

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: P835233

Luminaire Tested: **ORLG-24-2-INS-ASY2-LD4-3HI-40-120-EDD**

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P835233
Test Lab: INNOVATION CENTER(G2)
Issue Date: 5/16/2024
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: ORLG-24-2-INS-ASY2-LD4-3HI-40-120-EDD
Description: 2FT x 2FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

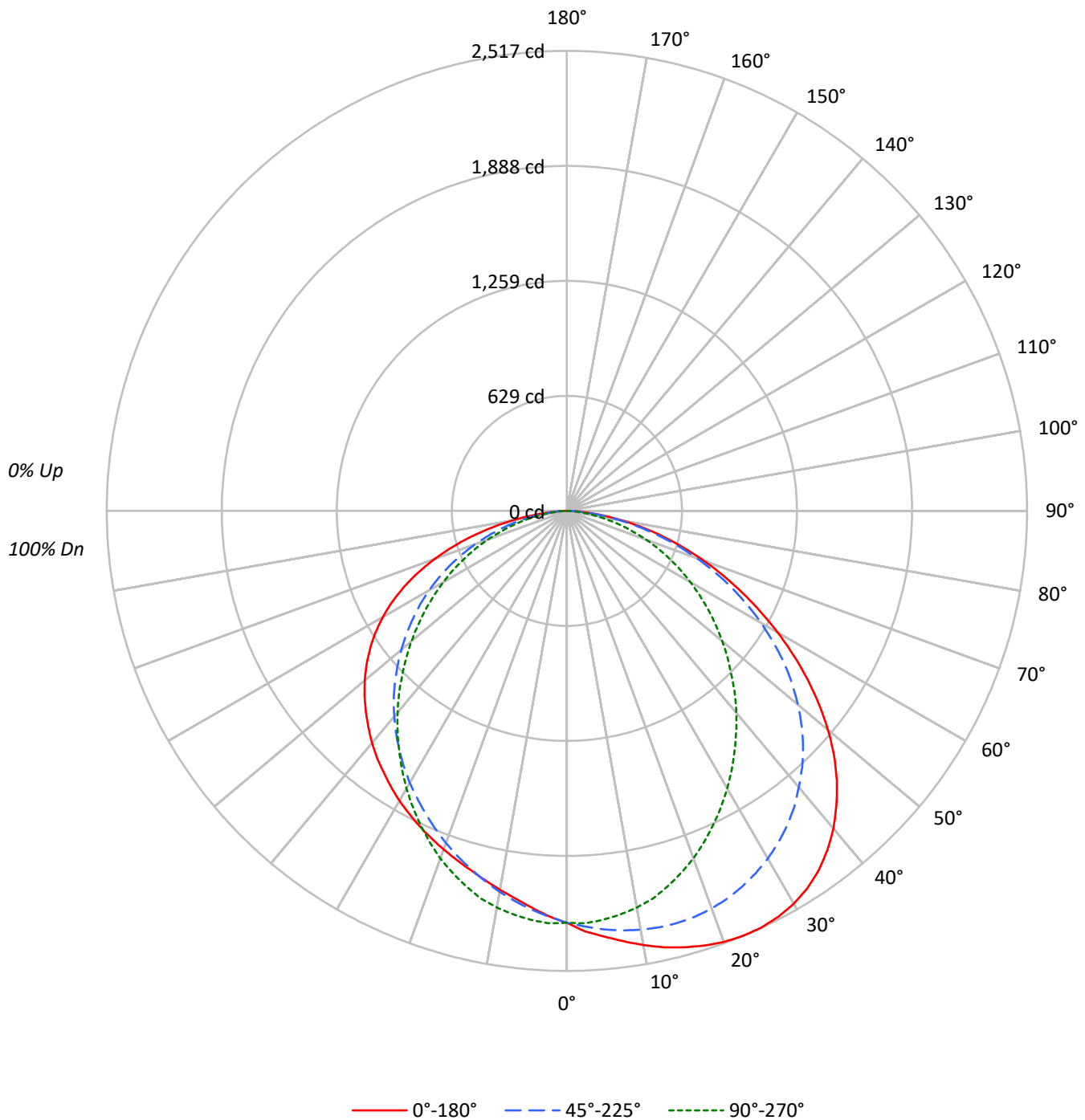
Lumens per Lamp: N/A
Luminaire Lumens: 6628.8 lumens
Efficiency: N/A
Efficacy: 100.4 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

Input Watts (W): 66
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: P835233

CATALOG NUMBER: ORLG-24-2-INS-ASY2-LD4-3HI-40-120-EDD

Luminous Intensity Polar Plot



Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



TEST NUMBER: P835233

CATALOG NUMBER: ORLG-24-2-INS-ASY2-LD4-3HI-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
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°	6064	6064	6064
5°	6314	6067	5888
10°	6590	6022	5751
15°	6886	5925	5669
20°	7187	5795	5645
25°	7469	5626	5654
30°	7713	5450	5691
35°	7888	5256	5738
40°	7968	5061	5823
45°	7946	4848	5918
50°	7805	4644	6040
55°	7538	4430	6166
60°	7171	4202	6259
65°	6734	3946	6251
70°	6267	3639	6065
75°	5689	3196	5593
80°	4885	2625	4717
85°	3727	1794	3239



TEST NUMBER: P835233
CATALOG NUMBER: ORLG-24-2-INS-ASY2-LD4-3HI-40-120-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	213.7	3.2
10°-20°	617.2	9.3
20°-30°	945.6	14.3
30°-40°	1154.0	17.4
40°-50°	1206.8	18.2
50°-60°	1092.2	16.5
60°-70°	827.2	12.5
70°-80°	461.0	7.0
80°-90°	111.2	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°	1776.5	26.8
0°-40°	2930.5	44.2
0°-60°	5229.5	78.9
0°-90°	6628.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6628.8	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2254	2254	2254	2254	2254	
5°	2337	2298	2246	2191	2180	225
15°	2472	2334	2127	2028	2035	701
25°	2516	2268	1895	1828	1904	1160
35°	2401	2100	1600	1598	1747	1499
45°	2088	1826	1274	1330	1555	1607
55°	1607	1451	944	1028	1314	1434
65°	1058	994	620	704	982	1049
75°	547	517	307	367	538	580
85°	121	106	58	78	105	145
90°	0	0	0	0	0	

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



TEST NUMBER: P835233

CATALOG NUMBER: ORLG-24-2-INS-ASY2-LD4-3HI-40-120-EDD

CANDELA DISTRIBUTION (FULL):

	0°	10°	20°	22.5°	30°	40°	45°	50°	60°	67.5°	70°
0°	2253.5	2253.5	2253.5	2253.5	2253.5	2253.5	2253.5	2253.5	2253.5	2253.5	2253.5
2.5°	2303.3	2292.4	2283.6	2287.0	2289.0	2282.1	2276.2	2277.2	2271.3	2282.6	2256.0
5°	2337.3	2327.4	2317.1	2321.0	2317.1	2306.7	2298.3	2295.9	2280.1	2286.5	2259.4
7.5°	2375.2	2364.4	2349.1	2353.5	2345.1	2325.9	2315.1	2308.7	2284.6	2285.0	2255.0
10°	2411.6	2402.3	2381.6	2384.5	2369.3	2343.7	2326.4	2317.6	2283.6	2278.6	2247.6
12.5°	2445.6	2432.8	2410.7	2412.1	2390.0	2356.0	2333.8	2321.0	2276.7	2261.9	2231.4
15°	2471.7	2459.4	2432.8	2432.3	2403.8	2359.4	2334.3	2316.6	2260.4	2237.3	2205.3
17.5°	2493.9	2482.6	2449.6	2448.6	2414.1	2357.9	2327.9	2305.7	2236.8	2208.2	2172.7
20°	2509.7	2498.3	2461.4	2457.9	2416.6	2350.6	2314.6	2286.5	2205.7	2171.8	2132.3
22.5°	2517.0	2505.7	2463.9	2458.9	2410.7	2335.8	2295.4	2262.4	2170.3	2125.9	2085.1
25°	2515.6	2504.7	2457.4	2452.5	2399.3	2313.6	2268.3	2230.4	2125.5	2073.2	2032.8
27.5°	2503.3	2494.9	2445.1	2438.7	2378.6	2283.6	2235.3	2193.4	2075.7	2017.6	1973.7
30°	2482.1	2475.7	2423.0	2417.1	2353.0	2250.6	2196.9	2148.6	2022.0	1956.5	1912.2
32.5°	2448.1	2442.2	2389.0	2383.6	2318.5	2208.2	2152.1	2102.3	1963.4	1891.0	1846.7
35°	2401.3	2397.8	2346.1	2340.2	2274.2	2159.9	2100.3	2045.7	1902.3	1820.6	1778.2
37.5°	2339.7	2339.7	2290.0	2283.6	2219.0	2100.8	2042.2	1984.1	1833.4	1746.7	1704.8
40°	2268.3	2274.7	2224.0	2217.6	2155.0	2037.3	1973.2	1912.2	1759.0	1668.8	1628.0
42.5°	2182.6	2188.5	2146.1	2140.2	2081.6	1963.9	1904.3	1837.8	1681.2	1589.5	1547.2
45°	2088.0	2095.9	2058.0	2053.5	1998.9	1883.6	1826.5	1759.0	1599.9	1506.8	1465.4
47.5°	1982.6	1993.0	1959.9	1957.5	1906.8	1801.3	1741.7	1673.3	1514.7	1420.6	1381.7
50°	1864.4	1879.2	1852.1	1852.1	1806.8	1701.8	1650.1	1581.7	1426.0	1331.9	1293.5
52.5°	1737.8	1756.5	1736.3	1736.8	1699.9	1605.8	1552.1	1485.1	1333.4	1240.8	1205.3
55°	1606.8	1625.0	1612.2	1614.2	1585.1	1499.4	1450.6	1384.1	1238.8	1148.7	1115.2
57.5°	1469.8	1489.5	1481.2	1485.1	1464.9	1388.1	1337.3	1279.2	1141.3	1052.1	1023.6
60°	1332.4	1351.1	1346.7	1352.1	1339.3	1272.8	1226.5	1166.4	1043.3	957.6	932.4
62.5°	1193.5	1210.7	1209.8	1215.7	1208.8	1153.6	1112.2	1061.0	941.8	863.0	839.8
65°	1057.6	1072.3	1071.3	1077.8	1076.3	1031.9	994.5	947.7	840.3	767.9	747.7
67.5°	925.5	937.9	934.4	941.8	943.8	908.3	875.8	833.9	743.8	673.3	656.1
70°	796.5	804.9	800.4	805.4	809.8	783.2	755.6	718.7	640.8	578.8	564.5
72.5°	669.9	675.8	668.9	673.8	677.8	658.6	635.9	603.9	539.4	485.7	473.9
75°	547.2	555.6	541.3	546.3	549.2	530.0	516.7	490.6	434.9	393.6	385.7
77.5°	428.5	433.5	425.6	423.6	425.6	411.8	401.4	381.3	339.4	305.4	300.5
80°	315.2	318.2	310.3	308.4	309.8	300.0	292.1	277.3	247.8	222.2	220.2
82.5°	211.3	212.8	205.9	203.9	204.9	202.0	192.6	182.3	168.5	146.8	146.3
85°	120.7	120.7	115.8	113.8	114.8	109.8	106.4	101.0	95.6	80.8	81.8
87.5°	44.3	44.3	41.9	41.4	46.3	40.9	39.4	36.9	38.4	30.5	32.5
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: P835233

CATALOG NUMBER: ORLG-24-2-INS-ASY2-LD4-3HI-40-120-EDD

CANDELA DISTRIBUTION (continued):

	80°	90°	100°	110°	112.5°	120°	130°	135°	140°	150°	157.5°
0°	2253.5	2253.5	2253.5	2253.5	2253.5	2253.5	2253.5	2253.5	2253.5	2253.5	2253.5
2.5°	2263.4	2258.4	2254.0	2238.7	2245.1	2229.4	2228.4	2222.5	2218.1	2209.7	2220.5
5°	2256.0	2246.1	2233.3	2215.1	2220.5	2201.8	2197.9	2191.0	2185.1	2174.2	2182.6
7.5°	2244.2	2227.9	2207.7	2184.6	2192.0	2168.8	2162.9	2155.5	2150.6	2137.8	2145.2
10°	2226.9	2203.8	2180.1	2152.1	2157.5	2132.3	2125.0	2117.1	2112.6	2101.3	2108.7
12.5°	2200.3	2172.2	2140.2	2109.7	2115.6	2092.0	2082.1	2073.7	2072.3	2062.9	2071.8
15°	2165.8	2126.9	2093.9	2061.4	2068.3	2040.7	2036.3	2027.9	2030.4	2024.0	2034.8
17.5°	2122.0	2077.2	2041.2	2006.3	2013.1	1990.0	1986.5	1982.6	1985.1	1984.1	1995.9
20°	2072.7	2023.5	1982.1	1947.6	1951.6	1933.3	1934.8	1933.8	1938.8	1944.2	1960.4
22.5°	2017.1	1961.4	1918.1	1882.6	1888.5	1872.8	1879.7	1881.6	1890.0	1902.3	1923.0
25°	1954.5	1894.9	1849.6	1816.1	1821.5	1811.2	1823.0	1827.9	1841.2	1861.9	1883.1
27.5°	1889.0	1826.0	1777.7	1745.7	1756.0	1745.7	1763.4	1773.3	1793.5	1816.1	1842.2
30°	1819.6	1754.1	1704.3	1675.7	1685.6	1676.2	1704.8	1718.1	1738.3	1769.3	1800.4
32.5°	1746.7	1677.7	1628.9	1606.8	1613.7	1612.2	1644.2	1659.0	1686.1	1721.5	1754.5
35°	1671.8	1599.9	1550.6	1531.9	1540.3	1542.2	1580.7	1597.9	1627.5	1670.3	1705.8
37.5°	1594.5	1521.1	1472.8	1457.5	1464.9	1472.3	1517.1	1534.4	1567.9	1614.7	1653.6
40°	1514.2	1440.8	1393.5	1381.2	1388.6	1396.4	1445.2	1468.9	1505.3	1556.0	1598.4
42.5°	1432.9	1359.5	1313.7	1304.8	1312.2	1327.5	1379.2	1401.4	1439.8	1495.9	1542.7
45°	1350.1	1273.8	1233.9	1227.0	1234.9	1252.6	1303.3	1329.9	1370.8	1432.4	1482.6
47.5°	1266.4	1192.0	1154.1	1149.7	1157.5	1177.2	1233.4	1257.5	1300.9	1366.4	1420.6
50°	1181.7	1109.3	1072.8	1071.3	1078.7	1099.9	1153.6	1182.2	1227.0	1300.4	1356.1
52.5°	1096.0	1026.5	993.5	993.5	1000.4	1022.1	1076.3	1105.8	1152.1	1229.5	1291.0
55°	1010.3	944.3	912.7	915.2	925.1	943.8	996.5	1027.5	1074.3	1154.6	1219.6
57.5°	924.6	862.0	833.4	836.9	846.2	865.0	916.7	951.7	994.0	1077.3	1143.8
60°	839.8	780.7	755.6	759.5	767.9	786.6	840.3	870.4	912.7	997.5	1064.0
62.5°	754.1	700.4	676.8	681.7	689.1	707.8	758.6	787.6	829.5	912.7	979.7
65°	669.4	619.7	599.5	604.4	611.3	628.5	676.3	704.4	744.3	825.6	889.6
67.5°	585.7	540.4	523.6	528.5	533.9	550.2	589.6	620.1	657.6	734.9	795.5
70°	502.9	462.5	447.7	452.7	457.6	472.4	506.9	534.9	569.4	640.3	696.5
72.5°	421.2	381.7	374.4	378.8	382.7	395.5	428.5	450.7	480.8	543.8	592.1
75°	341.4	307.4	302.4	306.9	310.3	320.2	347.8	367.0	392.1	446.8	486.2
77.5°	264.5	235.9	234.0	237.4	240.9	247.8	269.4	289.6	309.3	349.7	384.7
80°	192.6	169.4	169.4	172.9	171.9	180.3	195.6	211.8	226.1	255.2	280.8
82.5°	127.1	108.9	111.3	113.8	115.3	118.7	128.1	140.4	149.2	167.0	183.7
85°	70.4	58.1	60.6	62.6	61.6	65.5	70.4	77.8	82.3	90.6	99.5
87.5°	26.1	21.7	22.2	23.6	24.6	26.6	26.6	31.0	31.5	32.5	34.5
90°	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

TEST NUMBER: P835233

CATALOG NUMBER: ORLG-24-2-INS-ASY2-LD4-3HI-40-120-EDD

CANDELA DISTRIBUTION (continued):

	160°	170°	180°
0°	2253.5	2253.5	2253.5
2.5°	2199.8	2211.7	2220.5
5°	2161.9	2171.8	2179.6
7.5°	2125.0	2133.8	2140.7
10°	2090.0	2099.8	2104.8
12.5°	2054.0	2065.4	2069.3
15°	2018.6	2029.9	2034.8
17.5°	1982.1	1996.9	2002.3
20°	1948.1	1966.8	1971.3
22.5°	1913.6	1932.9	1938.3
25°	1876.2	1898.9	1904.3
27.5°	1836.3	1863.4	1868.8
30°	1796.4	1826.0	1831.4
32.5°	1753.6	1785.6	1790.5
35°	1708.7	1740.8	1746.7
37.5°	1659.0	1694.0	1705.8
40°	1607.3	1645.2	1657.5
42.5°	1553.1	1594.5	1607.3
45°	1495.0	1540.3	1555.1
47.5°	1436.3	1487.6	1500.4
50°	1372.8	1427.5	1442.7
52.5°	1306.3	1365.9	1381.2
55°	1237.3	1297.4	1314.2
57.5°	1162.5	1224.5	1242.3
60°	1084.2	1146.2	1163.0
62.5°	1003.9	1060.0	1076.3
65°	914.2	966.9	981.7
67.5°	819.1	867.4	879.7
70°	718.2	760.0	770.9
72.5°	612.8	641.8	656.1
75°	503.9	527.1	537.9
77.5°	394.6	410.8	419.7
80°	287.7	297.0	304.4
82.5°	188.2	192.1	197.5
85°	101.5	101.5	104.9
87.5°	34.5	33.0	34.5
90°	0.0	0.0	0.0

(END OF REPORT)