

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-32L850-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-32L850-X-UNV-ASY
Description: ArcMed Patient Recessed 4 FT x6 IN Fixture Ambient Light w/
ASYMMETRIC Lens
Light Source: 5000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

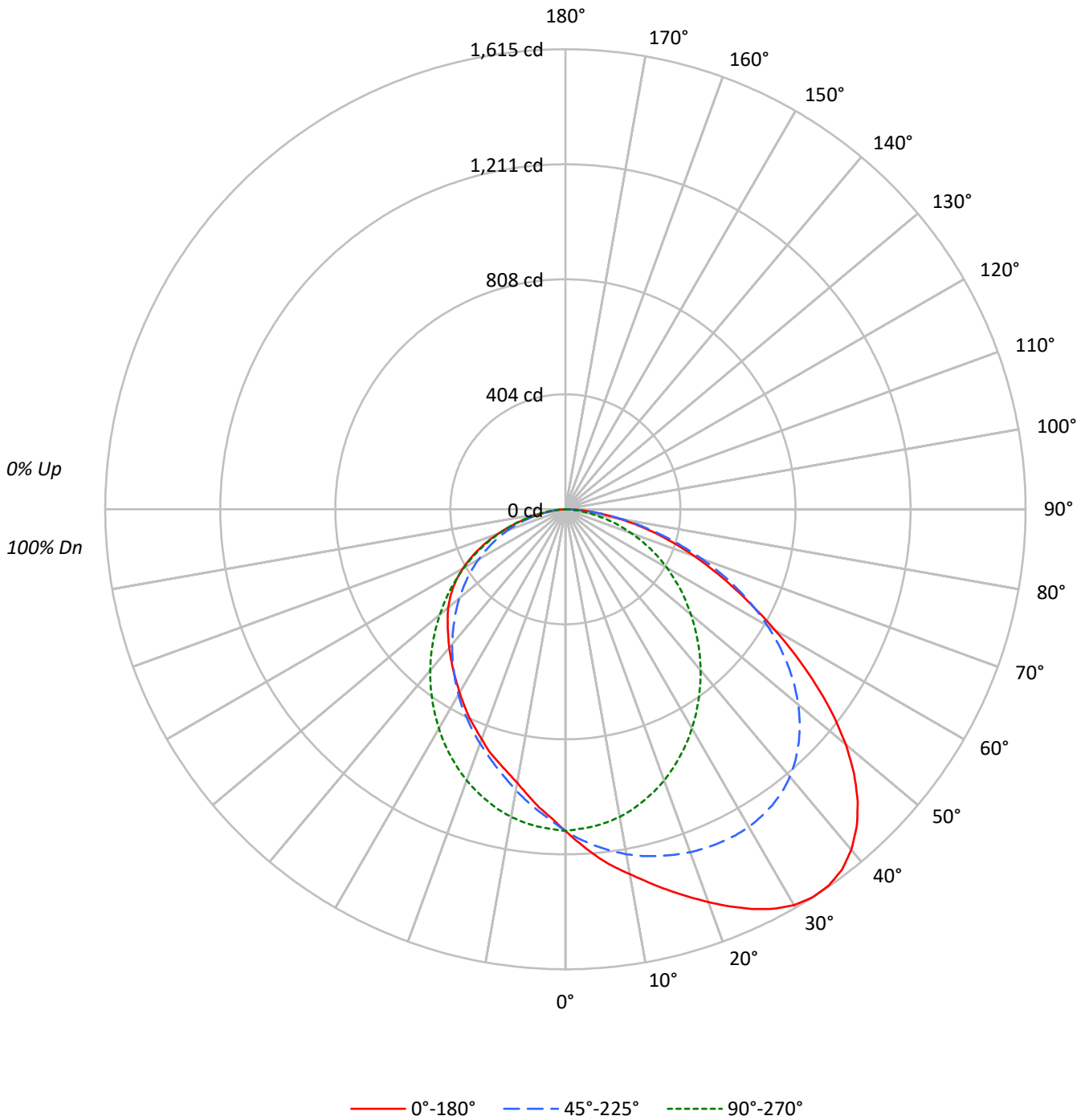
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 3497.8 lumens
Efficiency: N/A
Efficacy: 96.1 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	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	94	97	94	91	93	91	88	90	88	86	86	86	86	84
2	99	90	83	78	96	88	82	77	85	80	75	82	77	73	79	75	72	72	72	72	69
3	90	79	71	64	87	78	70	64	75	68	63	72	66	61	69	64	60	60	60	60	58
4	82	70	61	54	80	69	60	54	66	59	53	64	57	52	62	56	52	52	52	52	49
5	75	62	53	46	73	61	53	46	59	51	46	57	50	45	55	49	45	45	45	45	43
6	69	56	47	40	68	55	46	40	53	46	40	51	45	39	50	44	39	39	39	39	37
7	64	51	42	36	63	50	41	35	48	41	35	47	40	35	45	39	35	35	35	35	33
8	60	46	37	32	58	45	37	31	44	37	31	43	36	31	42	35	31	31	31	31	29
9	56	42	34	28	54	42	34	28	40	33	28	39	33	28	38	32	28	28	28	28	26
10	52	39	31	26	51	38	31	26	37	30	25	36	30	25	36	30	25	25	25	25	23

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	10872	10872	10872
5°	11797	10805	10155
10°	12710	10722	9529
15°	13786	10566	9137
20°	15032	10380	8798
25°	16443	10137	8525
30°	17838	9871	8251
35°	18946	9579	8073
40°	19617	9275	7968
45°	19754	8955	7950
50°	19236	8614	8037
55°	18012	8305	8087
60°	16372	7927	8008
65°	14846	7497	7697
70°	13587	6950	7068
75°	12327	6249	6078
80°	10783	5223	4685
85°	9080	3789	3491



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	107.2	3.1
10°-20°	311.9	8.9
20°-30°	488.7	14.0
30°-40°	612.6	17.5
40°-50°	652.2	18.6
50°-60°	588.8	16.8
60°-70°	435.8	12.5
70°-80°	239.1	6.8
80°-90°	61.4	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°	907.8	26.0
0°-40°	1520.5	43.5
0°-60°	2761.4	78.9
0°-90°	3497.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3497.8	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1129	1129	1129	1129	1129	
5°	1221	1185	1118	1064	1051	119
15°	1383	1260	1060	936	917	394
25°	1548	1290	954	814	802	716
35°	1612	1267	815	685	687	1005
45°	1451	1158	658	551	584	1112
55°	1073	953	495	419	482	957
65°	652	671	329	284	338	650
75°	331	351	168	145	163	352
85°	82	81	34	32	32	97
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°	1129.3	1129.3	1129.3	1129.3	1129.3	1129.3	1129.3	1129.3	1129.3	1129.3	1129.3
2.5°	1174.8	1172.4	1169.6	1168.7	1164.5	1159.0	1153.9	1153.9	1147.8	1133.4	1123.2
5°	1220.7	1217.0	1210.0	1204.5	1195.6	1185.0	1174.3	1167.8	1153.4	1131.6	1118.1
7.5°	1262.9	1258.3	1249.5	1238.8	1224.4	1208.6	1191.0	1177.1	1155.3	1126.0	1108.8
10°	1300.1	1295.9	1285.2	1272.2	1251.8	1229.5	1203.5	1182.6	1152.9	1116.7	1096.8
12.5°	1340.9	1336.7	1321.9	1304.2	1276.4	1246.7	1212.3	1183.6	1146.9	1103.3	1080.5
15°	1383.2	1377.6	1360.9	1337.2	1300.1	1260.2	1217.9	1180.8	1137.2	1087.0	1060.1
17.5°	1424.9	1419.4	1398.5	1368.3	1321.9	1272.2	1220.2	1174.3	1123.2	1067.1	1037.8
20°	1467.2	1461.6	1435.1	1397.1	1340.9	1281.0	1219.8	1164.5	1106.5	1044.3	1013.2
22.5°	1509.4	1502.9	1470.9	1424.5	1356.7	1287.1	1214.7	1151.1	1085.6	1018.3	984.9
25°	1547.9	1541.4	1506.2	1451.4	1373.4	1289.9	1205.9	1132.5	1062.4	989.6	954.3
27.5°	1581.3	1573.5	1536.8	1476.4	1387.8	1290.8	1194.2	1111.6	1035.5	958.5	922.7
30°	1604.6	1597.6	1558.6	1494.1	1396.2	1287.5	1179.4	1087.0	1004.4	925.0	887.9
32.5°	1614.8	1608.7	1570.2	1502.4	1397.5	1279.2	1161.3	1059.6	971.9	889.8	852.2
35°	1612.0	1605.9	1569.3	1501.0	1393.4	1267.1	1138.5	1028.5	937.1	853.1	815.0
37.5°	1594.3	1587.4	1554.0	1488.5	1381.3	1249.5	1112.6	994.7	899.5	815.5	777.0
40°	1560.9	1554.0	1525.2	1464.8	1360.9	1225.8	1082.9	958.5	861.0	776.1	738.0
42.5°	1513.1	1505.7	1482.9	1427.7	1331.6	1194.7	1049.0	919.9	820.1	738.0	698.1
45°	1450.9	1443.5	1428.2	1381.3	1293.6	1158.0	1010.4	878.2	777.4	694.8	657.7
47.5°	1373.9	1367.4	1359.9	1323.7	1246.7	1115.8	967.3	833.6	732.9	654.4	616.4
50°	1284.3	1277.8	1280.1	1255.5	1192.4	1067.1	919.9	786.7	686.9	609.4	575.1
52.5°	1182.6	1177.5	1188.7	1178.0	1129.3	1012.8	869.3	738.5	640.1	566.7	533.8
55°	1073.1	1067.5	1088.9	1092.1	1058.7	952.9	811.8	688.3	592.7	524.9	494.8
57.5°	960.3	955.7	983.1	998.4	981.7	888.4	753.8	636.8	544.0	481.3	451.1
60°	850.3	846.6	875.4	900.4	898.6	820.1	693.4	581.1	495.2	437.2	411.7
62.5°	746.8	742.6	771.4	801.1	811.8	747.3	633.6	526.3	446.5	393.1	370.4
65°	651.7	647.5	672.1	702.7	722.2	671.2	569.0	469.7	397.3	348.6	329.1
67.5°	564.4	564.4	579.7	608.0	631.7	593.2	503.1	415.9	346.7	307.3	287.8
70°	482.7	482.2	493.4	513.3	540.7	509.6	436.3	359.2	298.9	264.1	246.9
72.5°	405.2	408.4	412.6	427.9	456.7	429.8	369.9	303.6	252.0	221.4	207.0
75°	331.4	330.9	337.0	350.4	371.3	351.4	303.6	249.2	205.6	180.6	168.0
77.5°	260.8	260.4	265.5	273.4	291.0	275.2	239.5	199.1	160.1	139.2	130.4
80°	194.5	194.5	199.1	203.3	216.3	203.8	178.7	149.0	117.4	101.2	94.2
82.5°	135.1	137.9	136.0	141.6	149.0	138.3	122.5	102.1	78.0	66.8	62.2
85°	82.2	84.5	82.2	86.8	90.0	80.8	72.9	60.8	45.0	37.6	34.3
87.5°	42.2	41.8	41.3	43.6	44.6	39.0	34.3	29.2	20.0	15.3	13.0
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°	1129.3	1129.3	1129.3	1129.3	1129.3	1129.3	1129.3	1129.3	1129.3	1129.3
2.5°	1117.2	1120.0	1115.8	1100.5	1094.5	1088.0	1085.2	1082.4	1087.5	1086.1
5°	1107.9	1104.7	1094.0	1074.5	1064.3	1053.6	1048.5	1045.3	1052.2	1050.8
7.5°	1095.4	1086.1	1070.3	1046.6	1033.7	1019.3	1012.3	1008.1	1012.8	1011.8
10°	1079.6	1064.3	1044.8	1016.5	1001.2	985.4	977.5	971.5	975.2	974.7
12.5°	1059.6	1039.7	1016.0	984.0	968.2	952.0	945.0	940.8	945.5	944.1
15°	1037.4	1013.2	985.8	953.4	936.2	921.3	916.2	913.0	916.7	916.7
17.5°	1012.8	984.5	954.3	921.3	905.1	893.5	888.4	886.1	887.9	890.7
20°	985.4	953.8	921.3	889.3	875.4	863.3	858.7	856.3	860.5	858.7
22.5°	955.2	921.8	887.9	857.7	845.2	833.1	828.5	827.1	831.7	829.9
25°	923.2	887.0	853.6	826.2	813.6	803.4	799.3	797.9	800.2	802.5
27.5°	893.0	852.2	819.2	794.6	783.5	773.7	770.0	767.7	769.6	772.3
30°	856.3	816.9	784.4	761.7	751.0	741.7	738.9	737.1	739.8	742.2
32.5°	822.0	782.1	749.6	727.3	718.0	709.2	708.8	707.8	711.1	713.9
35°	784.9	745.9	714.3	693.4	684.6	677.2	678.6	680.0	683.7	686.9
37.5°	747.3	709.2	679.0	660.0	651.7	645.6	649.8	651.7	656.8	660.0
40°	709.2	671.2	643.3	626.1	617.8	615.0	621.0	625.2	631.2	634.0
42.5°	670.2	635.0	607.1	591.3	584.4	584.4	592.3	598.7	605.7	608.5
45°	631.2	596.9	570.4	556.0	550.9	554.7	563.9	572.3	581.1	583.9
47.5°	591.8	558.4	534.2	521.2	518.5	524.0	535.6	546.8	557.0	560.7
50°	552.3	522.2	498.0	486.0	486.0	492.9	507.8	521.7	532.8	536.6
52.5°	512.9	484.1	459.5	450.7	452.5	462.3	479.5	493.9	506.4	510.1
55°	473.0	444.7	423.3	415.9	419.1	431.2	448.8	465.5	477.6	481.8
57.5°	433.5	406.6	387.1	381.1	385.7	399.2	419.6	434.0	446.5	450.2
60°	393.6	366.2	350.9	346.3	352.3	366.2	387.1	400.6	412.2	415.9
62.5°	354.1	328.6	315.2	311.0	317.9	332.8	353.2	365.3	374.1	377.8
65°	314.2	291.5	279.0	276.2	283.6	298.0	317.5	327.7	334.2	337.9
67.5°	274.8	255.3	243.7	241.4	249.2	262.2	280.3	285.9	291.9	295.7
70°	235.8	218.1	208.4	207.0	214.0	226.5	241.8	244.6	247.9	251.1
72.5°	197.3	183.3	173.6	173.1	179.6	189.8	202.4	202.8	203.8	207.0
75°	160.1	147.6	140.2	141.6	145.3	153.6	163.4	160.6	161.1	163.4
77.5°	124.4	114.2	109.1	110.0	112.8	118.8	125.3	122.1	120.2	122.5
80°	89.6	80.8	78.9	79.4	81.2	85.4	89.1	86.3	82.6	84.5
82.5°	58.9	53.4	52.4	52.9	54.3	56.6	57.6	53.4	52.4	53.8
85°	32.5	30.2	30.2	31.6	32.0	32.5	32.5	30.2	30.6	31.6
87.5°	13.0	13.0	14.4	15.8	14.9	13.0	11.1	7.4	7.4	8.8
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)