

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-32L840-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-32L840-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

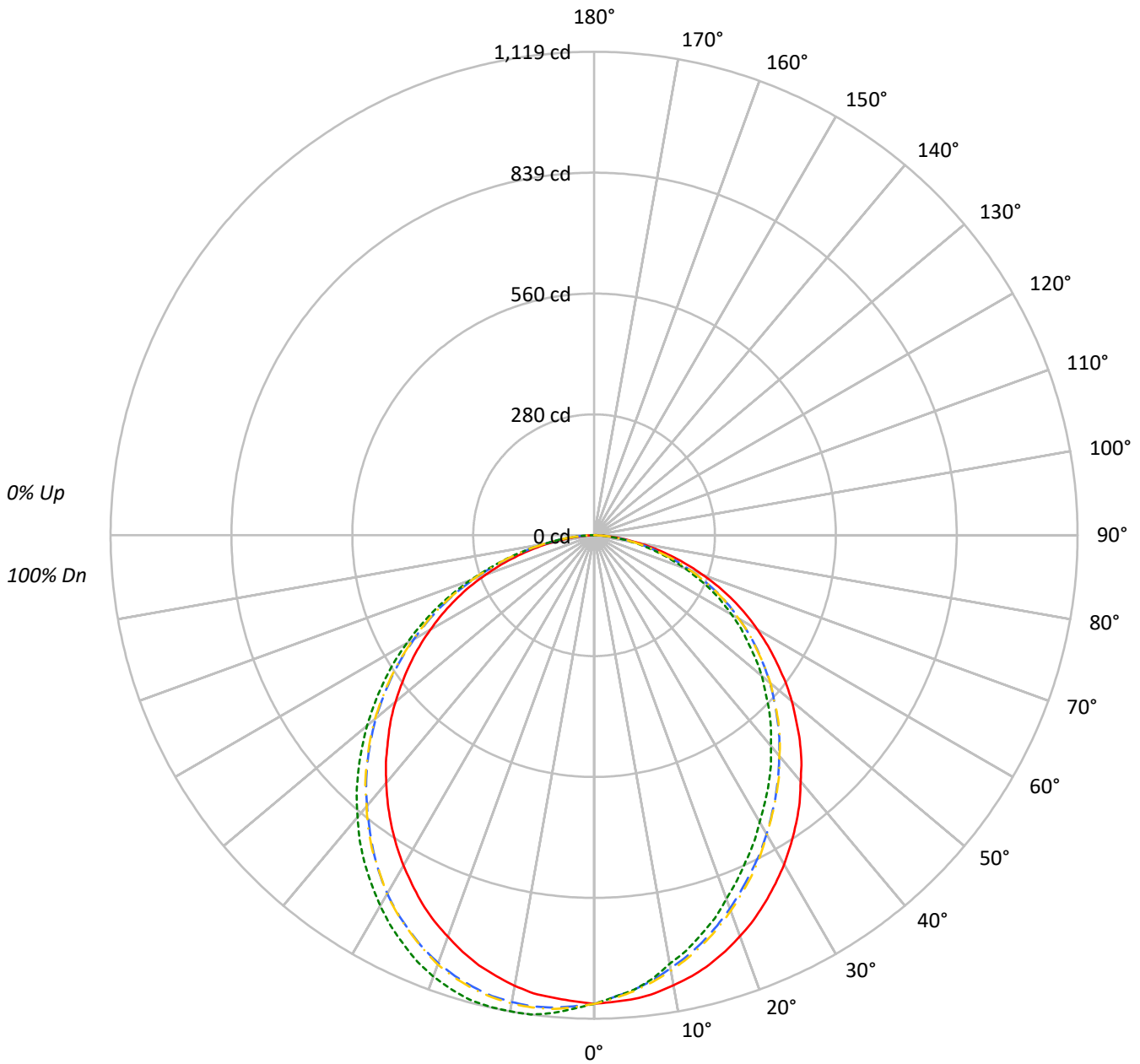
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2908.7 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): 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°	10006	10006	10006	10006
5°	9976	9783	9954	10283
10°	9907	9437	9919	10482
15°	9832	9140	9844	10629
20°	9697	8793	9708	10673
25°	9542	8468	9579	10629
30°	9372	8169	9397	10547
35°	9176	7931	9218	10432
40°	8955	7668	9014	10255
45°	8788	7475	8805	10069
50°	8576	7273	8611	9844
55°	8308	7007	8368	9572
60°	8060	6792	8082	9237
65°	7741	6510	7741	8839
70°	7216	6024	7184	8241
75°	6559	5465	6470	7393
80°	5674	4692	5478	6323
85°	4414	3504	4160	5198



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	102.5	3.5
10°-20°	290.8	10.0
20°-30°	432.4	14.9
30°-40°	509.6	17.5
40°-50°	518.9	17.8
50°-60°	462.3	15.9
60°-70°	348.3	12.0
70°-80°	193.7	6.7
80°-90°	50.3	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°	825.7	28.4
0°-40°	1335.3	45.9
0°-60°	2316.4	79.6
0°-90°	2908.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2908.7	100.0

CANDELA DISTRIBUTION:

	0°	90°	180°	270°	360°	Flux
0°	1084	1084	1084	1084	1084	
5°	1077	1056	1075	1110	1077	102
15°	1029	957	1031	1113	1029	290
25°	937	832	941	1044	937	432
35°	815	704	818	926	815	510
45°	674	573	675	772	674	519
55°	516	436	520	595	516	463
65°	355	298	355	405	355	350
75°	184	153	182	207	184	196
85°	42	33	39	49	42	50
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°	1084.5	1084.5	1084.5	1084.5	1084.5	1084.5	1084.5	1084.5	1084.5	1084.5	1084.5
2.5°	1080.9	1080.9	1082.1	1077.2	1071.1	1068.6	1067.4	1066.1	1068.6	1069.8	1068.6
5°	1077.2	1074.8	1072.3	1066.1	1058.8	1053.8	1051.4	1050.2	1052.6	1056.3	1052.6
7.5°	1069.8	1064.9	1060.0	1051.4	1042.9	1035.5	1031.8	1029.3	1031.8	1035.5	1033.0
10°	1057.5	1051.4	1044.1	1034.2	1021.9	1013.4	1009.7	1006.0	1007.3	1007.3	1007.3
12.5°	1045.3	1036.7	1028.1	1015.9	1002.4	992.5	986.4	981.5	984.0	985.2	985.2
15°	1029.3	1018.3	1006.0	992.5	979.1	968.0	960.6	955.7	956.9	956.9	958.1
17.5°	1009.7	997.4	985.2	969.2	953.3	941.0	932.4	926.2	928.7	929.9	931.2
20°	987.6	974.1	960.6	943.5	926.2	912.8	904.2	896.8	895.6	895.6	896.8
22.5°	964.3	949.6	933.6	915.3	896.8	882.1	873.5	866.1	864.9	864.9	866.1
25°	937.3	921.4	905.4	887.1	867.4	852.7	841.6	834.3	833.0	831.8	834.3
27.5°	909.1	893.1	877.2	858.8	837.9	823.3	812.2	804.8	802.4	801.1	803.6
30°	879.7	861.2	844.1	824.5	806.0	791.4	780.3	771.7	769.2	766.8	769.2
32.5°	847.8	829.3	811.0	791.4	772.9	758.2	747.2	738.6	736.1	734.9	737.3
35°	814.7	796.2	779.1	759.5	741.0	726.4	715.3	707.9	705.4	704.2	705.4
37.5°	781.5	763.1	745.9	726.4	707.9	693.2	682.1	674.8	673.5	672.3	673.5
40°	743.5	727.6	710.4	692.0	673.5	658.9	650.3	641.6	639.2	636.7	640.4
42.5°	710.4	694.5	677.2	660.1	641.6	627.0	617.1	609.7	607.3	606.0	607.3
45°	673.5	656.4	639.2	623.3	606.0	592.6	582.8	575.4	574.1	572.9	574.1
47.5°	634.3	619.6	604.8	588.9	571.7	558.3	549.6	542.3	539.8	537.3	539.8
50°	597.5	582.8	568.0	553.3	537.3	525.1	516.5	509.1	507.9	506.7	507.9
52.5°	558.3	543.5	530.0	515.3	501.8	489.5	480.9	474.8	473.5	472.3	473.5
55°	516.5	504.2	492.0	479.7	466.3	455.2	447.8	440.4	438.0	435.6	438.0
57.5°	477.2	466.3	453.9	441.6	429.4	419.6	412.2	406.0	404.9	403.7	404.9
60°	436.8	427.0	415.9	404.9	392.6	382.8	376.6	371.8	369.3	368.1	369.3
62.5°	396.3	386.5	377.8	366.9	355.8	348.4	342.3	337.4	335.0	333.7	335.0
65°	354.6	345.9	337.4	327.6	319.0	311.6	305.5	300.6	299.4	298.2	298.2
67.5°	311.6	304.3	296.9	288.3	278.5	271.2	265.0	261.3	260.1	258.9	260.1
70°	267.5	261.3	253.9	246.6	239.3	233.1	229.4	225.7	224.5	223.3	223.3
72.5°	225.7	220.8	214.7	208.6	202.5	196.3	192.6	190.2	188.9	187.7	187.7
75°	184.0	179.1	175.5	170.6	164.4	160.7	157.0	154.6	153.3	153.3	153.3
77.5°	144.8	141.1	137.4	132.5	128.8	125.1	122.7	121.4	120.2	120.2	120.2
80°	106.8	104.3	101.8	99.4	95.7	92.0	90.8	89.5	88.3	88.3	88.3
82.5°	72.4	71.2	68.7	66.3	63.8	62.6	61.3	60.1	60.1	60.1	60.1
85°	41.7	40.5	39.3	38.1	36.8	36.8	35.6	34.4	33.1	33.1	33.1
87.5°	17.1	17.1	17.1	16.0	14.8	14.8	14.8	14.8	14.8	14.8	14.8
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):

	110°	120°	130°	140°	150°	160°	170°	180°	190°	200°	210°
0°	1084.5	1084.5	1084.5	1084.5	1084.5	1084.5	1084.5	1084.5	1084.5	1084.5	1084.5
2.5°	1066.1	1068.6	1071.1	1074.8	1078.5	1082.1	1080.9	1079.7	1084.5	1090.7	1091.9
5°	1050.2	1052.6	1056.3	1062.5	1068.6	1073.5	1074.8	1074.8	1084.5	1093.1	1095.6
7.5°	1030.6	1034.2	1039.2	1045.3	1053.8	1061.2	1064.9	1069.8	1079.7	1090.7	1095.6
10°	1006.0	1012.2	1019.5	1028.1	1036.7	1045.3	1052.6	1058.8	1071.1	1083.4	1090.7
12.5°	984.0	990.0	997.4	1007.3	1018.3	1029.3	1036.7	1045.3	1060.0	1074.8	1083.4
15°	959.4	965.5	974.1	984.0	996.2	1008.5	1019.5	1030.6	1045.3	1061.2	1071.1
17.5°	932.4	938.6	947.2	959.4	972.9	986.4	998.7	1011.0	1028.1	1045.3	1056.3
20°	899.3	907.9	919.0	931.2	947.2	963.1	975.4	988.8	1007.3	1025.6	1037.9
22.5°	867.4	876.0	888.3	903.0	920.2	937.3	952.1	966.8	986.4	1004.8	1018.3
25°	836.7	846.6	858.8	873.5	889.5	906.7	923.8	941.0	960.6	980.3	993.7
27.5°	806.0	814.7	826.9	841.6	860.0	877.2	894.4	911.6	932.4	953.3	968.0
30°	771.7	781.5	792.6	807.3	826.9	846.6	863.7	882.1	903.0	923.8	938.6
32.5°	739.8	748.4	759.5	774.1	793.7	813.4	831.8	851.5	871.1	891.9	906.7
35°	707.9	716.5	727.6	742.3	761.8	781.5	799.9	818.4	837.9	857.6	872.3
37.5°	676.0	684.6	695.6	710.4	728.7	748.4	765.5	784.0	803.6	823.3	836.7
40°	642.9	651.5	660.1	674.8	693.2	712.8	729.9	748.4	768.0	787.7	801.1
42.5°	609.7	618.4	629.4	644.1	661.3	678.5	695.6	712.8	731.2	749.6	763.1
45°	576.6	584.0	595.1	608.5	625.7	641.6	658.9	674.8	693.2	710.4	723.9
47.5°	542.3	549.6	558.3	571.7	588.9	606.0	623.3	639.2	655.2	672.3	684.6
50°	509.1	516.5	526.4	538.6	554.6	570.5	585.2	599.9	615.9	631.8	642.9
52.5°	474.8	482.2	490.8	503.0	516.5	531.3	544.7	559.5	574.1	588.9	599.9
55°	440.4	445.3	452.7	463.8	478.5	493.2	506.7	520.2	533.7	545.9	557.0
57.5°	406.0	412.2	420.8	430.7	442.9	455.2	467.5	479.7	492.0	504.2	514.0
60°	371.8	376.6	382.8	391.4	403.7	414.7	427.0	438.0	449.0	460.1	468.7
62.5°	336.2	341.0	347.2	355.8	365.6	375.4	386.5	396.3	406.0	415.9	424.5
65°	299.4	304.3	310.4	317.7	326.4	335.0	344.7	354.6	361.9	369.3	377.8
67.5°	261.3	266.3	272.4	278.5	285.8	294.5	303.1	311.6	319.0	326.4	332.5
70°	224.5	228.2	234.4	239.3	245.3	251.5	258.9	266.3	271.2	277.2	284.6
72.5°	188.9	192.6	197.5	202.5	206.2	211.0	218.4	224.5	230.7	238.0	241.7
75°	154.6	157.0	160.7	164.4	168.1	171.8	176.7	181.5	186.5	190.2	195.1
77.5°	120.2	122.7	126.4	128.8	131.3	133.7	137.4	141.1	144.8	147.2	152.1
80°	88.3	90.8	93.2	95.7	98.2	100.6	101.8	103.1	108.0	111.7	114.1
82.5°	60.1	61.3	62.6	65.0	66.3	67.5	68.7	68.7	71.2	73.6	77.3
85°	34.4	35.6	36.8	36.8	36.8	36.8	38.1	39.3	40.5	43.0	45.4
87.5°	13.5	13.5	14.8	14.8	14.8	14.8	14.8	14.8	16.0	18.4	19.6
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°	1084.5	1084.5	1084.5	1084.5	1084.5	1084.5	1084.5	1084.5	1084.5	1084.5	1084.5
2.5°	1090.7	1091.9	1094.4	1095.6	1096.8	1096.8	1098.0	1099.3	1096.8	1094.4	1093.1
5°	1096.8	1098.0	1101.7	1105.4	1107.9	1110.3	1109.1	1107.9	1105.4	1101.7	1099.3
7.5°	1098.0	1101.7	1105.4	1110.3	1114.0	1118.9	1116.4	1114.0	1109.1	1104.2	1100.5
10°	1094.4	1099.3	1105.4	1111.6	1115.3	1118.9	1116.4	1114.0	1109.1	1103.0	1098.0
12.5°	1089.4	1095.6	1103.0	1109.1	1112.8	1117.6	1114.0	1110.3	1104.2	1098.0	1091.9
15°	1078.5	1085.7	1094.4	1101.7	1107.9	1112.8	1109.1	1106.7	1099.3	1090.7	1082.1
17.5°	1064.9	1074.8	1083.4	1091.9	1096.8	1101.7	1099.3	1096.8	1088.2	1078.5	1068.6
20°	1049.0	1058.8	1067.4	1076.0	1082.1	1087.0	1083.4	1079.7	1071.1	1062.5	1052.6
22.5°	1029.3	1039.2	1049.0	1057.5	1063.7	1068.6	1063.7	1057.5	1049.0	1040.4	1030.6
25°	1004.8	1015.9	1026.9	1035.5	1039.2	1044.1	1039.2	1034.2	1025.6	1017.1	1006.0
27.5°	980.3	991.3	1002.4	1011.0	1014.7	1019.5	1014.7	1009.7	1001.1	992.5	981.5
30°	952.1	963.1	974.1	982.8	986.4	990.0	985.2	980.3	972.9	964.3	953.3
32.5°	920.2	931.2	939.8	948.4	953.3	958.1	953.3	949.6	941.0	929.9	919.0
35°	885.8	896.8	907.9	916.5	921.4	926.2	920.2	914.0	906.7	898.0	888.3
37.5°	847.8	860.0	872.3	882.1	885.8	890.7	885.8	879.7	872.3	863.7	852.7
40°	812.2	823.3	834.3	844.1	847.8	851.5	846.6	841.6	833.0	824.5	813.4
42.5°	775.4	786.5	796.2	804.8	808.5	813.4	808.5	802.4	796.2	788.9	779.1
45°	736.1	747.2	755.8	764.3	768.0	771.7	766.8	760.7	754.6	748.4	738.6
47.5°	695.6	705.4	714.0	722.7	725.1	728.7	723.9	720.2	714.0	707.9	699.3
50°	653.9	663.7	672.3	679.7	682.1	685.8	680.9	676.0	671.1	666.1	658.9
52.5°	611.0	619.6	628.2	635.5	637.9	640.4	635.5	630.6	625.7	620.8	613.4
55°	566.8	575.4	584.0	590.1	592.6	595.1	590.1	586.5	581.5	577.8	570.5
57.5°	522.7	531.3	538.6	544.7	547.2	549.6	544.7	539.8	536.1	532.5	526.4
60°	477.2	485.8	492.0	496.9	499.4	500.6	495.7	492.0	489.5	487.1	480.9
62.5°	433.1	439.2	445.3	449.0	451.5	452.7	449.0	446.6	444.1	441.6	436.8
65°	386.5	393.8	398.8	402.5	403.7	404.9	401.2	398.8	396.3	393.8	390.2
67.5°	339.8	345.9	349.6	353.3	354.6	354.6	354.6	353.3	350.9	347.2	343.5
70°	293.2	298.2	301.8	304.3	305.5	305.5	303.1	300.6	300.6	299.4	296.9
72.5°	245.3	249.0	251.5	253.9	253.9	253.9	253.9	255.2	253.9	251.5	247.8
75°	200.0	203.7	206.2	207.4	207.4	207.4	207.4	208.6	207.4	206.2	203.7
77.5°	157.0	159.5	160.7	161.9	161.9	161.9	163.2	164.4	163.2	161.9	160.7
80°	116.5	117.7	119.0	120.2	119.0	119.0	120.2	122.7	121.4	120.2	119.0
82.5°	79.8	81.0	82.2	82.2	83.4	84.6	84.6	84.6	84.6	83.4	82.2
85°	47.9	49.1	49.1	49.1	49.1	49.1	50.3	51.5	51.5	50.3	50.3
87.5°	22.1	23.3	22.1	20.8	19.6	19.6	22.1	24.5	24.5	23.3	23.3
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-32L840-X-UNV-NP

CANDELA DISTRIBUTION (continued):

	330°	340°	350°	360°
0°	1084.5	1084.5	1084.5	1084.5
2.5°	1094.4	1093.1	1087.0	1080.9
5°	1098.0	1094.4	1085.7	1077.2
7.5°	1098.0	1093.1	1080.9	1069.8
10°	1091.9	1084.5	1071.1	1057.5
12.5°	1084.5	1076.0	1060.0	1045.3
15°	1073.5	1063.7	1046.6	1029.3
17.5°	1057.5	1045.3	1028.1	1009.7
20°	1041.6	1028.1	1007.3	987.6
22.5°	1019.5	1007.3	985.2	964.3
25°	995.0	981.5	959.4	937.3
27.5°	969.2	953.3	931.2	909.1
30°	939.8	923.8	901.7	879.7
32.5°	907.9	893.1	871.1	847.8
35°	876.0	860.0	837.9	814.7
37.5°	840.4	825.7	803.6	781.5
40°	802.4	787.7	765.5	743.5
42.5°	766.8	753.3	731.2	710.4
45°	727.6	714.0	693.2	673.5
47.5°	687.1	673.5	653.9	634.3
50°	647.8	634.3	615.9	597.5
52.5°	603.6	592.6	575.4	558.3
55°	560.7	549.6	532.5	516.5
57.5°	517.7	507.9	492.0	477.2
60°	472.3	462.6	450.3	436.8
62.5°	429.4	420.8	408.5	396.3
65°	384.0	376.6	365.6	354.6
67.5°	337.4	331.3	321.4	311.6
70°	290.8	283.4	276.0	267.5
72.5°	244.1	240.5	233.1	225.7
75°	200.0	196.3	190.2	184.0
77.5°	158.3	154.6	149.6	144.8
80°	116.5	114.1	110.5	106.8
82.5°	81.0	78.6	76.1	72.4
85°	49.1	46.7	44.2	41.7
87.5°	22.1	20.8	18.4	17.1
90°	0.0	0.0	0.0	0.0

(END OF REPORT)