

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-28L835-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-28L835-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

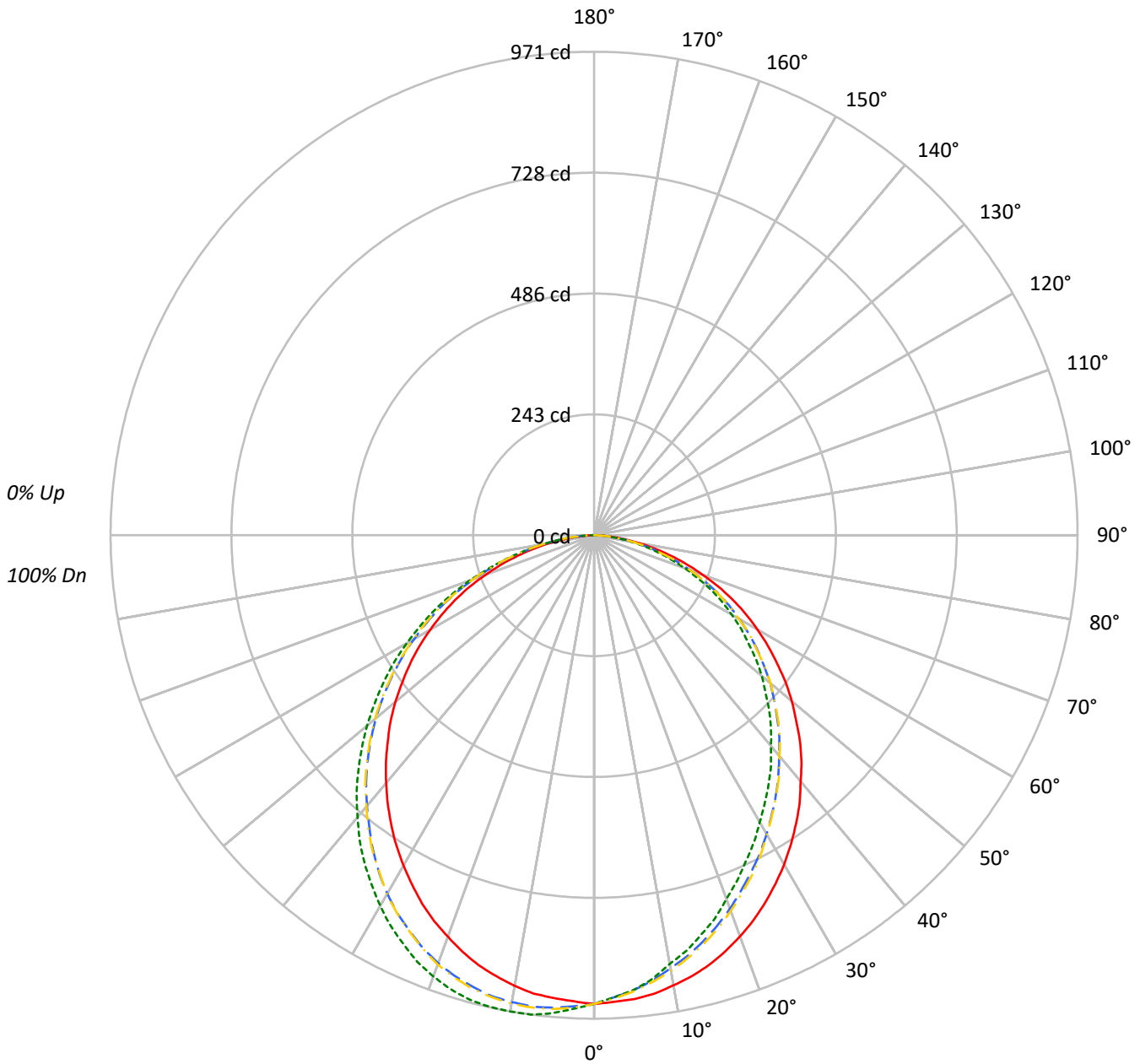
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2524.5 lumens  
Efficiency: N/A  
Efficacy: 78.4 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): 32.2  
Input Voltage (V): 120  
Input Current (A<sub>in</sub>): 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

TEST NUMBER: P  
CATALOG NUMBER: 4APN-28L835-X-UNV-NP

### Luminous Intensity Polar Plot



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



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 CATALOG NUMBER: 4APN-28L835-X-UNV-NP

**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°	8685	8685	8685	8685
5°	8659	8491	8639	8925
10°	8599	8190	8610	9098
15°	8533	7933	8543	9225
20°	8416	7632	8426	9263
25°	8281	7349	8314	9224
30°	8134	7090	8156	9155
35°	7963	6884	7999	9054
40°	7772	6655	7823	8900
45°	7626	6487	7642	8738
50°	7442	6313	7474	8543
55°	7211	6080	7263	8306
60°	6993	5896	7014	8016
65°	6720	5648	6720	7671
70°	6264	5228	6234	7154
75°	5693	4745	5618	6417
80°	4925	4075	4750	5488
85°	3832	3049	3610	4510



TEST NUMBER: P  
 CATALOG NUMBER: 4APN-28L835-X-UNV-NP

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	88.9	3.5
10°-20°	252.4	10.0
20°-30°	375.3	14.9
30°-40°	442.3	17.5
40°-50°	450.3	17.8
50°-60°	401.2	15.9
60°-70°	302.3	12.0
70°-80°	168.1	6.7
80°-90°	43.7	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°	716.6	28.4
0°-40°	1158.9	45.9
0°-60°	2010.5	79.6
0°-90°	2524.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2524.5	100.0

**CANDELA DISTRIBUTION:**

	0°	90°	180°	270°	360°	Flux
0°	941	941	941	941	941	
5°	935	917	933	964	935	89
15°	893	830	894	966	893	252
25°	814	722	817	906	814	375
35°	707	611	710	804	707	442
45°	584	497	586	670	584	450
55°	448	378	452	516	448	402
65°	308	259	308	351	308	304
75°	160	133	158	180	160	170
85°	36	29	34	43	36	44
90°	0	0	0	0	0	



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CATALOG NUMBER: 4APN-28L835-X-UNV-NP

**CANDELA DISTRIBUTION (FULL):**

	0°	10°	20°	30°	40°	50°	60°	70°	80°	90°	100°
0°	941.3	941.3	941.3	941.3	941.3	941.3	941.3	941.3	941.3	941.3	941.3
2.5°	938.1	938.1	939.1	934.9	929.6	927.4	926.3	925.3	927.4	928.5	927.4
5°	934.9	932.8	930.7	925.3	919.0	914.6	912.5	911.5	913.6	916.8	913.6
7.5°	928.5	924.2	920.0	912.5	905.1	898.7	895.5	893.3	895.5	898.7	896.6
10°	917.9	912.5	906.1	897.7	887.0	879.5	876.4	873.1	874.2	874.2	874.2
12.5°	907.2	899.8	892.3	881.6	869.9	861.4	856.1	851.8	854.0	855.1	855.1
15°	893.3	883.8	873.1	861.4	849.7	840.1	833.8	829.5	830.5	830.5	831.6
17.5°	876.4	865.7	855.1	841.2	827.3	816.7	809.2	803.9	806.0	807.1	808.2
20°	857.2	845.5	833.8	818.8	803.9	792.2	784.7	778.4	777.3	777.3	778.4
22.5°	836.9	824.2	810.3	794.3	778.4	765.6	758.2	751.7	750.7	750.7	751.7
25°	813.5	799.7	785.8	769.9	752.8	740.0	730.4	724.0	723.0	721.9	724.0
27.5°	789.0	775.2	761.3	745.3	727.3	714.5	704.9	698.5	696.4	695.3	697.4
30°	763.5	747.5	732.6	715.6	699.6	686.8	677.2	669.7	667.6	665.5	667.6
32.5°	735.8	719.8	703.9	686.8	670.8	658.0	648.4	641.0	638.9	637.8	640.0
35°	707.0	691.0	676.2	659.1	643.1	630.4	620.8	614.4	612.3	611.2	612.3
37.5°	678.3	662.3	647.4	630.4	614.4	601.6	592.0	585.7	584.5	583.5	584.5
40°	645.3	631.4	616.5	600.6	584.5	571.8	564.4	556.9	554.8	552.6	555.8
42.5°	616.5	602.7	587.8	572.8	556.9	544.1	535.6	529.2	527.1	526.0	527.1
45°	584.5	569.7	554.8	540.9	526.0	514.3	505.8	499.4	498.3	497.2	498.3
47.5°	550.5	537.7	525.0	511.1	496.2	484.5	477.0	470.7	468.5	466.3	468.5
50°	518.5	505.8	493.0	480.3	466.3	455.7	448.3	441.9	440.8	439.8	440.8
52.5°	484.5	471.7	460.0	447.3	435.5	424.9	417.4	412.0	411.0	409.9	411.0
55°	448.3	437.7	427.0	416.4	404.7	395.1	388.6	382.3	380.1	378.0	380.1
57.5°	414.2	404.7	394.0	383.4	372.7	364.2	357.7	352.5	351.4	350.4	351.4
60°	379.0	370.6	361.0	351.4	340.8	332.2	326.8	322.6	320.5	319.5	320.5
62.5°	343.9	335.4	328.0	318.4	308.8	302.4	297.1	292.8	290.7	289.6	290.7
65°	307.8	300.3	292.8	284.3	276.9	270.4	265.2	260.8	259.8	258.7	258.7
67.5°	270.4	264.1	257.7	250.2	241.7	235.3	230.0	226.8	225.7	224.7	225.7
70°	232.2	226.8	220.5	214.0	207.6	202.3	199.2	195.9	194.8	193.8	193.8
72.5°	195.9	191.7	186.3	181.0	175.7	170.4	167.2	165.0	164.0	162.9	162.9
75°	159.7	155.4	152.2	148.0	142.7	139.5	136.3	134.2	133.1	133.1	133.1
77.5°	125.7	122.4	119.2	115.0	111.8	108.6	106.5	105.4	104.4	104.4	104.4
80°	92.7	90.5	88.4	86.2	83.1	79.8	78.8	77.7	76.7	76.7	76.7
82.5°	62.8	61.8	59.7	57.5	55.4	54.3	53.2	52.2	52.2	52.2	52.2
85°	36.2	35.1	34.1	33.0	31.9	31.9	30.9	29.8	28.8	28.8	28.8
87.5°	14.9	14.9	14.9	13.8	12.8	12.8	12.8	12.8	12.8	12.8	12.8
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-28L835-X-UNV-NP

**CANDELA DISTRIBUTION (continued):**

	110°	120°	130°	140°	150°	160°	170°	180°	190°	200°	210°
0°	941.3	941.3	941.3	941.3	941.3	941.3	941.3	941.3	941.3	941.3	941.3
2.5°	925.3	927.4	929.6	932.8	935.9	939.1	938.1	937.0	941.3	946.6	947.6
5°	911.5	913.6	916.8	922.1	927.4	931.7	932.8	932.8	941.3	948.7	950.9
7.5°	894.4	897.7	901.9	907.2	914.6	921.1	924.2	928.5	937.0	946.6	950.9
10°	873.1	878.5	884.8	892.3	899.8	907.2	913.6	919.0	929.6	940.3	946.6
12.5°	854.0	859.3	865.7	874.2	883.8	893.3	899.8	907.2	920.0	932.8	940.3
15°	832.7	838.0	845.5	854.0	864.7	875.3	884.8	894.4	907.2	921.1	929.6
17.5°	809.2	814.6	822.1	832.7	844.4	856.1	866.8	877.4	892.3	907.2	916.8
20°	780.5	787.9	797.5	808.2	822.1	835.9	846.5	858.2	874.2	890.2	900.8
22.5°	752.8	760.3	770.9	783.7	798.6	813.5	826.3	839.0	856.1	872.0	883.8
25°	726.2	734.7	745.3	758.2	772.0	786.9	801.8	816.7	833.8	850.8	862.5
27.5°	699.6	707.0	717.7	730.4	746.5	761.3	776.2	791.2	809.2	827.3	840.1
30°	669.7	678.3	687.9	700.6	717.7	734.7	749.6	765.6	783.7	801.8	814.6
32.5°	642.1	649.5	659.1	671.9	688.9	706.0	721.9	739.0	756.0	774.1	786.9
35°	614.4	621.9	631.4	644.2	661.3	678.3	694.3	710.2	727.3	744.3	757.1
37.5°	586.7	594.1	603.7	616.5	632.5	649.5	664.4	680.4	697.4	714.5	726.2
40°	558.0	565.4	572.8	585.7	601.6	618.7	633.6	649.5	666.6	683.6	695.3
42.5°	529.2	536.7	546.3	559.0	573.9	588.9	603.7	618.7	634.6	650.6	662.3
45°	500.5	506.8	516.4	528.1	543.1	556.9	571.8	585.7	601.6	616.5	628.3
47.5°	470.7	477.0	484.5	496.2	511.1	526.0	540.9	554.8	568.6	583.5	594.1
50°	441.9	448.3	456.8	467.5	481.3	495.1	507.9	520.7	534.6	548.4	558.0
52.5°	412.0	418.5	426.0	436.6	448.3	461.1	472.8	485.5	498.3	511.1	520.7
55°	382.3	386.5	393.0	402.5	415.3	428.1	439.8	451.5	463.2	473.8	483.4
57.5°	352.5	357.7	365.2	373.8	384.4	395.1	405.7	416.4	427.0	437.7	446.2
60°	322.6	326.8	332.2	339.7	350.4	359.9	370.6	380.1	389.7	399.3	406.8
62.5°	291.7	296.1	301.3	308.8	317.4	325.8	335.4	343.9	352.5	361.0	368.4
65°	259.8	264.1	269.4	275.8	283.2	290.7	299.2	307.8	314.1	320.5	328.0
67.5°	226.8	231.1	236.4	241.7	248.1	255.6	263.0	270.4	276.9	283.2	288.6
70°	194.8	198.0	203.4	207.6	213.0	218.3	224.7	231.1	235.3	240.6	247.0
72.5°	164.0	167.2	171.4	175.7	178.9	183.1	189.6	194.8	200.2	206.5	209.8
75°	134.2	136.3	139.5	142.7	145.9	149.1	153.3	157.6	161.8	165.0	169.3
77.5°	104.4	106.5	109.7	111.8	114.0	116.1	119.2	122.4	125.7	127.8	132.0
80°	76.7	78.8	81.0	83.1	85.2	87.3	88.4	89.4	93.7	96.9	99.0
82.5°	52.2	53.2	54.3	56.4	57.5	58.5	59.7	59.7	61.8	63.9	67.1
85°	29.8	30.9	31.9	31.9	31.9	31.9	33.0	34.1	35.1	37.2	39.4
87.5°	11.7	11.7	12.8	12.8	12.8	12.8	12.8	12.8	13.8	16.0	17.1
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-28L835-X-UNV-NP

**CANDELA DISTRIBUTION (continued):**

	220°	230°	240°	250°	260°	270°	280°	290°	300°	310°	320°
0°	941.3	941.3	941.3	941.3	941.3	941.3	941.3	941.3	941.3	941.3	941.3
2.5°	946.6	947.6	949.8	950.9	952.0	952.0	953.0	954.1	952.0	949.8	948.7
5°	952.0	953.0	956.2	959.3	961.6	963.7	962.6	961.6	959.3	956.2	954.1
7.5°	953.0	956.2	959.3	963.7	966.8	971.1	968.9	966.8	962.6	958.3	955.1
10°	949.8	954.1	959.3	964.7	967.9	971.1	968.9	966.8	962.6	957.2	953.0
12.5°	945.5	950.9	957.2	962.6	965.8	970.0	966.8	963.7	958.3	953.0	947.6
15°	935.9	942.4	949.8	956.2	961.6	965.8	962.6	960.4	954.1	946.6	939.1
17.5°	924.2	932.8	940.3	947.6	952.0	956.2	954.1	952.0	944.5	935.9	927.4
20°	910.4	919.0	926.3	933.8	939.1	943.4	940.3	937.0	929.6	922.1	913.6
22.5°	893.3	901.9	910.4	917.9	923.2	927.4	923.2	917.9	910.4	902.9	894.4
25°	872.0	881.6	891.2	898.7	901.9	906.1	901.9	897.7	890.2	882.7	873.1
27.5°	850.8	860.3	869.9	877.4	880.6	884.8	880.6	876.4	868.9	861.4	851.8
30°	826.3	835.9	845.5	852.9	856.1	859.3	855.1	850.8	844.4	836.9	827.3
32.5°	798.6	808.2	815.6	823.1	827.3	831.6	827.3	824.2	816.7	807.1	797.5
35°	768.8	778.4	787.9	795.4	799.7	803.9	798.6	793.3	786.9	779.5	770.9
37.5°	735.8	746.5	757.1	765.6	768.8	773.0	768.8	763.5	757.1	749.6	740.0
40°	704.9	714.5	724.0	732.6	735.8	739.0	734.7	730.4	723.0	715.6	706.0
42.5°	673.0	682.6	691.0	698.5	701.7	706.0	701.7	696.4	691.0	684.7	676.2
45°	638.9	648.4	655.9	663.4	666.6	669.7	665.5	660.2	654.9	649.5	641.0
47.5°	603.7	612.3	619.7	627.1	629.3	632.5	628.3	625.0	619.7	614.4	607.0
50°	567.6	576.1	583.5	589.9	592.0	595.2	591.0	586.7	582.4	578.2	571.8
52.5°	530.2	537.7	545.2	551.5	553.7	555.8	551.5	547.3	543.1	538.8	532.4
55°	492.0	499.4	506.8	512.2	514.3	516.4	512.2	508.9	504.7	501.5	495.1
57.5°	453.6	461.1	467.5	472.8	474.9	477.0	472.8	468.5	465.3	462.1	456.8
60°	414.2	421.6	427.0	431.2	433.3	434.4	430.2	427.0	424.9	422.7	417.4
62.5°	375.9	381.2	386.5	389.7	391.8	393.0	389.7	387.6	385.5	383.4	379.0
65°	335.4	341.8	346.0	349.3	350.4	351.4	348.1	346.0	343.9	341.8	338.7
67.5°	294.9	300.3	303.4	306.7	307.8	307.8	307.8	306.7	304.5	301.3	298.2
70°	254.5	258.7	261.9	264.1	265.2	265.2	263.0	260.8	260.8	259.8	257.7
72.5°	213.0	216.1	218.3	220.5	220.5	220.5	220.5	221.5	220.5	218.3	215.1
75°	173.5	176.7	178.9	180.0	180.0	180.0	180.0	181.0	180.0	178.9	176.7
77.5°	136.3	138.4	139.5	140.5	140.5	140.5	141.6	142.7	141.6	140.5	139.5
80°	101.1	102.2	103.3	104.4	103.3	103.3	104.4	106.5	105.4	104.4	103.3
82.5°	69.2	70.3	71.4	71.4	72.4	73.5	73.5	73.5	73.5	72.4	71.4
85°	41.5	42.6	42.6	42.6	42.6	42.6	43.7	44.7	44.7	43.7	43.7
87.5°	19.2	20.2	19.2	18.1	17.1	17.1	19.2	21.3	21.3	20.2	20.2
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-28L835-X-UNV-NP

**CANDELA DISTRIBUTION (continued):**

	330°	340°	350°	360°
0°	941.3	941.3	941.3	941.3
2.5°	949.8	948.7	943.4	938.1
5°	953.0	949.8	942.4	934.9
7.5°	953.0	948.7	938.1	928.5
10°	947.6	941.3	929.6	917.9
12.5°	941.3	933.8	920.0	907.2
15°	931.7	923.2	908.3	893.3
17.5°	917.9	907.2	892.3	876.4
20°	904.0	892.3	874.2	857.2
22.5°	884.8	874.2	855.1	836.9
25°	863.5	851.8	832.7	813.5
27.5°	841.2	827.3	808.2	789.0
30°	815.6	801.8	782.6	763.5
32.5°	787.9	775.2	756.0	735.8
35°	760.3	746.5	727.3	707.0
37.5°	729.4	716.6	697.4	678.3
40°	696.4	683.6	664.4	645.3
42.5°	665.5	653.8	634.6	616.5
45°	631.4	619.7	601.6	584.5
47.5°	596.3	584.5	567.6	550.5
50°	562.2	550.5	534.6	518.5
52.5°	523.9	514.3	499.4	484.5
55°	486.6	477.0	462.1	448.3
57.5°	449.4	440.8	427.0	414.2
60°	409.9	401.4	390.7	379.0
62.5°	372.7	365.2	354.6	343.9
65°	333.3	326.8	317.4	307.8
67.5°	292.8	287.5	279.0	270.4
70°	252.4	246.0	239.5	232.2
72.5°	211.9	208.7	202.3	195.9
75°	173.5	170.4	165.0	159.7
77.5°	137.4	134.2	129.9	125.7
80°	101.1	99.0	95.8	92.7
82.5°	70.3	68.1	66.0	62.8
85°	42.6	40.5	38.4	36.2
87.5°	19.2	18.1	16.0	14.9
90°	0.0	0.0	0.0	0.0

(END OF REPORT)