

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-39L850-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-39L850-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

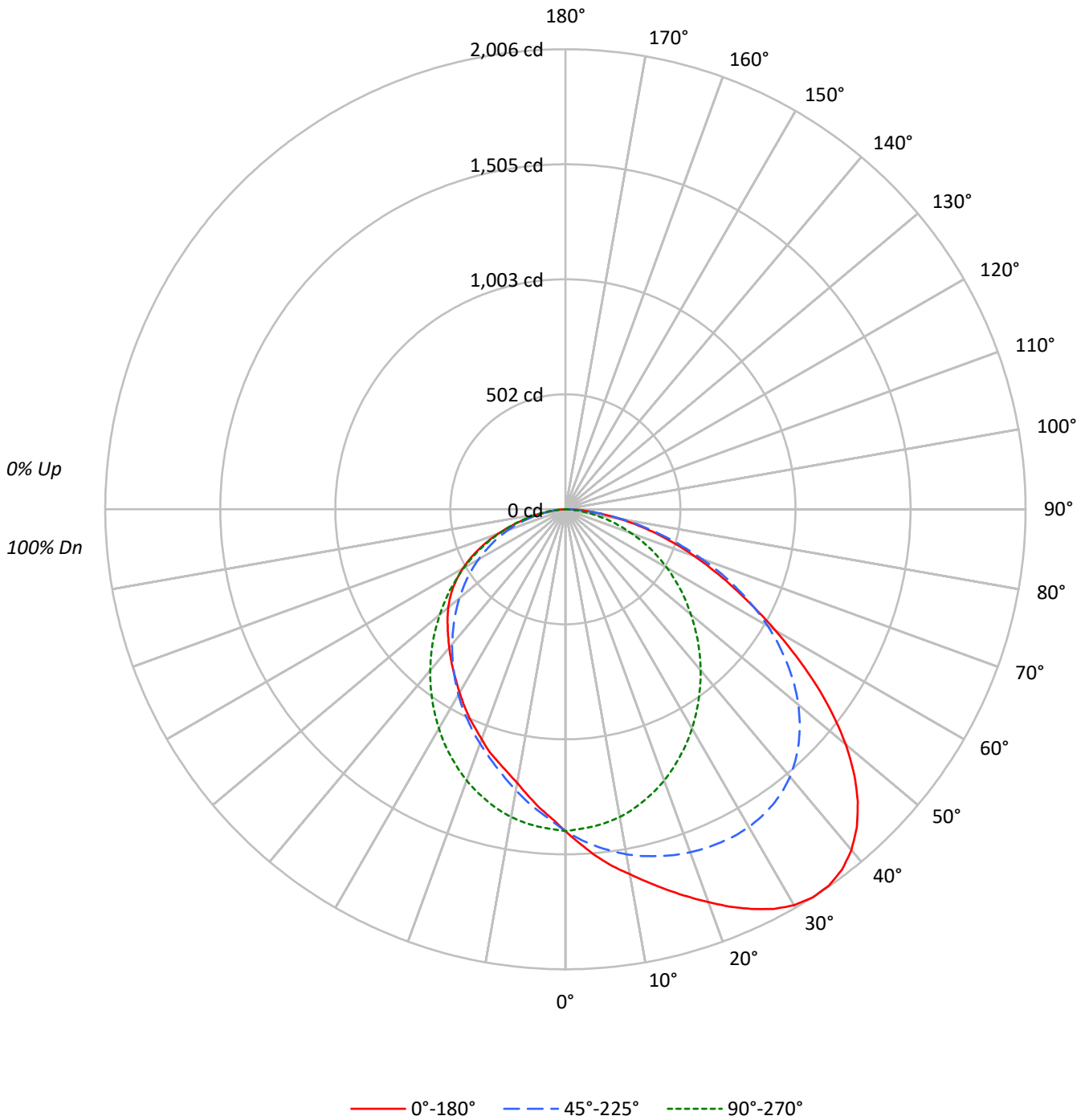
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4345.9 lumens
Efficiency: N/A
Efficacy: 94.9 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): 45.8
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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CATALOG NUMBER: 4APN-39L850-X-UNV-ASY

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°	13508	13508	13508
5°	14658	13425	12617
10°	15791	13322	11839
15°	17128	13127	11352
20°	18676	12898	10931
25°	20429	12595	10592
30°	22162	12264	10251
35°	23539	11902	10031
40°	24374	11523	9901
45°	24544	11126	9878
50°	23900	10701	9984
55°	22379	10318	10047
60°	20343	9849	9949
65°	18445	9315	9563
70°	16883	8636	8782
75°	15318	7767	7551
80°	13395	6492	5821
85°	11278	4717	4330



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	133.3	3.1
10°-20°	387.6	8.9
20°-30°	607.1	14.0
30°-40°	761.2	17.5
40°-50°	810.3	18.6
50°-60°	731.5	16.8
60°-70°	541.5	12.5
70°-80°	297.1	6.8
80°-90°	76.3	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°	1127.9	26.0
0°-40°	1889.1	43.5
0°-60°	3430.9	78.9
0°-90°	4345.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4345.9	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1403	1403	1403	1403	1403	
5°	1517	1472	1389	1322	1306	148
15°	1718	1566	1317	1163	1139	490
25°	1923	1603	1186	1011	997	890
35°	2003	1574	1013	851	854	1249
45°	1803	1439	817	684	726	1382
55°	1333	1184	615	521	599	1189
65°	810	834	409	352	420	808
75°	412	437	209	180	203	438
85°	102	100	43	40	39	121
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°	1403.1	1403.1	1403.1	1403.1	1403.1	1403.1	1403.1	1403.1	1403.1	1403.1	1403.1
2.5°	1459.6	1456.7	1453.2	1452.1	1446.9	1440.0	1433.6	1433.6	1426.1	1408.3	1395.6
5°	1516.7	1512.1	1503.4	1496.5	1485.5	1472.3	1459.0	1450.9	1433.1	1406.0	1389.2
7.5°	1569.2	1563.4	1552.4	1539.2	1521.3	1501.7	1479.8	1462.5	1435.4	1399.0	1377.7
10°	1615.3	1610.1	1596.8	1580.7	1555.3	1527.6	1495.3	1469.4	1432.5	1387.5	1362.7
12.5°	1666.0	1660.9	1642.4	1620.5	1585.9	1549.0	1506.3	1470.5	1425.0	1370.8	1342.5
15°	1718.5	1711.6	1690.8	1661.4	1615.3	1565.7	1513.2	1467.1	1412.9	1350.6	1317.1
17.5°	1770.4	1763.5	1737.6	1700.1	1642.4	1580.7	1516.1	1459.0	1395.6	1325.8	1289.5
20°	1822.9	1816.0	1783.1	1735.8	1666.0	1591.6	1515.5	1446.9	1374.8	1297.5	1258.9
22.5°	1875.4	1867.3	1827.5	1769.8	1685.6	1599.1	1509.2	1430.2	1348.9	1265.2	1223.7
25°	1923.2	1915.2	1871.3	1803.3	1706.4	1602.6	1498.2	1407.1	1320.0	1229.5	1185.7
27.5°	1964.8	1955.0	1909.4	1834.4	1724.3	1603.8	1483.8	1381.2	1286.6	1190.9	1146.4
30°	1993.6	1984.9	1936.5	1856.3	1734.7	1599.7	1465.4	1350.6	1247.9	1149.3	1103.2
32.5°	2006.3	1998.8	1950.9	1866.7	1736.4	1589.3	1442.9	1316.6	1207.6	1105.5	1058.8
35°	2002.8	1995.3	1949.8	1865.0	1731.2	1574.3	1414.6	1277.9	1164.3	1059.9	1012.7
37.5°	1980.9	1972.3	1930.7	1849.4	1716.2	1552.4	1382.3	1235.8	1117.6	1013.2	965.4
40°	1939.4	1930.7	1895.0	1820.0	1690.8	1523.0	1345.4	1190.9	1069.8	964.2	916.9
42.5°	1880.0	1870.8	1842.5	1773.9	1654.5	1484.4	1303.3	1143.0	1019.0	916.9	867.3
45°	1802.7	1793.5	1774.5	1716.2	1607.2	1438.8	1255.4	1091.1	965.9	863.3	817.2
47.5°	1707.0	1698.9	1689.7	1644.7	1549.0	1386.4	1201.8	1035.7	910.6	813.1	765.8
50°	1595.7	1587.6	1590.5	1559.9	1481.5	1325.8	1143.0	977.5	853.5	757.2	714.5
52.5°	1469.4	1463.0	1476.9	1463.6	1403.1	1258.3	1080.1	917.5	795.2	704.1	663.2
55°	1333.3	1326.4	1352.9	1356.9	1315.4	1183.9	1008.6	855.2	736.4	652.2	614.7
57.5°	1193.2	1187.4	1221.4	1240.4	1219.7	1103.8	936.5	791.2	675.9	598.0	560.5
60°	1056.5	1051.9	1087.6	1118.8	1116.5	1019.0	861.6	722.0	615.3	543.2	511.5
62.5°	927.9	922.7	958.4	995.4	1008.6	928.5	787.2	654.0	554.8	488.5	460.2
65°	809.7	804.5	835.0	873.1	897.3	833.9	707.0	583.6	493.6	433.1	408.9
67.5°	701.2	701.2	720.3	755.5	784.9	737.0	625.1	516.7	430.8	381.8	357.5
70°	599.8	599.2	613.0	637.8	671.8	633.2	542.1	446.4	371.4	328.1	306.8
72.5°	503.4	507.5	512.7	531.7	567.5	534.0	459.6	377.2	313.1	275.1	257.2
75°	411.8	411.2	418.7	435.4	461.3	436.6	377.2	309.7	255.5	224.3	208.8
77.5°	324.1	323.5	329.9	339.7	361.6	342.0	297.6	247.4	199.0	173.0	162.0
80°	241.6	241.6	247.4	252.6	268.7	253.2	222.0	185.1	145.9	125.7	117.1
82.5°	167.8	171.3	169.0	175.9	185.1	171.9	152.2	126.9	96.9	83.0	77.3
85°	102.1	105.0	102.1	107.8	111.9	100.3	90.5	75.5	55.9	46.7	42.7
87.5°	52.5	51.9	51.3	54.2	55.4	48.4	42.7	36.3	24.8	19.0	16.1
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°	1403.1	1403.1	1403.1	1403.1	1403.1	1403.1	1403.1	1403.1	1403.1	1403.1
2.5°	1388.1	1391.5	1386.4	1367.3	1359.8	1351.7	1348.3	1344.8	1351.2	1349.4
5°	1376.5	1372.5	1359.2	1335.0	1322.3	1309.1	1302.7	1298.7	1307.3	1305.6
7.5°	1361.0	1349.4	1329.8	1300.4	1284.3	1266.4	1257.7	1252.6	1258.3	1257.2
10°	1341.4	1322.3	1298.1	1262.9	1243.9	1224.3	1214.5	1207.0	1211.6	1211.0
12.5°	1316.6	1291.8	1262.4	1222.6	1203.0	1182.8	1174.1	1168.9	1174.7	1173.0
15°	1288.9	1258.9	1224.9	1184.5	1163.2	1144.7	1138.4	1134.3	1139.0	1139.0
17.5°	1258.3	1223.1	1185.7	1144.7	1124.5	1110.1	1103.8	1100.9	1103.2	1106.7
20°	1224.3	1185.1	1144.7	1104.9	1087.6	1072.6	1066.9	1064.0	1069.2	1066.9
22.5°	1186.8	1145.3	1103.2	1065.7	1050.1	1035.1	1029.4	1027.7	1033.4	1031.1
25°	1147.0	1102.0	1060.5	1026.5	1010.9	998.2	993.1	991.3	994.2	997.1
27.5°	1109.5	1058.8	1017.8	987.3	973.4	961.3	956.7	953.8	956.1	959.6
30°	1064.0	1015.0	974.6	946.3	933.1	921.5	918.1	915.8	919.2	922.1
32.5°	1021.3	971.7	931.3	903.7	892.1	881.2	880.6	879.4	883.5	886.9
35°	975.2	926.7	887.5	861.6	850.6	841.4	843.1	844.8	849.5	853.5
37.5°	928.5	881.2	843.7	820.0	809.7	802.2	807.4	809.7	816.0	820.0
40°	881.2	833.9	799.3	777.9	767.6	764.1	771.6	776.8	784.3	787.8
42.5°	832.7	788.9	754.3	734.7	726.0	726.0	735.8	743.9	752.6	756.0
45°	784.3	741.6	708.7	690.9	684.5	689.1	700.7	711.1	722.0	725.5
47.5°	735.3	693.8	663.8	647.6	644.2	651.1	665.5	679.3	692.0	696.6
50°	686.3	648.8	618.8	603.8	603.8	612.4	630.9	648.2	662.0	666.6
52.5°	637.2	601.5	570.9	560.0	562.3	574.4	595.7	613.6	629.2	633.8
55°	587.6	552.5	525.9	516.7	520.7	535.7	557.7	578.4	593.4	598.6
57.5°	538.6	505.2	481.0	473.5	479.2	495.9	521.3	539.2	554.8	559.4
60°	489.0	455.0	436.0	430.2	437.7	455.0	481.0	497.7	512.1	516.7
62.5°	440.0	408.3	391.6	386.4	395.0	413.5	438.9	453.9	464.8	469.4
65°	390.4	362.2	346.6	343.1	352.4	370.2	394.5	407.1	415.2	419.8
67.5°	341.4	317.2	302.8	299.9	309.7	325.8	348.3	355.2	362.7	367.3
70°	293.0	271.0	258.9	257.2	265.9	281.4	300.5	303.9	307.9	312.0
72.5°	245.1	227.8	215.7	215.1	223.2	235.9	251.4	252.0	253.2	257.2
75°	199.0	183.4	174.2	175.9	180.5	190.9	203.0	199.5	200.1	203.0
77.5°	154.6	141.9	135.5	136.7	140.1	147.6	155.7	151.7	149.4	152.2
80°	111.3	100.3	98.0	98.6	100.9	106.1	110.7	107.3	102.6	105.0
82.5°	73.2	66.3	65.2	65.7	67.5	70.4	71.5	66.3	65.2	66.9
85°	40.4	37.5	37.5	39.2	39.8	40.4	40.4	37.5	38.1	39.2
87.5°	16.1	16.1	17.9	19.6	18.5	16.1	13.8	9.2	9.2	11.0
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)