

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: P834580

Luminaire Tested: **ORLG-24-4-INS-ASY2-LD4-2LO-40-120-EDD**

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P834580
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-40-120-EDD
Description: 2FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 4000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

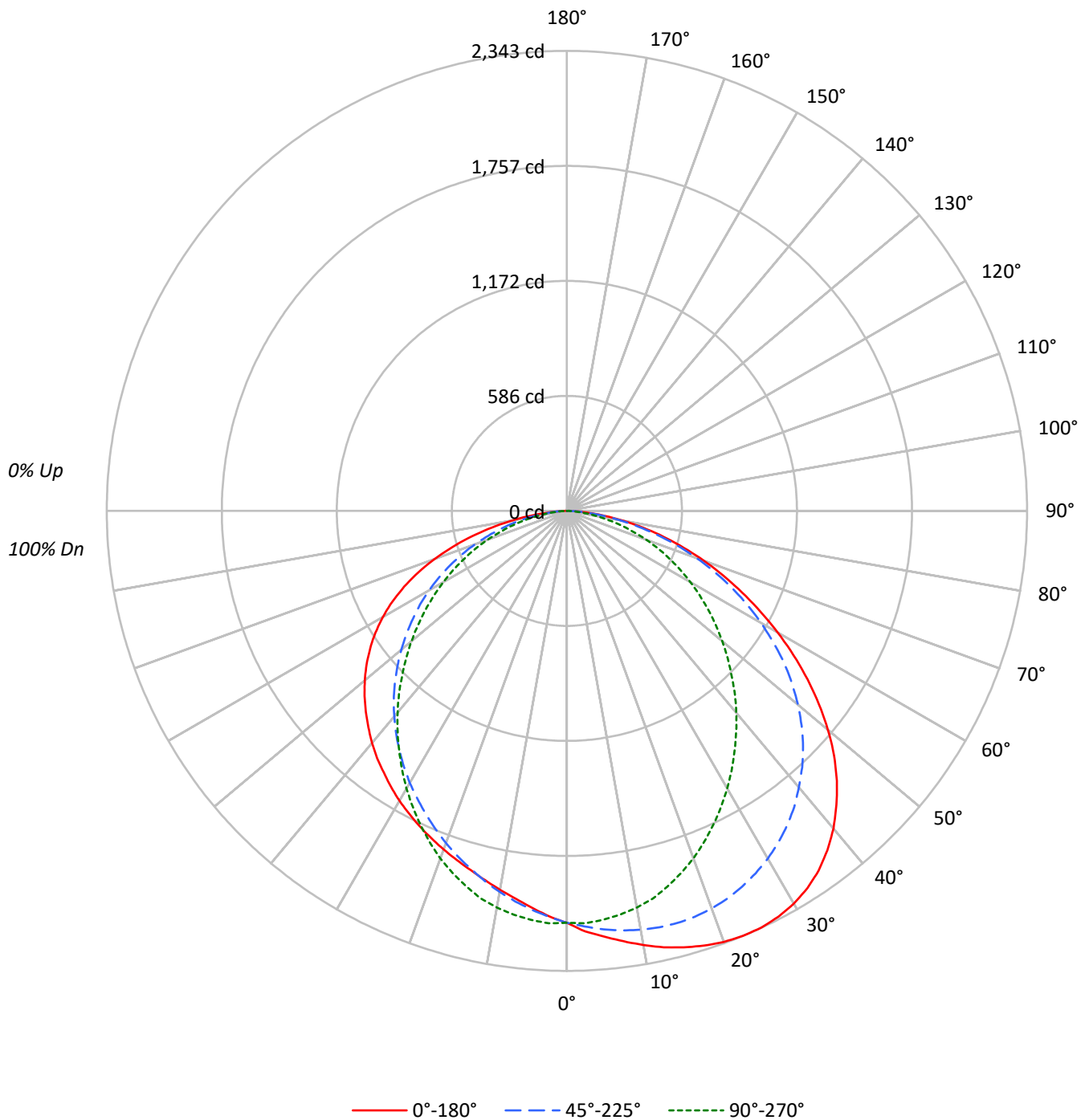
Lumens per Lamp: N/A
Luminaire Lumens: 6170.8 lumens
Efficiency: N/A
Efficacy: 131.9 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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

TEST NUMBER: P834580

CATALOG NUMBER: ORLG-24-4-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: P834580

CATALOG NUMBER: ORLG-24-4-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°	2823	2823	2823
5°	2939	2824	2740
10°	3067	2803	2677
15°	3205	2758	2639
20°	3345	2697	2628
25°	3477	2619	2632
30°	3590	2537	2649
35°	3672	2446	2671
40°	3709	2356	2710
45°	3698	2256	2755
50°	3633	2161	2811
55°	3509	2062	2870
60°	3338	1956	2913
65°	3134	1836	2910
70°	2917	1694	2823
75°	2648	1487	2603
80°	2274	1222	2196
85°	1734	835	1508



TEST NUMBER: P834580

CATALOG NUMBER: ORLG-24-4-INS-ASY2-LD4-2LO-40-120-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	199.0	3.2
10°-20°	574.6	9.3
20°-30°	880.2	14.3
30°-40°	1074.2	17.4
40°-50°	1123.4	18.2
50°-60°	1016.7	16.5
60°-70°	770.0	12.5
70°-80°	429.1	7.0
80°-90°	103.5	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°	1653.8	26.8
0°-40°	2728.0	44.2
0°-60°	4868.1	78.9
0°-90°	6170.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6170.8	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2098	2098	2098	2098	2098	
5°	2176	2140	2091	2040	2029	210
15°	2301	2173	1980	1888	1894	653
25°	2342	2112	1764	1702	1773	1080
35°	2235	1955	1489	1488	1626	1396
45°	1944	1700	1186	1238	1448	1496
55°	1496	1350	879	956	1223	1335
65°	984	926	577	656	914	977
75°	509	481	286	342	501	540
85°	112	99	54	72	98	135
90°	0	0	0	0	0	

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



TEST NUMBER: P834580

CATALOG NUMBER: ORLG-24-4-INS-ASY2-LD4-2LO-40-120-EDD

CANDELA DISTRIBUTION (FULL):

	0°	10°	20°	22.5°	30°	40°	45°	50°	60°	67.5°	70°
0°	2097.8	2097.8	2097.8	2097.8	2097.8	2097.8	2097.8	2097.8	2097.8	2097.8	2097.8
2.5°	2144.1	2134.0	2125.8	2129.0	2130.8	2124.4	2118.9	2119.8	2114.3	2124.9	2100.1
5°	2175.8	2166.6	2157.0	2160.6	2157.0	2147.3	2139.5	2137.3	2122.6	2128.5	2103.3
7.5°	2211.1	2201.0	2186.8	2190.9	2183.1	2165.2	2155.1	2149.2	2126.7	2127.2	2099.2
10°	2245.0	2236.3	2217.0	2219.8	2205.6	2181.7	2165.7	2157.4	2125.8	2121.2	2092.3
12.5°	2276.6	2264.7	2244.1	2245.5	2224.8	2193.2	2172.6	2160.6	2119.4	2105.6	2077.2
15°	2301.0	2289.5	2264.7	2264.3	2237.7	2196.4	2173.0	2156.5	2104.2	2082.7	2052.9
17.5°	2321.6	2311.0	2280.3	2279.4	2247.3	2195.0	2167.1	2146.4	2082.2	2055.6	2022.6
20°	2336.3	2325.7	2291.3	2288.1	2249.6	2188.2	2154.7	2128.5	2053.3	2021.7	1985.0
22.5°	2343.1	2332.6	2293.6	2289.0	2244.1	2174.4	2136.8	2106.1	2020.3	1979.1	1941.0
25°	2341.8	2331.7	2287.7	2283.1	2233.5	2153.8	2111.6	2076.3	1978.6	1930.0	1892.4
27.5°	2330.3	2322.5	2276.2	2270.2	2214.3	2125.8	2080.9	2041.9	1932.3	1878.2	1837.4
30°	2310.6	2304.6	2255.6	2250.1	2190.4	2095.1	2045.1	2000.1	1882.3	1821.3	1780.1
32.5°	2278.9	2273.4	2223.9	2218.9	2158.3	2055.6	2003.4	1957.0	1827.7	1760.3	1719.1
35°	2235.4	2232.2	2184.0	2178.5	2117.1	2010.7	1955.2	1904.3	1770.9	1694.8	1655.3
37.5°	2178.1	2178.1	2131.8	2125.8	2065.7	1955.7	1901.1	1847.0	1706.7	1626.0	1587.0
40°	2111.6	2117.5	2070.3	2064.3	2006.1	1896.5	1836.9	1780.1	1637.4	1553.5	1515.5
42.5°	2031.8	2037.3	1997.9	1992.4	1937.8	1828.2	1772.7	1710.8	1565.0	1479.7	1440.3
45°	1943.7	1951.1	1915.8	1911.7	1860.8	1753.5	1700.3	1637.4	1489.3	1402.7	1364.2
47.5°	1845.6	1855.3	1824.5	1822.2	1775.0	1676.9	1621.4	1557.7	1410.0	1322.4	1286.2
50°	1735.6	1749.3	1724.1	1724.1	1681.9	1584.3	1536.1	1472.4	1327.5	1239.9	1204.1
52.5°	1617.7	1635.2	1616.4	1616.8	1582.4	1494.8	1444.9	1382.5	1241.3	1155.1	1122.0
55°	1495.8	1512.7	1500.8	1502.6	1475.6	1395.8	1350.4	1288.5	1153.2	1069.3	1038.1
57.5°	1368.3	1386.6	1378.8	1382.5	1363.7	1292.2	1244.9	1190.8	1062.4	979.4	952.8
60°	1240.3	1257.8	1253.6	1258.7	1246.8	1184.9	1141.8	1085.8	971.2	891.4	868.0
62.5°	1111.0	1127.1	1126.2	1131.7	1125.3	1073.9	1035.4	987.7	876.7	803.4	781.8
65°	984.5	998.2	997.3	1003.3	1001.9	960.6	925.8	882.2	782.3	714.9	696.1
67.5°	861.6	873.1	869.8	876.7	878.6	845.5	815.3	776.3	692.4	626.8	610.8
70°	741.5	749.3	745.1	749.7	753.8	729.1	703.4	669.0	596.6	538.8	525.5
72.5°	623.6	629.1	622.7	627.3	631.0	613.1	592.0	562.2	502.1	452.1	441.1
75°	509.4	517.2	503.9	508.5	511.3	493.4	481.0	456.7	404.9	366.4	359.0
77.5°	398.9	403.5	396.2	394.3	396.2	383.3	373.7	354.9	315.9	284.3	279.7
80°	293.5	296.2	288.9	287.0	288.4	279.3	271.9	258.2	230.6	206.8	205.0
82.5°	196.7	198.1	191.7	189.8	190.8	188.0	179.3	169.7	156.8	136.6	136.2
85°	112.3	112.3	107.8	105.9	106.8	102.3	99.0	94.0	89.0	75.2	76.1
87.5°	41.3	41.3	39.0	38.5	43.1	38.1	36.7	34.4	35.8	28.4	30.3
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: P834580

CATALOG NUMBER: ORLG-24-4-INS-ASY2-LD4-2LO-40-120-EDD

CANDELA DISTRIBUTION (continued):

	80°	90°	100°	110°	112.5°	120°	130°	135°	140°	150°	157.5°
0°	2097.8	2097.8	2097.8	2097.8	2097.8	2097.8	2097.8	2097.8	2097.8	2097.8	2097.8
2.5°	2107.0	2102.4	2098.3	2084.1	2090.0	2075.3	2074.4	2068.9	2064.8	2057.0	2067.1
5°	2100.1	2090.9	2079.0	2062.1	2067.1	2049.7	2046.0	2039.6	2034.1	2024.0	2031.8
7.5°	2089.1	2074.0	2055.2	2033.6	2040.5	2018.9	2013.4	2006.6	2002.0	1990.1	1996.9
10°	2073.1	2051.5	2029.5	2003.4	2008.4	1985.0	1978.1	1970.8	1966.7	1956.1	1963.0
12.5°	2048.3	2022.2	1992.4	1963.9	1969.4	1947.4	1938.2	1930.5	1929.1	1920.4	1928.6
15°	2016.2	1980.0	1949.3	1919.0	1925.4	1899.7	1895.6	1887.8	1890.1	1884.1	1894.2
17.5°	1975.4	1933.7	1900.2	1867.6	1874.1	1852.5	1849.3	1845.6	1847.9	1847.0	1858.0
20°	1929.5	1883.7	1845.2	1813.1	1816.7	1799.8	1801.1	1800.2	1804.8	1809.9	1825.0
22.5°	1877.7	1825.9	1785.6	1752.5	1758.0	1743.4	1749.8	1751.6	1759.4	1770.9	1790.1
25°	1819.5	1764.0	1721.8	1690.6	1695.7	1686.0	1697.1	1701.6	1714.0	1733.3	1753.0
27.5°	1758.5	1699.8	1654.9	1625.1	1634.7	1625.1	1641.6	1650.7	1669.5	1690.6	1714.9
30°	1693.8	1632.9	1586.5	1560.0	1569.1	1560.4	1587.0	1599.4	1618.2	1647.1	1676.0
32.5°	1626.0	1561.8	1516.4	1495.8	1502.2	1500.8	1530.6	1544.4	1569.6	1602.6	1633.3
35°	1556.3	1489.3	1443.5	1426.1	1433.9	1435.7	1471.5	1487.5	1515.0	1554.9	1587.9
37.5°	1484.3	1416.0	1371.0	1356.8	1363.7	1370.6	1412.3	1428.4	1459.5	1503.1	1539.3
40°	1409.6	1341.2	1297.2	1285.7	1292.6	1300.0	1345.4	1367.4	1401.3	1448.5	1488.0
42.5°	1333.9	1265.6	1222.9	1214.7	1221.5	1235.8	1283.9	1304.5	1340.3	1392.6	1436.1
45°	1256.9	1185.8	1148.6	1142.2	1149.6	1166.1	1213.3	1238.1	1276.1	1333.4	1380.2
47.5°	1178.9	1109.7	1074.4	1070.2	1077.6	1095.9	1148.2	1170.7	1211.0	1272.0	1322.4
50°	1100.0	1032.6	998.7	997.3	1004.2	1023.9	1073.9	1100.5	1142.2	1210.5	1262.4
52.5°	1020.3	955.6	924.9	924.9	931.3	951.5	1001.9	1029.4	1072.5	1144.5	1201.8
55°	940.5	879.0	849.7	852.0	861.1	878.6	927.6	956.5	1000.1	1074.8	1135.3
57.5°	860.7	802.4	775.8	779.1	787.8	805.2	853.3	885.9	925.3	1002.8	1064.7
60°	781.8	726.8	703.4	707.1	714.9	732.3	782.3	810.2	849.7	928.5	990.4
62.5°	702.0	652.0	630.0	634.6	641.5	658.9	706.2	733.2	772.2	849.7	912.0
65°	623.2	576.8	558.0	562.6	569.0	585.1	629.6	655.7	692.9	768.5	828.1
67.5°	545.2	503.0	487.4	492.0	497.1	512.2	548.9	577.3	612.2	684.1	740.5
70°	468.2	430.6	416.8	421.4	426.0	439.7	471.8	498.0	530.1	596.1	648.4
72.5°	392.1	355.4	348.5	352.6	356.3	368.2	398.9	419.6	447.5	506.2	551.2
75°	317.8	286.1	281.5	285.7	288.9	298.1	323.7	341.6	365.0	415.9	452.6
77.5°	246.2	219.6	217.8	221.0	224.2	230.6	250.8	269.6	288.0	325.6	358.1
80°	179.3	157.7	157.7	160.9	160.0	167.8	182.0	197.2	210.5	237.5	261.4
82.5°	118.3	101.3	103.6	105.9	107.3	110.5	119.2	130.7	138.9	155.4	171.0
85°	65.6	54.1	56.4	58.2	57.3	61.0	65.6	72.4	76.6	84.4	92.6
87.5°	24.3	20.2	20.6	22.0	22.9	24.8	24.8	28.9	29.3	30.3	32.1
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: P834580

CATALOG NUMBER: ORLG-24-4-INS-ASY2-LD4-2LO-40-120-EDD

CANDELA DISTRIBUTION (continued):

	160°	170°	180°
0°	2097.8	2097.8	2097.8
2.5°	2047.8	2058.8	2067.1
5°	2012.5	2021.7	2029.0
7.5°	1978.1	1986.4	1992.8
10°	1945.6	1954.8	1959.3
12.5°	1912.1	1922.7	1926.3
15°	1879.1	1889.6	1894.2
17.5°	1845.2	1858.9	1864.0
20°	1813.5	1830.9	1835.1
22.5°	1781.4	1799.3	1804.4
25°	1746.6	1767.7	1772.7
27.5°	1709.4	1734.7	1739.7
30°	1672.3	1699.8	1704.8
32.5°	1632.4	1662.2	1666.8
35°	1590.7	1620.5	1626.0
37.5°	1544.4	1576.9	1587.9
40°	1496.2	1531.5	1543.0
42.5°	1445.8	1484.3	1496.2
45°	1391.7	1433.9	1447.6
47.5°	1337.1	1384.8	1396.7
50°	1277.9	1328.8	1343.1
52.5°	1216.0	1271.5	1285.7
55°	1151.9	1207.8	1223.4
57.5°	1082.2	1139.9	1156.4
60°	1009.2	1067.0	1082.6
62.5°	934.5	986.8	1001.9
65°	851.0	900.1	913.9
67.5°	762.6	807.5	819.0
70°	668.6	707.5	717.6
72.5°	570.4	597.5	610.8
75°	469.1	490.6	500.7
77.5°	367.3	382.4	390.7
80°	267.8	276.5	283.4
82.5°	175.2	178.8	183.9
85°	94.5	94.5	97.7
87.5°	32.1	30.7	32.1
90°	0.0	0.0	0.0

(END OF REPORT)