

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: P834220

Luminaire Tested: **ORLG-12-4-INS-ASY2-LD4-2LO-40-120-EDD**

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P834220
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-40-120-EDD
Description: 1FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

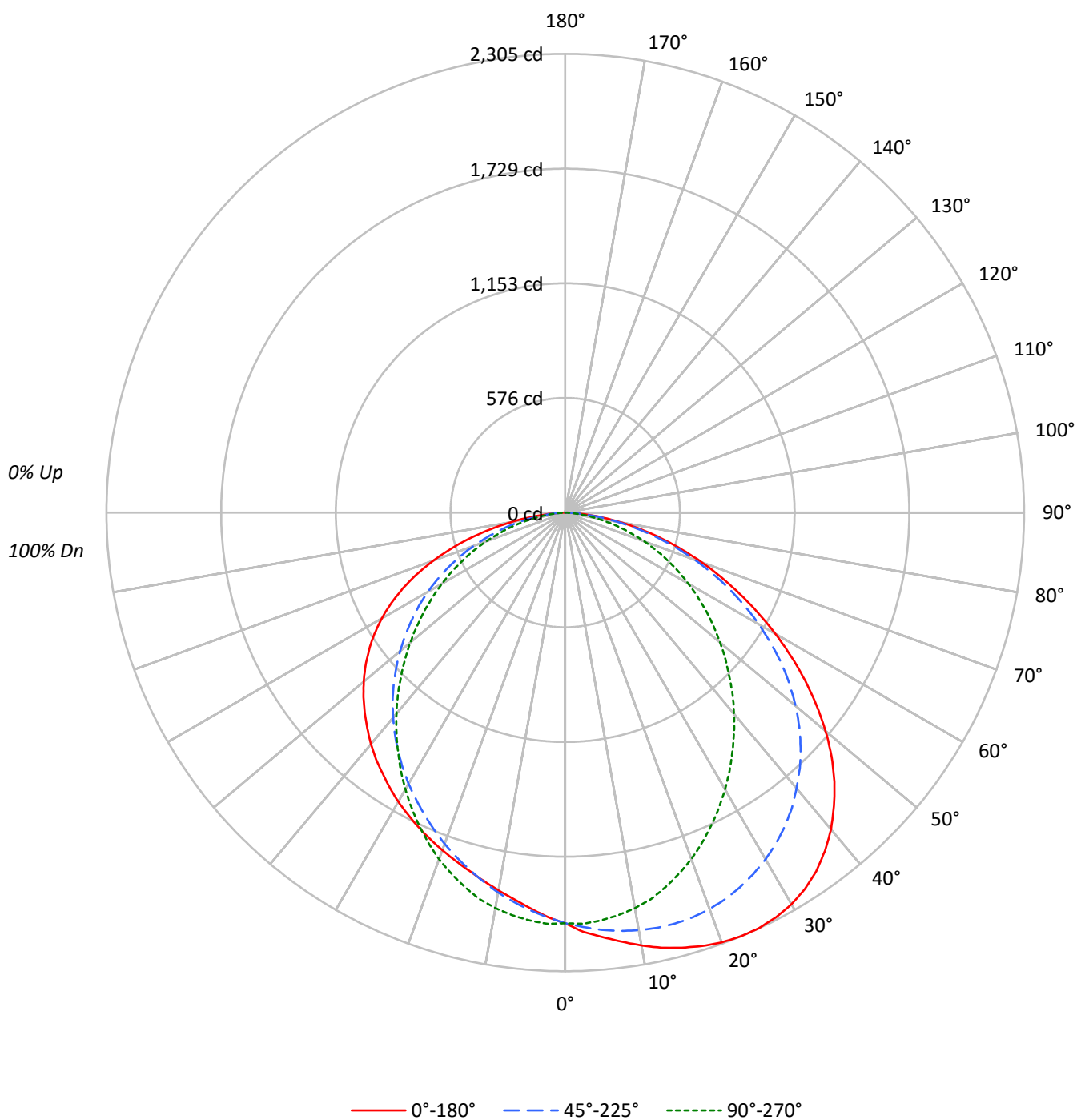
Lumens per Lamp: N/A
Luminaire Lumens: 6070.5 lumens
Efficiency: N/A
Efficacy: 129.7 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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

TEST NUMBER: P834220

CATALOG NUMBER: ORLG-12-4-INS-ASY2-LD4-2LO-40-120-EDD

Luminous Intensity Polar Plot



Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



TEST NUMBER: P834220

CATALOG NUMBER: ORLG-12-4-INS-ASY2-LD4-2LO-40-120-EDD

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°	5553	5553	5553
5°	5782	5556	5392
10°	6035	5515	5267
15°	6306	5426	5191
20°	6582	5307	5170
25°	6840	5152	5178
30°	7063	4991	5211
35°	7224	4813	5255
40°	7297	4635	5332
45°	7277	4439	5420
50°	7148	4253	5531
55°	6904	4057	5646
60°	6567	3848	5732
65°	6167	3613	5724
70°	5739	3333	5555
75°	5211	2927	5122
80°	4474	2405	4320
85°	3412	1643	2967



TEST NUMBER: P834220
 CATALOG NUMBER: ORLG-12-4-INS-ASY2-LD4-2LO-40-120-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	195.7	3.2
10°-20°	565.2	9.3
20°-30°	865.9	14.3
30°-40°	1056.8	17.4
40°-50°	1105.1	18.2
50°-60°	1000.2	16.5
60°-70°	757.5	12.5
70°-80°	422.2	7.0
80°-90°	101.8	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°	1626.9	26.8
0°-40°	2683.7	44.2
0°-60°	4789.0	78.9
0°-90°	6070.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6070.5	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2064	2064	2064	2064	2064	
5°	2140	2105	2057	2006	1996	206
15°	2264	2138	1948	1857	1863	642
25°	2304	2077	1735	1674	1744	1063
35°	2199	1923	1465	1463	1600	1373
45°	1912	1673	1166	1218	1424	1471
55°	1472	1328	865	941	1204	1313
65°	968	911	568	645	899	961
75°	501	473	282	336	493	532
85°	110	97	53	71	96	133
90°	0	0	0	0	0	

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



TEST NUMBER: P834220

CATALOG NUMBER: ORLG-12-4-INS-ASY2-LD4-2LO-40-120-EDD

CANDELA DISTRIBUTION (FULL):

	0°	10°	20°	22.5°	30°	40°	45°	50°	60°	67.5°	70°
0°	2063.7	2063.7	2063.7	2063.7	2063.7	2063.7	2063.7	2063.7	2063.7	2063.7	2063.7
2.5°	2109.3	2099.4	2091.2	2094.4	2096.2	2089.9	2084.5	2085.4	2080.0	2090.3	2066.0
5°	2140.4	2131.4	2121.9	2125.5	2121.9	2112.4	2104.8	2102.5	2088.1	2094.0	2069.1
7.5°	2175.1	2165.2	2151.2	2155.3	2147.6	2130.0	2120.1	2114.3	2092.1	2092.6	2065.1
10°	2208.5	2200.0	2181.0	2183.7	2169.7	2146.3	2130.5	2122.4	2091.2	2086.7	2058.3
12.5°	2239.7	2227.9	2207.6	2209.0	2188.7	2157.6	2137.3	2125.5	2084.9	2071.4	2043.4
15°	2263.6	2252.3	2227.9	2227.5	2201.3	2160.7	2137.7	2121.5	2070.0	2048.8	2019.5
17.5°	2283.9	2273.5	2243.3	2242.4	2210.8	2159.4	2131.8	2111.5	2048.4	2022.2	1989.8
20°	2298.3	2287.9	2254.1	2250.9	2213.0	2152.6	2119.7	2094.0	2020.0	1988.9	1952.8
22.5°	2305.1	2294.7	2256.3	2251.8	2207.6	2139.1	2102.1	2071.9	1987.5	1946.9	1909.5
25°	2303.7	2293.8	2250.5	2246.0	2197.3	2118.8	2077.3	2042.5	1946.4	1898.6	1861.6
27.5°	2292.4	2284.8	2239.2	2233.3	2178.3	2091.2	2047.0	2008.7	1900.9	1847.7	1807.5
30°	2273.0	2267.2	2218.9	2213.5	2154.9	2061.0	2011.9	1967.6	1851.7	1791.7	1751.1
32.5°	2241.9	2236.5	2187.8	2182.8	2123.3	2022.2	1970.8	1925.2	1798.0	1731.7	1691.1
35°	2199.1	2195.9	2148.5	2143.1	2082.7	1978.0	1923.4	1873.4	1742.1	1667.2	1628.4
37.5°	2142.7	2142.7	2097.1	2091.2	2032.2	1923.9	1870.2	1817.0	1679.0	1599.6	1561.2
40°	2077.3	2083.1	2036.7	2030.8	1973.5	1865.7	1807.1	1751.1	1610.8	1528.3	1490.8
42.5°	1998.8	2004.2	1965.4	1960.0	1906.3	1798.5	1743.9	1683.0	1539.6	1455.7	1416.9
45°	1912.2	1919.4	1884.6	1880.6	1830.5	1725.0	1672.6	1610.8	1465.1	1379.9	1342.0
47.5°	1815.6	1825.1	1794.9	1792.6	1746.2	1649.6	1595.0	1532.3	1387.1	1300.9	1265.3
50°	1707.4	1720.9	1696.1	1696.1	1654.6	1558.5	1511.1	1448.4	1305.9	1219.7	1184.6
52.5°	1591.4	1608.6	1590.1	1590.5	1556.7	1470.5	1421.4	1360.0	1221.1	1136.3	1103.8
55°	1471.5	1488.1	1476.4	1478.2	1451.6	1373.1	1328.5	1267.6	1134.5	1051.9	1021.3
57.5°	1346.0	1364.1	1356.4	1360.0	1341.5	1271.2	1224.7	1171.5	1045.2	963.5	937.4
60°	1220.2	1237.3	1233.3	1238.2	1226.5	1165.6	1123.2	1068.2	955.4	876.9	853.9
62.5°	1093.0	1108.8	1107.9	1113.3	1107.0	1056.4	1018.6	971.6	862.5	790.3	769.1
65°	968.5	982.0	981.1	987.0	985.6	945.0	910.7	867.9	769.6	703.2	684.8
67.5°	847.6	858.9	855.7	862.5	864.3	831.8	802.0	763.7	681.1	616.6	600.9
70°	729.4	737.1	733.0	737.5	741.6	717.2	692.0	658.1	586.9	530.0	516.9
72.5°	613.5	618.9	612.6	617.1	620.7	603.1	582.4	553.0	493.9	444.8	433.9
75°	501.2	508.8	495.7	500.3	503.0	485.4	473.2	449.3	398.3	360.4	353.2
77.5°	392.4	397.0	389.7	387.9	389.7	377.1	367.6	349.1	310.8	279.7	275.2
80°	288.7	291.4	284.2	282.4	283.7	274.7	267.5	254.0	226.9	203.4	201.6
82.5°	193.5	194.9	188.6	186.8	187.7	184.9	176.4	166.9	154.3	134.4	134.0
85°	110.5	110.5	106.0	104.2	105.1	100.6	97.4	92.5	87.5	74.0	74.9
87.5°	40.6	40.6	38.3	37.9	42.4	37.4	36.1	33.8	35.2	28.0	29.8
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



TEST NUMBER: P834220

CATALOG NUMBER: ORLG-12-4-INS-ASY2-LD4-2LO-40-120-EDD

CANDELA DISTRIBUTION (continued):

	80°	90°	100°	110°	112.5°	120°	130°	135°	140°	150°	157.5°
0°	2063.7	2063.7	2063.7	2063.7	2063.7	2063.7	2063.7	2063.7	2063.7	2063.7	2063.7
2.5°	2072.8	2068.2	2064.2	2050.2	2056.1	2041.6	2040.7	2035.3	2031.3	2023.6	2033.5
5°	2066.0	2057.0	2045.2	2028.5	2033.5	2016.4	2012.8	2006.4	2001.0	1991.1	1998.8
7.5°	2055.2	2040.3	2021.8	2000.6	2007.3	1986.1	1980.7	1974.0	1969.5	1957.7	1964.5
10°	2039.4	2018.2	1996.5	1970.8	1975.8	1952.8	1946.0	1938.8	1934.7	1924.3	1931.1
12.5°	2015.0	1989.3	1960.0	1932.0	1937.4	1915.8	1906.8	1899.1	1897.7	1889.2	1897.3
15°	1983.4	1947.8	1917.6	1887.8	1894.1	1868.9	1864.8	1857.1	1859.4	1853.5	1863.4
17.5°	1943.3	1902.2	1869.3	1837.3	1843.6	1822.4	1819.2	1815.6	1817.9	1817.0	1827.8
20°	1898.2	1853.1	1815.2	1783.6	1787.2	1770.5	1771.9	1771.0	1775.5	1780.4	1795.3
22.5°	1847.2	1796.2	1756.5	1724.1	1729.5	1715.0	1721.4	1723.2	1730.8	1742.1	1761.1
25°	1789.9	1735.3	1693.8	1663.2	1668.1	1658.7	1669.5	1674.0	1686.2	1705.1	1724.5
27.5°	1729.9	1672.2	1628.0	1598.7	1608.1	1598.7	1614.9	1623.9	1642.4	1663.2	1687.1
30°	1666.3	1606.3	1560.8	1534.6	1543.6	1535.1	1561.2	1573.4	1591.9	1620.3	1648.7
32.5°	1599.6	1536.4	1491.8	1471.5	1477.8	1476.4	1505.7	1519.3	1544.1	1576.6	1606.8
35°	1531.0	1465.1	1420.0	1402.9	1410.6	1412.4	1447.5	1463.3	1490.4	1529.6	1562.1
37.5°	1460.2	1393.0	1348.8	1334.8	1341.5	1348.3	1389.4	1405.1	1435.8	1478.7	1514.3
40°	1386.6	1319.4	1276.1	1264.9	1271.6	1278.8	1323.5	1345.1	1378.5	1425.0	1463.8
42.5°	1312.2	1245.0	1203.1	1194.9	1201.7	1215.7	1263.0	1283.3	1318.5	1370.0	1412.8
45°	1236.4	1166.5	1130.0	1123.7	1130.9	1147.1	1193.6	1217.9	1255.4	1311.8	1357.8
47.5°	1159.7	1091.6	1056.9	1052.8	1060.1	1078.1	1129.5	1151.6	1191.3	1251.3	1300.9
50°	1082.2	1015.9	982.5	981.1	987.9	1007.3	1056.4	1082.6	1123.7	1190.9	1241.8
52.5°	1003.7	940.1	909.8	909.8	916.2	936.0	985.6	1012.7	1055.1	1125.9	1182.3
55°	925.2	864.7	835.9	838.1	847.1	864.3	912.6	941.0	983.8	1057.4	1116.9
57.5°	846.7	789.4	763.2	766.4	775.0	792.1	839.5	871.5	910.3	986.5	1047.4
60°	769.1	715.0	692.0	695.6	703.2	720.4	769.6	797.1	835.9	913.5	974.4
62.5°	690.6	641.4	619.8	624.3	631.1	648.2	694.7	721.3	759.6	835.9	897.2
65°	613.0	567.5	549.0	553.5	559.8	575.6	619.3	645.1	681.6	756.0	814.7
67.5°	536.3	494.8	479.5	484.0	489.0	503.9	540.0	567.9	602.2	673.0	728.5
70°	460.6	423.6	410.0	414.6	419.1	432.6	464.2	489.9	521.5	586.4	637.8
72.5°	385.7	349.6	342.8	346.9	350.5	362.2	392.4	412.7	440.3	498.0	542.2
75°	312.6	281.5	277.0	281.0	284.2	293.2	318.5	336.1	359.1	409.1	445.2
77.5°	242.2	216.1	214.3	217.4	220.6	226.9	246.7	265.2	283.3	320.3	352.3
80°	176.4	155.2	155.2	158.3	157.4	165.1	179.1	194.0	207.0	233.7	257.1
82.5°	116.4	99.7	101.9	104.2	105.6	108.7	117.3	128.6	136.7	152.9	168.3
85°	64.5	53.2	55.5	57.3	56.4	60.0	64.5	71.3	75.3	83.0	91.1
87.5°	23.9	19.8	20.3	21.7	22.6	24.4	24.4	28.4	28.9	29.8	31.6
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



TEST NUMBER: P834220

CATALOG NUMBER: ORLG-12-4-INS-ASY2-LD4-2LO-40-120-EDD

CANDELA DISTRIBUTION (continued):

	160°	170°	180°
0°	2063.7	2063.7	2063.7
2.5°	2014.6	2025.4	2033.5
5°	1979.8	1988.9	1996.1
7.5°	1946.0	1954.1	1960.4
10°	1914.0	1923.0	1927.5
12.5°	1881.0	1891.4	1895.0
15°	1848.6	1858.9	1863.4
17.5°	1815.2	1828.7	1833.7
20°	1784.1	1801.2	1805.3
22.5°	1752.5	1770.1	1775.0
25°	1718.2	1738.9	1743.9
27.5°	1681.7	1706.5	1711.4
30°	1645.1	1672.2	1677.1
32.5°	1605.9	1635.2	1639.7
35°	1564.8	1594.1	1599.6
37.5°	1519.3	1551.3	1562.1
40°	1471.9	1506.6	1517.9
42.5°	1422.3	1460.2	1471.9
45°	1369.1	1410.6	1424.1
47.5°	1315.4	1362.3	1374.0
50°	1257.2	1307.3	1321.2
52.5°	1196.3	1250.9	1264.9
55°	1133.1	1188.2	1203.5
57.5°	1064.6	1121.4	1137.6
60°	992.8	1049.7	1065.0
62.5°	919.3	970.7	985.6
65°	837.2	885.5	899.0
67.5°	750.2	794.4	805.6
70°	657.7	696.0	706.0
72.5°	561.2	587.8	600.9
75°	461.5	482.7	492.6
77.5°	361.3	376.2	384.3
80°	263.4	272.0	278.8
82.5°	172.3	175.9	180.9
85°	92.9	92.9	96.1
87.5°	31.6	30.2	31.6
90°	0.0	0.0	0.0

(END OF REPORT)