

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: P834256

Luminaire Tested: **ORLG-12-4-INS-ASY2-LD4-2LO-30-120-EDD-90**

Issue Date: 5/16/2024

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

**Test Information**

Test Method: LM-79-08
Report Number: P834256
Test Lab: INNOVATION CENTER(G2)
Issue Date: 5/16/2024
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: ORLG-12-4-INS-ASY2-LD4-2LO-30-120-EDD-90
Description: 1FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 3000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

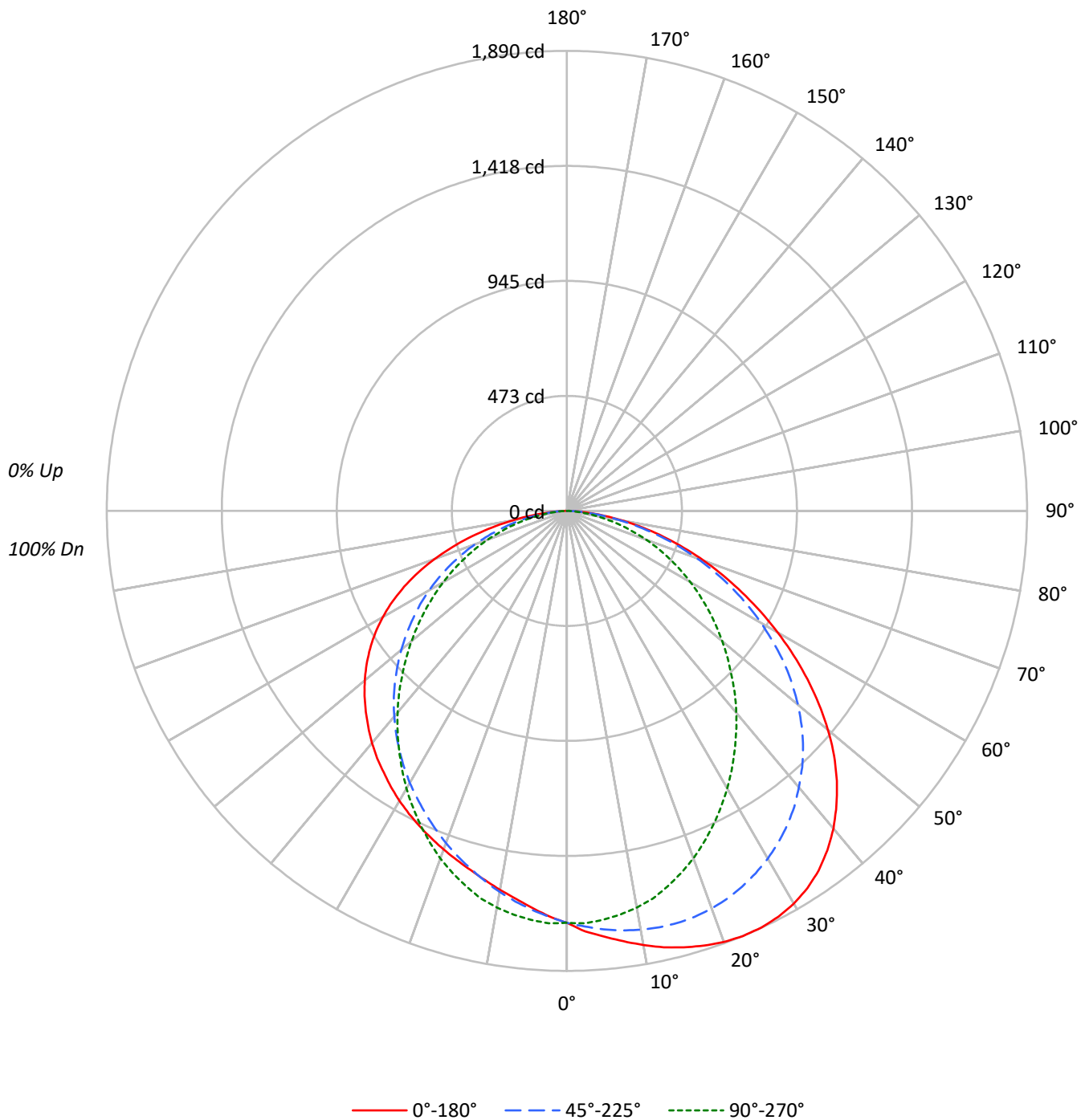
Lumens per Lamp: N/A
Luminaire Lumens: 4977.8 lumens
Efficiency: N/A
Efficacy: 106.4 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 46.8
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: 28.75 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
RW	70	50	30	10	70	50	30	10	50	30	10		50	30	10		50
RCR																	
0	119	119	119	119	116	116	116	116	111	111	111		106	106	106		102
1	109	104	100	96	106	102	98	94	97	94	91		94	91	88		90
2	99	90	84	78	96	89	82	77	85	80	75		82	77	73		79
3	90	79	71	65	87	78	70	64	75	68	63		72	66	62		69
4	82	70	61	55	80	69	61	54	66	59	53		64	58	53		62
5	76	63	54	47	73	61	53	47	59	52	46		57	51	46		55
6	70	56	47	41	68	55	47	41	54	46	40		52	45	40		50
7	65	51	42	36	63	50	42	36	49	41	36		47	40	35		46
8	60	46	38	32	59	46	38	32	44	37	32		43	36	31		42
9	56	43	34	29	55	42	34	29	41	34	29		40	33	28		39
10	53	39	31	26	51	39	31	26	38	31	26		37	30	26		36

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	4554	4554	4554
5°	4741	4556	4421
10°	4949	4522	4319
15°	5171	4450	4257
20°	5397	4351	4239
25°	5609	4225	4246
30°	5792	4093	4273
35°	5924	3947	4309
40°	5984	3801	4372
45°	5967	3640	4444
50°	5861	3487	4536
55°	5661	3327	4630
60°	5385	3155	4700
65°	5057	2963	4694
70°	4706	2733	4555
75°	4273	2400	4199
80°	3668	1971	3543
85°	2797	1346	2433



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	160.5	3.2
10°-20°	463.5	9.3
20°-30°	710.1	14.3
30°-40°	866.5	17.4
40°-50°	906.2	18.2
50°-60°	820.2	16.5
60°-70°	621.2	12.5
70°-80°	346.2	7.0
80°-90°	83.5	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°	1334.1	26.8
0°-40°	2200.6	44.2
0°-60°	3927.0	78.9
0°-90°	4977.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4977.8	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1692	1692	1692	1692	1692	
5°	1755	1726	1687	1645	1637	169
15°	1856	1753	1597	1523	1528	526
25°	1889	1703	1423	1373	1430	871
35°	1803	1577	1201	1200	1312	1126
45°	1568	1372	956	999	1168	1206
55°	1207	1089	709	772	987	1077
65°	794	747	465	529	737	788
75°	411	388	231	276	404	436
85°	91	80	44	58	79	109
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	10°	20°	22.5°	30°	40°	45°	50°	60°	67.5°	70°
0°	1692.3	1692.3	1692.3	1692.3	1692.3	1692.3	1692.3	1692.3	1692.3	1692.3	1692.3
2.5°	1729.6	1721.5	1714.8	1717.4	1718.9	1713.7	1709.3	1710.0	1705.6	1714.1	1694.1
5°	1755.1	1747.7	1740.0	1742.9	1740.0	1732.2	1725.9	1724.1	1712.2	1717.0	1696.7
7.5°	1783.6	1775.5	1764.0	1767.3	1761.1	1746.6	1738.5	1733.7	1715.6	1715.9	1693.4
10°	1811.0	1804.0	1788.4	1790.7	1779.2	1759.9	1747.0	1740.3	1714.8	1711.1	1687.8
12.5°	1836.5	1826.9	1810.3	1811.4	1794.7	1769.2	1752.6	1742.9	1709.6	1698.5	1675.6
15°	1856.1	1846.9	1826.9	1826.5	1805.1	1771.8	1752.9	1739.6	1697.4	1680.1	1656.0
17.5°	1872.8	1864.3	1839.5	1838.7	1812.8	1770.7	1748.1	1731.5	1679.7	1658.2	1631.6
20°	1884.6	1876.1	1848.4	1845.8	1814.7	1765.1	1738.1	1717.0	1656.4	1630.9	1601.3
22.5°	1890.2	1881.6	1850.2	1846.5	1810.3	1754.0	1723.7	1698.9	1629.7	1596.5	1565.8
25°	1889.0	1880.9	1845.4	1841.7	1801.7	1737.4	1703.4	1674.9	1596.1	1556.9	1526.5
27.5°	1879.8	1873.5	1836.1	1831.3	1786.2	1714.8	1678.6	1647.1	1558.7	1515.1	1482.2
30°	1863.9	1859.1	1819.5	1815.1	1767.0	1690.0	1649.7	1613.5	1518.4	1469.2	1435.9
32.5°	1838.4	1833.9	1794.0	1789.9	1741.1	1658.2	1616.1	1578.7	1474.4	1420.0	1386.7
35°	1803.2	1800.6	1761.8	1757.4	1707.8	1622.0	1577.2	1536.2	1428.5	1367.1	1335.3
37.5°	1757.0	1757.0	1719.6	1714.8	1666.4	1577.6	1533.6	1489.9	1376.7	1311.6	1280.2
40°	1703.4	1708.2	1670.1	1665.3	1618.3	1529.9	1481.8	1435.9	1320.9	1253.2	1222.5
42.5°	1639.0	1643.4	1611.6	1607.2	1563.2	1474.8	1430.0	1380.1	1262.4	1193.6	1161.8
45°	1568.0	1573.9	1545.4	1542.1	1501.0	1414.5	1371.6	1320.9	1201.4	1131.5	1100.4
47.5°	1488.8	1496.6	1471.8	1470.0	1431.9	1352.7	1307.9	1256.5	1137.4	1066.8	1037.5
50°	1400.0	1411.1	1390.8	1390.8	1356.8	1278.0	1239.1	1187.7	1070.8	1000.2	971.3
52.5°	1305.0	1319.0	1303.9	1304.2	1276.5	1205.9	1165.5	1115.2	1001.3	931.8	905.1
55°	1206.6	1220.3	1210.7	1212.1	1190.3	1126.0	1089.3	1039.4	930.3	862.6	837.4
57.5°	1103.8	1118.6	1112.3	1115.2	1100.1	1042.4	1004.3	960.6	857.0	790.1	768.6
60°	1000.6	1014.6	1011.3	1015.4	1005.7	955.8	921.0	875.9	783.4	719.1	700.2
62.5°	896.3	909.2	908.5	912.9	907.7	866.3	835.2	796.7	707.2	648.1	630.7
65°	794.2	805.3	804.5	809.3	808.2	774.9	746.8	711.7	631.0	576.7	561.5
67.5°	695.0	704.3	701.7	707.2	708.7	682.1	657.7	626.2	558.5	505.6	492.7
70°	598.1	604.4	601.1	604.8	608.1	588.1	567.4	539.7	481.2	434.6	423.9
72.5°	503.1	507.5	502.3	506.0	509.0	494.5	477.5	453.5	405.0	364.7	355.8
75°	411.0	417.2	406.5	410.2	412.4	398.0	388.0	368.4	326.6	295.5	289.6
77.5°	321.8	325.5	319.6	318.1	319.6	309.2	301.5	286.3	254.9	229.3	225.6
80°	236.7	239.0	233.0	231.6	232.7	225.3	219.3	208.2	186.1	166.8	165.3
82.5°	158.7	159.8	154.6	153.1	153.9	151.7	144.6	136.9	126.5	110.2	109.9
85°	90.6	90.6	86.9	85.4	86.2	82.5	79.9	75.8	71.8	60.7	61.4
87.5°	33.3	33.3	31.4	31.1	34.8	30.7	29.6	27.7	28.9	22.9	24.4
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):

	80°	90°	100°	110°	112.5°	120°	130°	135°	140°	150°	157.5°
0°	1692.3	1692.3	1692.3	1692.3	1692.3	1692.3	1692.3	1692.3	1692.3	1692.3	1692.3
2.5°	1699.7	1696.0	1692.6	1681.2	1686.0	1674.1	1673.4	1669.0	1665.6	1659.3	1667.5
5°	1694.1	1686.7	1677.1	1663.4	1667.5	1653.4	1650.5	1645.3	1640.8	1632.7	1639.0
7.5°	1685.2	1673.0	1657.9	1640.5	1646.0	1628.6	1624.2	1618.7	1615.0	1605.3	1610.9
10°	1672.3	1654.9	1637.1	1616.1	1620.1	1601.3	1595.7	1589.8	1586.5	1578.0	1583.5
12.5°	1652.3	1631.2	1607.2	1584.3	1588.7	1570.9	1563.5	1557.2	1556.1	1549.1	1555.8
15°	1626.4	1597.2	1572.4	1548.0	1553.2	1532.5	1529.1	1522.8	1524.7	1519.9	1528.0
17.5°	1593.5	1559.8	1532.8	1506.6	1511.8	1494.4	1491.8	1488.8	1490.7	1489.9	1498.8
20°	1556.5	1519.5	1488.4	1462.6	1465.5	1451.8	1452.9	1452.2	1455.9	1460.0	1472.2
22.5°	1514.7	1472.9	1440.4	1413.7	1418.2	1406.3	1411.5	1413.0	1419.3	1428.5	1444.1
25°	1467.7	1423.0	1388.9	1363.8	1367.9	1360.1	1369.0	1372.7	1382.7	1398.2	1414.1
27.5°	1418.5	1371.2	1334.9	1310.9	1318.7	1310.9	1324.2	1331.6	1346.8	1363.8	1383.4
30°	1366.4	1317.2	1279.8	1258.4	1265.8	1258.7	1280.2	1290.2	1305.4	1328.7	1352.0
32.5°	1311.6	1259.9	1223.2	1206.6	1211.8	1210.7	1234.7	1245.8	1266.1	1292.8	1317.6
35°	1255.4	1201.4	1164.4	1150.4	1156.7	1158.1	1187.0	1199.9	1222.1	1254.3	1280.9
37.5°	1197.3	1142.2	1106.0	1094.5	1100.1	1105.6	1139.3	1152.2	1177.4	1212.5	1241.7
40°	1137.1	1081.9	1046.4	1037.2	1042.7	1048.6	1085.3	1103.0	1130.4	1168.5	1200.3
42.5°	1076.0	1020.9	986.5	979.8	985.4	996.9	1035.7	1052.3	1081.2	1123.4	1158.5
45°	1013.9	956.5	926.6	921.4	927.3	940.6	978.7	998.7	1029.4	1075.6	1113.4
47.5°	951.0	895.1	866.7	863.3	869.2	884.0	926.2	944.3	976.9	1026.1	1066.8
50°	887.4	833.0	805.6	804.5	810.1	826.0	866.3	887.7	921.4	976.5	1018.3
52.5°	823.0	770.9	746.1	746.1	751.3	767.5	808.2	830.4	865.2	923.3	969.5
55°	758.7	709.1	685.4	687.3	694.7	708.7	748.3	771.6	806.7	867.0	915.9
57.5°	694.3	647.3	625.9	628.4	635.5	649.5	688.4	714.6	746.4	809.0	858.9
60°	630.7	586.3	567.4	570.4	576.7	590.7	631.0	653.6	685.4	749.0	799.0
62.5°	566.3	526.0	508.2	511.9	517.5	531.5	569.6	591.5	622.9	685.4	735.7
65°	502.7	465.3	450.2	453.9	459.0	472.0	507.9	528.9	558.9	619.9	668.0
67.5°	439.8	405.8	393.2	396.9	401.0	413.2	442.8	465.7	493.8	551.9	597.4
70°	377.7	347.3	336.2	339.9	343.6	354.7	380.6	401.7	427.6	480.9	523.0
72.5°	316.3	286.7	281.1	284.4	287.4	297.0	321.8	338.5	361.0	408.4	444.6
75°	256.3	230.8	227.1	230.4	233.0	240.4	261.1	275.6	294.4	335.5	365.1
77.5°	198.6	177.2	175.7	178.3	180.9	186.1	202.3	217.5	232.3	262.6	288.9
80°	144.6	127.2	127.2	129.8	129.1	135.4	146.8	159.1	169.8	191.6	210.8
82.5°	95.4	81.7	83.6	85.4	86.6	89.1	96.2	105.4	112.1	125.4	138.0
85°	52.9	43.6	45.5	47.0	46.2	49.2	52.9	58.4	61.8	68.1	74.7
87.5°	19.6	16.3	16.6	17.8	18.5	20.0	20.0	23.3	23.7	24.4	25.9
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):

	160°	170°	180°
0°	1692.3	1692.3	1692.3
2.5°	1651.9	1660.8	1667.5
5°	1623.5	1630.9	1636.8
7.5°	1595.7	1602.4	1607.6
10°	1569.5	1576.9	1580.6
12.5°	1542.5	1551.0	1553.9
15°	1515.8	1524.3	1528.0
17.5°	1488.4	1499.5	1503.6
20°	1462.9	1477.0	1480.3
22.5°	1437.0	1451.5	1455.5
25°	1408.9	1425.9	1430.0
27.5°	1379.0	1399.3	1403.4
30°	1349.0	1371.2	1375.3
32.5°	1316.8	1340.9	1344.6
35°	1283.2	1307.2	1311.6
37.5°	1245.8	1272.1	1280.9
40°	1207.0	1235.4	1244.7
42.5°	1166.3	1197.3	1207.0
45°	1122.6	1156.7	1167.8
47.5°	1078.6	1117.1	1126.7
50°	1030.9	1071.9	1083.4
52.5°	981.0	1025.7	1037.2
55°	929.2	974.3	986.9
57.5°	872.9	919.6	932.9
60°	814.1	860.7	873.3
62.5°	753.8	796.0	808.2
65°	686.5	726.1	737.2
67.5°	615.1	651.4	660.6
70°	539.3	570.7	578.9
72.5°	460.1	482.0	492.7
75°	378.4	395.8	403.9
77.5°	296.3	308.5	315.1
80°	216.0	223.0	228.6
82.5°	141.3	144.3	148.3
85°	76.2	76.2	78.8
87.5°	25.9	24.8	25.9
90°	0.0	0.0	0.0

(END OF REPORT)