

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: P834706

Luminaire Tested: **ORLG-24-4-INS-ASY2-LD4-2LO-50-120-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: P834706
Test Lab: INNOVATION CENTER(G2)
Issue Date: 5/16/2024
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: ORLG-24-4-INS-ASY2-LD4-2LO-50-120-EDD-90
Description: 2FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 5000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

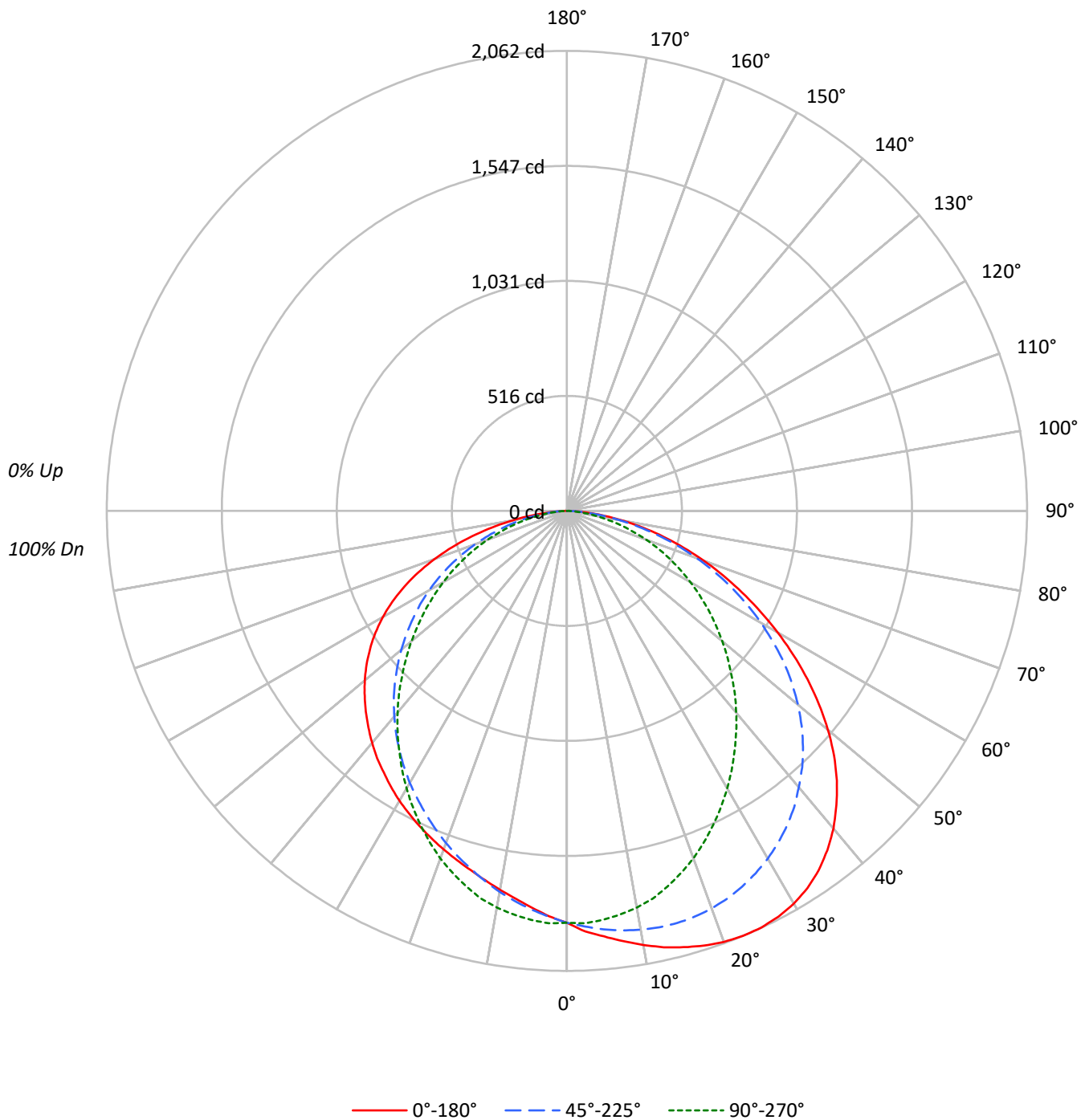
Lumens per Lamp: N/A
Luminaire Lumens: 5430.3 lumens
Efficiency: N/A
Efficacy: 116.0 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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	30	10	50	30	10
RCR																				
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	102	102	100
1	109	104	100	96	106	102	98	94	97	94	91	94	91	88	90	88	86	86	86	84
2	99	90	84	78	96	89	82	77	85	80	75	82	77	73	79	75	72	72	72	70
3	90	79	71	65	87	78	70	64	75	68	63	72	66	62	69	65	61	61	61	58
4	82	70	61	55	80	69	61	54	66	59	53	64	58	53	62	56	52	52	52	50
5	76	63	54	47	73	61	53	47	59	52	46	57	51	46	55	50	45	45	45	43
6	70	56	47	41	68	55	47	41	54	46	40	52	45	40	50	44	40	40	40	37
7	65	51	42	36	63	50	42	36	49	41	36	47	40	35	46	40	35	35	35	33
8	60	46	38	32	59	46	38	32	44	37	32	43	36	31	42	36	31	31	31	29
9	56	43	34	29	55	42	34	29	41	34	29	40	33	28	39	33	28	28	28	26
10	53	39	31	26	51	39	31	26	38	31	26	37	30	26	36	30	26	26	26	24

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	2484	2484	2484
5°	2586	2485	2412
10°	2699	2466	2356
15°	2820	2427	2322
20°	2944	2373	2312
25°	3059	2305	2316
30°	3159	2232	2331
35°	3231	2153	2350
40°	3264	2073	2385
45°	3255	1986	2424
50°	3197	1902	2474
55°	3088	1814	2525
60°	2937	1721	2564
65°	2758	1616	2560
70°	2567	1491	2484
75°	2331	1309	2290
80°	2001	1075	1932
85°	1527	735	1326



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	175.1	3.2
10°-20°	505.6	9.3
20°-30°	774.6	14.3
30°-40°	945.3	17.4
40°-50°	988.6	18.2
50°-60°	894.7	16.5
60°-70°	677.6	12.5
70°-80°	377.6	7.0
80°-90°	91.1	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°	1455.3	26.8
0°-40°	2400.6	44.2
0°-60°	4284.0	78.9
0°-90°	5430.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5430.3	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1846	1846	1846	1846	1846	
5°	1915	1883	1840	1795	1786	185
15°	2025	1912	1742	1661	1667	574
25°	2061	1858	1552	1497	1560	951
35°	1967	1721	1311	1309	1431	1228
45°	1710	1496	1044	1090	1274	1316
55°	1316	1188	774	842	1077	1175
65°	866	815	508	577	804	859
75°	448	423	252	301	441	475
85°	99	87	48	64	86	119
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°	1846.1	1846.1	1846.1	1846.1	1846.1	1846.1	1846.1	1846.1	1846.1	1846.1	1846.1
2.5°	1886.8	1878.0	1870.7	1873.5	1875.1	1869.5	1864.6	1865.4	1860.6	1869.9	1848.1
5°	1914.7	1906.6	1898.1	1901.4	1898.1	1889.7	1882.8	1880.8	1867.9	1873.1	1850.9
7.5°	1945.7	1936.9	1924.4	1928.0	1921.1	1905.4	1896.5	1891.3	1871.5	1871.9	1847.3
10°	1975.6	1967.9	1951.0	1953.4	1940.9	1919.9	1905.8	1898.5	1870.7	1866.7	1841.2
12.5°	2003.5	1993.0	1974.8	1976.0	1957.9	1930.0	1911.9	1901.4	1865.0	1852.9	1827.9
15°	2024.8	2014.7	1993.0	1992.6	1969.2	1932.8	1912.3	1897.7	1851.7	1832.8	1806.5
17.5°	2043.0	2033.7	2006.7	2005.9	1977.6	1931.6	1907.0	1888.9	1832.4	1809.0	1779.9
20°	2055.9	2046.6	2016.4	2013.5	1979.6	1925.6	1896.1	1873.1	1806.9	1779.1	1746.8
22.5°	2062.0	2052.7	2018.4	2014.3	1974.8	1913.5	1880.4	1853.3	1777.9	1741.6	1708.1
25°	2060.8	2051.9	2013.1	2009.1	1965.5	1895.3	1858.2	1827.1	1741.2	1698.4	1665.3
27.5°	2050.7	2043.8	2003.0	1997.8	1948.6	1870.7	1831.2	1796.9	1700.4	1652.8	1616.9
30°	2033.3	2028.1	1984.9	1980.0	1927.6	1843.7	1799.7	1760.1	1656.4	1602.8	1566.4
32.5°	2005.5	2000.6	1957.0	1952.6	1899.3	1809.0	1763.0	1722.2	1608.4	1549.1	1512.8
35°	1967.1	1964.3	1921.9	1917.1	1863.0	1769.4	1720.6	1675.8	1558.4	1491.4	1456.7
37.5°	1916.7	1916.7	1875.9	1870.7	1817.8	1721.0	1673.0	1625.4	1501.9	1430.9	1396.6
40°	1858.2	1863.4	1821.9	1816.6	1765.4	1668.9	1616.5	1566.4	1441.0	1367.1	1333.6
42.5°	1788.0	1792.8	1758.1	1753.3	1705.3	1608.8	1560.0	1505.5	1377.2	1302.1	1267.4
45°	1710.5	1717.0	1685.9	1682.3	1637.5	1543.0	1496.2	1441.0	1310.6	1234.4	1200.5
47.5°	1624.1	1632.6	1605.6	1603.6	1562.0	1475.7	1426.8	1370.7	1240.8	1163.7	1131.9
50°	1527.3	1539.4	1517.2	1517.2	1480.1	1394.1	1351.8	1295.7	1168.2	1091.1	1059.6
52.5°	1423.6	1438.9	1422.4	1422.8	1392.5	1315.5	1271.5	1216.6	1092.3	1016.5	987.4
55°	1316.3	1331.2	1320.7	1322.3	1298.5	1228.3	1188.4	1133.9	1014.8	941.0	913.6
57.5°	1204.1	1220.2	1213.4	1216.6	1200.1	1137.1	1095.5	1047.9	934.9	861.9	838.5
60°	1091.5	1106.8	1103.2	1107.6	1097.2	1042.7	1004.8	955.5	854.6	784.4	763.9
62.5°	977.7	991.8	991.0	995.9	990.2	945.0	911.1	869.2	771.5	707.0	688.0
65°	866.3	878.5	877.6	882.9	881.7	845.4	814.7	776.4	688.4	629.1	612.5
67.5°	758.2	768.3	765.5	771.5	773.1	744.1	717.4	683.2	609.3	551.6	537.5
70°	652.5	659.3	655.7	659.7	663.4	641.6	619.0	588.7	525.0	474.1	462.4
72.5°	548.8	553.6	548.0	552.0	555.2	539.5	520.9	494.7	441.8	397.9	388.2
75°	448.3	455.2	443.5	447.5	449.9	434.2	423.3	401.9	356.3	322.4	316.0
77.5°	351.1	355.1	348.6	347.0	348.6	337.3	328.9	312.3	278.0	250.2	246.1
80°	258.2	260.7	254.2	252.6	253.8	245.7	239.3	227.2	203.0	182.0	180.4
82.5°	173.1	174.3	168.7	167.1	167.9	165.4	157.8	149.3	138.0	120.2	119.8
85°	98.9	98.9	94.8	93.2	94.0	90.0	87.2	82.7	78.3	66.2	67.0
87.5°	36.3	36.3	34.3	33.9	37.9	33.5	32.3	30.3	31.5	25.0	26.6
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°	1846.1	1846.1	1846.1	1846.1	1846.1	1846.1	1846.1	1846.1	1846.1	1846.1	1846.1
2.5°	1854.2	1850.1	1846.5	1834.0	1839.2	1826.3	1825.5	1820.7	1817.0	1810.2	1819.0
5°	1848.1	1840.0	1829.5	1814.6	1819.0	1803.7	1800.5	1794.8	1790.0	1781.1	1788.0
7.5°	1838.4	1825.1	1808.6	1789.6	1795.6	1776.7	1771.8	1765.8	1761.7	1751.3	1757.3
10°	1824.3	1805.3	1786.0	1763.0	1767.4	1746.8	1740.8	1734.3	1730.7	1721.4	1727.4
12.5°	1802.5	1779.5	1753.3	1728.3	1733.1	1713.7	1705.7	1698.8	1697.6	1689.9	1697.2
15°	1774.3	1742.4	1715.3	1688.7	1694.4	1671.8	1668.1	1661.3	1663.3	1658.0	1666.9
17.5°	1738.3	1701.6	1672.2	1643.5	1649.2	1630.2	1627.4	1624.1	1626.2	1625.4	1635.0
20°	1698.0	1657.6	1623.7	1595.5	1598.7	1583.8	1585.0	1584.2	1588.2	1592.7	1606.0
22.5°	1652.4	1606.8	1571.3	1542.2	1547.1	1534.2	1539.8	1541.4	1548.3	1558.4	1575.3
25°	1601.1	1552.3	1515.2	1487.8	1492.2	1483.7	1493.4	1497.4	1508.3	1525.3	1542.6
27.5°	1547.5	1495.8	1456.3	1430.1	1438.5	1430.1	1444.6	1452.7	1469.2	1487.8	1509.1
30°	1490.6	1436.9	1396.2	1372.8	1380.8	1373.2	1396.6	1407.5	1424.0	1449.4	1474.8
32.5°	1430.9	1374.4	1334.4	1316.3	1321.9	1320.7	1346.9	1359.0	1381.2	1410.3	1437.3
35°	1369.5	1310.6	1270.3	1254.9	1261.8	1263.4	1294.9	1309.0	1333.2	1368.3	1397.4
37.5°	1306.2	1246.1	1206.5	1194.0	1200.1	1206.1	1242.8	1256.9	1284.4	1322.7	1354.6
40°	1240.4	1180.3	1141.5	1131.5	1137.5	1144.0	1183.9	1203.3	1233.1	1274.7	1309.4
42.5°	1173.8	1113.7	1076.2	1068.9	1075.0	1087.5	1129.8	1148.0	1179.5	1225.5	1263.8
45°	1106.0	1043.5	1010.8	1005.2	1011.6	1026.1	1067.7	1089.5	1123.0	1173.4	1214.6
47.5°	1037.4	976.5	945.4	941.8	948.3	964.4	1010.4	1030.2	1065.7	1119.4	1163.7
50°	968.0	908.7	878.9	877.6	883.7	901.0	945.0	968.4	1005.2	1065.3	1110.9
52.5°	897.8	840.9	813.9	813.9	819.5	837.3	881.7	905.9	943.8	1007.2	1057.6
55°	827.6	773.5	747.7	749.7	757.8	773.1	816.3	841.7	880.1	945.8	999.1
57.5°	757.4	706.2	682.7	685.6	693.2	708.6	750.9	779.6	814.3	882.5	937.0
60°	688.0	639.6	619.0	622.2	629.1	644.4	688.4	713.0	747.7	817.1	871.6
62.5°	617.8	573.8	554.4	558.5	564.5	579.9	621.4	645.2	679.5	747.7	802.6
65°	548.4	507.6	491.1	495.1	500.8	514.9	554.0	577.0	609.7	676.3	728.7
67.5°	479.8	442.7	428.9	433.0	437.4	450.7	483.0	508.0	538.7	602.0	651.7
70°	412.0	378.9	366.8	370.8	374.9	387.0	415.2	438.2	466.5	524.6	570.6
72.5°	345.0	312.7	306.7	310.3	313.5	324.0	351.1	369.2	393.8	445.5	485.0
75°	279.6	251.8	247.8	251.4	254.2	262.3	284.9	300.6	321.2	366.0	398.3
77.5°	216.7	193.3	191.7	194.5	197.3	203.0	220.7	237.3	253.4	286.5	315.1
80°	157.8	138.8	138.8	141.6	140.8	147.7	160.2	173.5	185.2	209.0	230.0
82.5°	104.1	89.2	91.2	93.2	94.4	97.2	104.9	115.0	122.3	136.8	150.5
85°	57.7	47.6	49.6	51.2	50.4	53.7	57.7	63.8	67.4	74.2	81.5
87.5°	21.4	17.8	18.2	19.4	20.2	21.8	21.8	25.4	25.8	26.6	28.2
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°	1846.1	1846.1	1846.1
2.5°	1802.1	1811.8	1819.0
5°	1771.0	1779.1	1785.6
7.5°	1740.8	1748.0	1753.7
10°	1712.1	1720.2	1724.2
12.5°	1682.7	1691.9	1695.2
15°	1653.6	1662.9	1666.9
17.5°	1623.7	1635.8	1640.3
20°	1595.9	1611.2	1614.9
22.5°	1567.7	1583.4	1587.8
25°	1537.0	1555.5	1560.0
27.5°	1504.3	1526.5	1530.9
30°	1471.6	1495.8	1500.3
32.5°	1436.5	1462.7	1466.8
35°	1399.8	1426.0	1430.9
37.5°	1359.0	1387.7	1397.4
40°	1316.7	1347.7	1357.8
42.5°	1272.3	1306.2	1316.7
45°	1224.7	1261.8	1273.9
47.5°	1176.6	1218.6	1229.1
50°	1124.6	1169.4	1181.9
52.5°	1070.1	1118.9	1131.5
55°	1013.6	1062.9	1076.6
57.5°	952.3	1003.1	1017.7
60°	888.1	939.0	952.7
62.5°	822.4	868.4	881.7
65°	748.9	792.1	804.2
67.5°	671.0	710.6	720.7
70°	588.3	622.6	631.5
72.5°	502.0	525.8	537.5
75°	412.8	431.8	440.6
77.5°	323.2	336.5	343.8
80°	235.7	243.3	249.4
82.5°	154.1	157.4	161.8
85°	83.1	83.1	85.9
87.5°	28.2	27.0	28.2
90°	0.0	0.0	0.0

(END OF REPORT)