

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-ASY**

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-ASY
Description: ArcMed Patient Recessed 4 FT x6 IN Fixture Ambient Light w/
ASYMMETRIC Lens
Light Source: 3500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

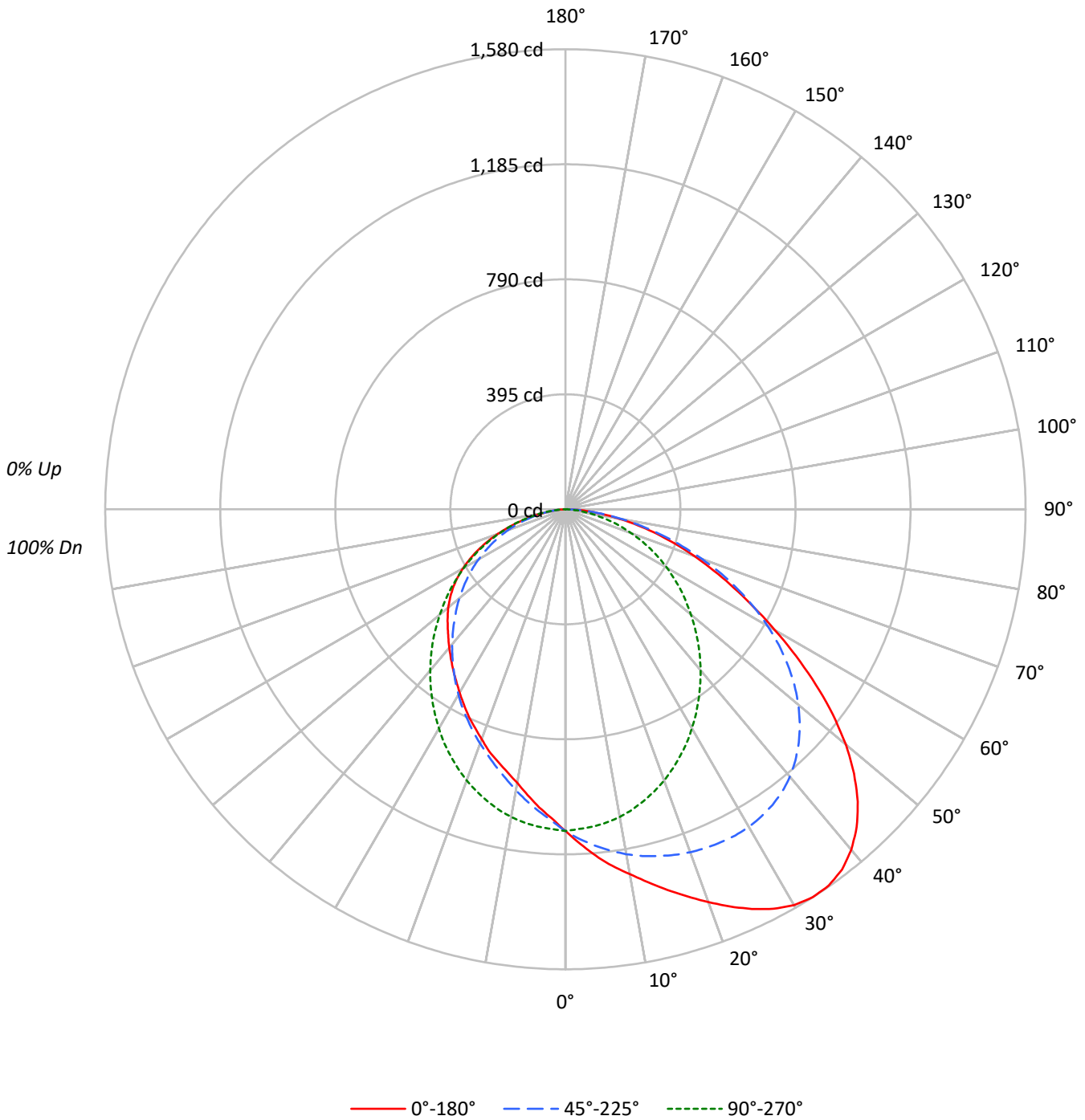
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3422.2 lumens
Efficiency: N/A
Efficacy: 94.0 lumens/watt
Spacing Criteria (0/90/45): 1.53 / 1.18 / 1.46
Luminous Opening: Rectangular (W 0.29' x L: 3.83' x H: 0')
CIE Type: Direct

Input Watts (W): 36.4
Input Voltage (V): 120
Input Current (Ain): 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





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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	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	109	104	100	96	106	102	98	94	97	94	91	93	91	88	90	88	86	84
2	99	90	83	78	96	88	82	77	85	80	75	82	77	73	79	75	72	69
3	90	79	71	64	87	78	70	64	75	68	63	72	66	61	69	64	60	58
4	82	70	61	54	80	69	60	54	66	59	53	64	57	52	62	56	52	49
5	75	62	53	46	73	61	53	46	59	51	46	57	50	45	55	49	45	43
6	69	56	47	40	68	55	46	40	53	46	40	51	45	39	50	44	39	37
7	64	51	42	36	63	50	41	35	48	41	35	47	40	35	45	39	35	33
8	60	46	37	32	58	45	37	31	44	37	31	43	36	31	42	35	31	29
9	56	42	34	28	54	42	34	28	40	33	28	39	33	28	38	32	28	26
10	52	39	31	26	51	38	31	26	37	30	25	36	30	25	36	30	25	23

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	10637	10637	10637
5°	11542	10573	9936
10°	12435	10490	9322
15°	13488	10338	8939
20°	14706	10156	8607
25°	16088	9918	8341
30°	17452	9657	8072
35°	18535	9372	7899
40°	19193	9074	7796
45°	19328	8761	7778
50°	18819	8426	7863
55°	17622	8126	7912
60°	16018	7756	7835
65°	14525	7335	7531
70°	13295	6801	6916
75°	12059	6115	5944
80°	10551	5112	4579
85°	8881	3712	3413



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	104.9	3.1
10°-20°	305.2	8.9
20°-30°	478.1	14.0
30°-40°	599.4	17.5
40°-50°	638.1	18.6
50°-60°	576.0	16.8
60°-70°	426.4	12.5
70°-80°	234.0	6.8
80°-90°	60.1	1.8
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°	888.2	26.0
0°-40°	1487.6	43.5
0°-60°	2701.7	78.9
0°-90°	3422.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3422.2	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1105	1105	1105	1105	1105	
5°	1194	1159	1094	1041	1028	116
15°	1353	1233	1037	916	897	386
25°	1514	1262	934	796	785	701
35°	1577	1240	797	670	672	983
45°	1420	1133	644	539	571	1088
55°	1050	932	484	410	471	936
65°	638	657	322	278	331	636
75°	324	344	164	142	160	345
85°	80	79	34	31	31	95
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	5°	15°	25°	35°	45°	55°	65°	75°	85°	90°
0°	1104.9	1104.9	1104.9	1104.9	1104.9	1104.9	1104.9	1104.9	1104.9	1104.9	1104.9
2.5°	1149.4	1147.1	1144.4	1143.5	1139.4	1133.9	1128.9	1128.9	1123.0	1108.9	1098.9
5°	1194.3	1190.7	1183.9	1178.4	1169.8	1159.3	1148.9	1142.5	1128.5	1107.1	1094.0
7.5°	1235.6	1231.1	1222.5	1212.0	1197.9	1182.5	1165.2	1151.6	1130.3	1101.7	1084.9
10°	1272.0	1267.9	1257.4	1244.7	1224.7	1202.9	1177.5	1157.1	1128.0	1092.6	1073.1
12.5°	1311.9	1307.8	1293.3	1276.1	1248.8	1219.7	1186.1	1158.0	1122.1	1079.4	1057.2
15°	1353.3	1347.8	1331.5	1308.3	1272.0	1232.9	1191.6	1155.3	1112.6	1063.5	1037.2
17.5°	1394.1	1388.7	1368.2	1338.7	1293.3	1244.7	1193.9	1148.9	1098.9	1044.0	1015.4
20°	1435.4	1430.0	1404.1	1366.9	1311.9	1253.3	1193.4	1139.4	1082.6	1021.7	991.3
22.5°	1476.8	1470.4	1439.1	1393.7	1327.4	1259.2	1188.4	1126.2	1062.2	996.3	963.6
25°	1514.5	1508.1	1473.6	1420.0	1343.7	1262.0	1179.8	1108.0	1039.5	968.2	933.7
27.5°	1547.2	1539.4	1503.6	1444.5	1357.8	1262.9	1168.4	1087.6	1013.1	937.7	902.8
30°	1569.9	1563.0	1524.9	1461.8	1366.0	1259.7	1153.9	1063.5	982.7	905.0	868.7
32.5°	1579.9	1573.9	1536.3	1470.0	1367.3	1251.5	1136.2	1036.7	950.9	870.5	833.7
35°	1577.1	1571.2	1535.3	1468.6	1363.2	1239.7	1113.9	1006.3	916.8	834.7	797.4
37.5°	1559.9	1553.1	1520.4	1456.3	1351.4	1222.5	1088.5	973.2	880.1	797.9	760.2
40°	1527.2	1520.4	1492.2	1433.2	1331.5	1199.3	1059.4	937.7	842.4	759.3	722.0
42.5°	1480.4	1473.1	1450.9	1396.8	1302.8	1168.9	1026.3	900.0	802.4	722.0	683.0
45°	1419.6	1412.3	1397.3	1351.4	1265.6	1133.0	988.6	859.2	760.6	679.8	643.5
47.5°	1344.2	1337.8	1330.5	1295.1	1219.7	1091.7	946.4	815.6	717.0	640.3	603.1
50°	1256.5	1250.2	1252.4	1228.4	1166.6	1044.0	900.0	769.7	672.1	596.2	562.6
52.5°	1157.1	1152.1	1163.0	1152.5	1104.9	990.9	850.5	722.5	626.2	554.5	522.2
55°	1049.9	1044.5	1065.3	1068.5	1035.8	932.3	794.2	673.4	579.9	513.6	484.1
57.5°	939.6	935.0	961.8	976.8	960.4	869.2	737.5	623.0	532.2	470.9	441.4
60°	831.9	828.3	856.5	881.0	879.2	802.4	678.4	568.5	484.5	427.8	402.8
62.5°	730.7	726.6	754.7	783.8	794.2	731.1	619.9	515.0	436.9	384.6	362.4
65°	637.6	633.5	657.6	687.5	706.6	656.6	556.7	459.6	388.7	341.0	322.0
67.5°	552.2	552.2	567.2	594.9	618.0	580.4	492.3	406.9	339.2	300.6	281.5
70°	472.3	471.8	482.7	502.2	529.0	498.6	426.9	351.5	292.4	258.4	241.6
72.5°	396.4	399.6	403.7	418.7	446.8	420.5	361.9	297.0	246.6	216.6	202.5
75°	324.2	323.8	329.7	342.9	363.3	343.8	297.0	243.9	201.2	176.6	164.4
77.5°	255.2	254.8	259.8	267.5	284.7	269.3	234.3	194.8	156.7	136.2	127.6
80°	190.3	190.3	194.8	198.9	211.6	199.4	174.8	145.8	114.9	99.0	92.2
82.5°	132.1	134.9	133.1	138.5	145.8	135.3	119.9	99.9	76.3	65.4	60.9
85°	80.4	82.6	80.4	84.9	88.1	79.0	71.3	59.5	44.0	36.8	33.6
87.5°	41.3	40.9	40.4	42.7	43.6	38.1	33.6	28.6	19.5	15.0	12.7
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):

	95°	105°	115°	125°	135°	145°	155°	165°	175°	180°
0°	1104.9	1104.9	1104.9	1104.9	1104.9	1104.9	1104.9	1104.9	1104.9	1104.9
2.5°	1093.0	1095.8	1091.7	1076.7	1070.8	1064.4	1061.7	1059.0	1064.0	1062.6
5°	1084.0	1080.8	1070.3	1051.3	1041.3	1030.8	1025.8	1022.7	1029.5	1028.1
7.5°	1071.7	1062.6	1047.2	1024.0	1011.3	997.2	990.4	986.3	990.9	990.0
10°	1056.3	1041.3	1022.2	994.5	979.5	964.1	956.4	950.5	954.1	953.6
12.5°	1036.7	1017.2	994.0	962.7	947.3	931.4	924.6	920.5	925.0	923.7
15°	1014.9	991.3	964.5	932.7	915.9	901.4	896.4	893.2	896.9	896.9
17.5°	990.9	963.2	933.7	901.4	885.5	874.2	869.2	866.9	868.7	871.4
20°	964.1	933.2	901.4	870.1	856.5	844.6	840.1	837.8	841.9	840.1
22.5°	934.6	901.9	868.7	839.2	826.9	815.1	810.6	809.2	813.8	812.0
25°	903.2	867.8	835.1	808.3	796.1	786.1	782.0	780.6	782.9	785.2
27.5°	873.7	833.7	801.5	777.4	766.5	757.0	753.4	751.1	752.9	755.6
30°	837.8	799.2	767.4	745.2	734.8	725.7	722.9	721.1	723.9	726.1
32.5°	804.2	765.2	733.4	711.6	702.5	693.9	693.4	692.5	695.7	698.4
35°	767.9	729.8	698.9	678.4	669.8	662.5	663.9	665.3	668.9	672.1
37.5°	731.1	693.9	664.4	645.7	637.6	631.7	635.8	637.6	642.6	645.7
40°	693.9	656.6	629.4	612.6	604.4	601.7	607.6	611.7	617.6	620.3
42.5°	655.7	621.2	594.0	578.5	571.7	571.7	579.4	585.8	592.6	595.3
45°	617.6	584.0	558.1	544.0	539.0	542.7	551.7	559.9	568.5	571.3
47.5°	579.0	546.3	522.7	510.0	507.2	512.7	524.0	534.9	544.9	548.6
50°	540.4	510.9	487.3	475.5	475.5	482.3	496.8	510.4	521.3	525.0
52.5°	501.8	473.6	449.6	440.9	442.8	452.3	469.1	483.2	495.4	499.1
55°	462.7	435.0	414.1	406.9	410.1	421.9	439.1	455.5	467.3	471.4
57.5°	424.1	397.8	378.7	372.8	377.4	390.5	410.5	424.6	436.9	440.5
60°	385.1	358.3	343.3	338.8	344.7	358.3	378.7	391.9	403.3	406.9
62.5°	346.5	321.5	308.3	304.3	311.1	325.6	345.6	357.4	366.0	369.6
65°	307.4	285.2	272.9	270.2	277.5	291.5	310.6	320.6	327.0	330.6
67.5°	268.8	249.8	238.4	236.1	243.9	256.6	274.3	279.7	285.6	289.3
70°	230.7	213.4	203.9	202.5	209.3	221.6	236.6	239.3	242.5	245.7
72.5°	193.0	179.4	169.8	169.4	175.7	185.7	198.0	198.4	199.4	202.5
75°	156.7	144.4	137.1	138.5	142.1	150.3	159.8	157.1	157.6	159.8
77.5°	121.7	111.7	106.7	107.6	110.3	116.3	122.6	119.4	117.6	119.9
80°	87.6	79.0	77.2	77.7	79.5	83.6	87.2	84.5	80.8	82.6
82.5°	57.7	52.2	51.3	51.8	53.1	55.4	56.3	52.2	51.3	52.7
85°	31.8	29.5	29.5	30.9	31.3	31.8	31.8	29.5	30.0	30.9
87.5°	12.7	12.7	14.1	15.4	14.5	12.7	10.9	7.3	7.3	8.6
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)