3	1096.9	1094.5	1089.7	1084.8	1081.2
10°	1075.2	1080.0	1086.0	1092.1	1095.7	1099.3	1096.9	1094.5	1089.7	1083.6	1078.8
12.5°	1070.3	1076.4	1083.6	1089.7	1093.3	1098.1	1094.5	1090.9	1084.8	1078.8	1072.8
15°	1059.6	1066.8	1075.2	1082.4	1088.5	1093.3	1089.7	1087.3	1080.0	1071.6	1063.2
17.5°	1046.3	1056.0	1064.4	1072.8	1077.6	1082.4	1080.0	1077.6	1069.2	1059.6	1049.9
20°	1030.6	1040.3	1048.7	1057.2	1063.2	1068.0	1064.4	1060.8	1052.3	1043.9	1034.2
22.5°	1011.3	1020.9	1030.6	1039.1	1045.1	1049.9	1045.1	1039.1	1030.6	1022.2	1012.5
25°	987.2	998.1	1008.9	1017.3	1020.9	1025.8	1020.9	1016.1	1007.7	999.3	988.4
27.5°	963.1	974.0	984.8	993.3	996.9	1001.7	996.9	992.1	983.6	975.2	964.3
30°	935.4	946.2	957.1	965.5	969.1	972.8	967.9	963.1	955.8	947.4	936.6
32.5°	904.0	914.9	923.3	931.8	936.6	941.5	936.6	933.0	924.6	913.7	902.8
35°	870.3	881.2	892.0	900.4	905.2	910.1	904.0	898.0	890.8	882.4	872.7
37.5°	832.9	845.0	857.0	866.7	870.3	875.2	870.3	864.3	857.0	848.6	837.7
40°	798.0	808.8	819.7	829.3	832.9	836.5	831.7	826.9	818.5	810.1	799.2
42.5°	761.8	772.6	782.3	790.7	794.4	799.2	794.4	788.3	782.3	775.0	765.4
45°	723.2	734.1	742.5	751.0	754.6	758.2	753.4	747.4	741.3	735.3	725.6
47.5°	683.5	693.1	701.5	709.9	712.4	716.0	711.2	707.5	701.5	695.6	687.1
50°	642.4	652.1	660.5	667.8	670.2	673.8	669.0	664.2	659.3	654.5	647.3
52.5°	600.3	608.7	617.2	624.4	626.8	629.3	624.4	619.6	614.8	609.9	602.7
55°	556.9	565.4	573.8	579.8	582.2	584.6	579.8	576.2	571.4	567.8	560.5
57.5°	513.5	521.9	529.1	535.2	537.6	540.0	535.2	530.3	526.7	523.1	517.1
60°	468.9	477.3	483.4	488.2	490.6	491.8	487.0	483.4	480.9	478.5	472.5
62.5°	425.5	431.5	437.6	441.2	443.6	444.8	441.2	438.8	436.4	434.0	429.1
65°	379.7	387.0	391.8	395.4	396.6	397.8	394.2	391.8	389.4	387.0	383.3
67.5°	333.9	339.9	343.5	347.1	348.3	348.3	348.3	347.1	344.7	341.1	337.5
70°	288.1	292.9	296.5	298.9	300.1	300.1	297.7	295.3	295.3	294.1	291.7
72.5°	241.1	244.7	247.1	249.5	249.5	249.5	249.5	250.7	249.5	247.1	243.5
75°	196.5	200.1	202.5	203.7	203.7	203.7	203.7	205.0	203.7	202.5	200.1
77.5°	154.3	156.7	157.9	159.1	159.1	159.1	160.3	161.5	160.3	159.1	157.9
80°	114.5	115.7	116.9	118.1	116.9	116.9	118.1	120.5	119.3	118.1	116.9
82.5°	78.4	79.6	80.8	80.8	82.0	83.2	83.2	83.2	83.2	82.0	80.8
85°	47.0	48.2	48.2	48.2	48.2	48.2	49.4	50.6	50.6	49.4	49.4
87.5°	21.7	22.9	21.7	20.5	19.3	19.3	21.7	24.1	24.1	22.9	22.9
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-32L835-X-UNV-NP

CANDELA DISTRIBUTION (continued):

	330°	340°	350°	360°
0°	1065.6	1065.6	1065.6	1065.6
2.5°	1075.2	1074.0	1068.0	1062.0
5°	1078.8	1075.2	1066.8	1058.4
7.5°	1078.8	1074.0	1062.0	1051.1
10°	1072.8	1065.6	1052.3	1039.1
12.5°	1065.6	1057.2	1041.5	1027.0
15°	1054.8	1045.1	1028.2	1011.3
17.5°	1039.1	1027.0	1010.1	992.1
20°	1023.4	1010.1	989.7	970.3
22.5°	1001.7	989.7	967.9	947.4
25°	977.6	964.3	942.7	920.9
27.5°	952.2	936.6	914.9	893.2
30°	923.3	907.7	885.9	864.3
32.5°	892.0	877.6	855.8	832.9
35°	860.7	845.0	823.3	800.4
37.5°	825.7	811.3	789.5	767.8
40°	788.3	773.8	752.2	730.5
42.5°	753.4	740.1	718.4	698.0
45°	714.8	701.5	681.1	661.7
47.5°	675.0	661.7	642.4	623.2
50°	636.5	623.2	605.1	587.0
52.5°	593.0	582.2	565.4	548.5
55°	550.9	540.0	523.1	507.5
57.5°	508.7	499.1	483.4	468.9
60°	464.0	454.5	442.4	429.1
62.5°	421.9	413.4	401.4	389.4
65°	377.3	370.1	359.2	348.3
67.5°	331.5	325.5	315.8	306.2
70°	285.6	278.4	271.3	262.8
72.5°	239.9	236.2	229.0	221.8
75°	196.5	192.9	186.8	180.8
77.5°	155.5	151.9	147.1	142.3
80°	114.5	112.1	108.5	104.8
82.5°	79.6	77.2	74.8	71.1
85°	48.2	45.8	43.4	41.0
87.5°	21.7	20.5	18.1	16.9
90°	0.0	0.0	0.0	0.0

(END OF REPORT)