

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: P834562

Luminaire Tested: **ORLG-24-4-INS-ASY2-LD4-2LO-35-120-EDD**

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P834562
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-35-120-EDD
Description: 2FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 3500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

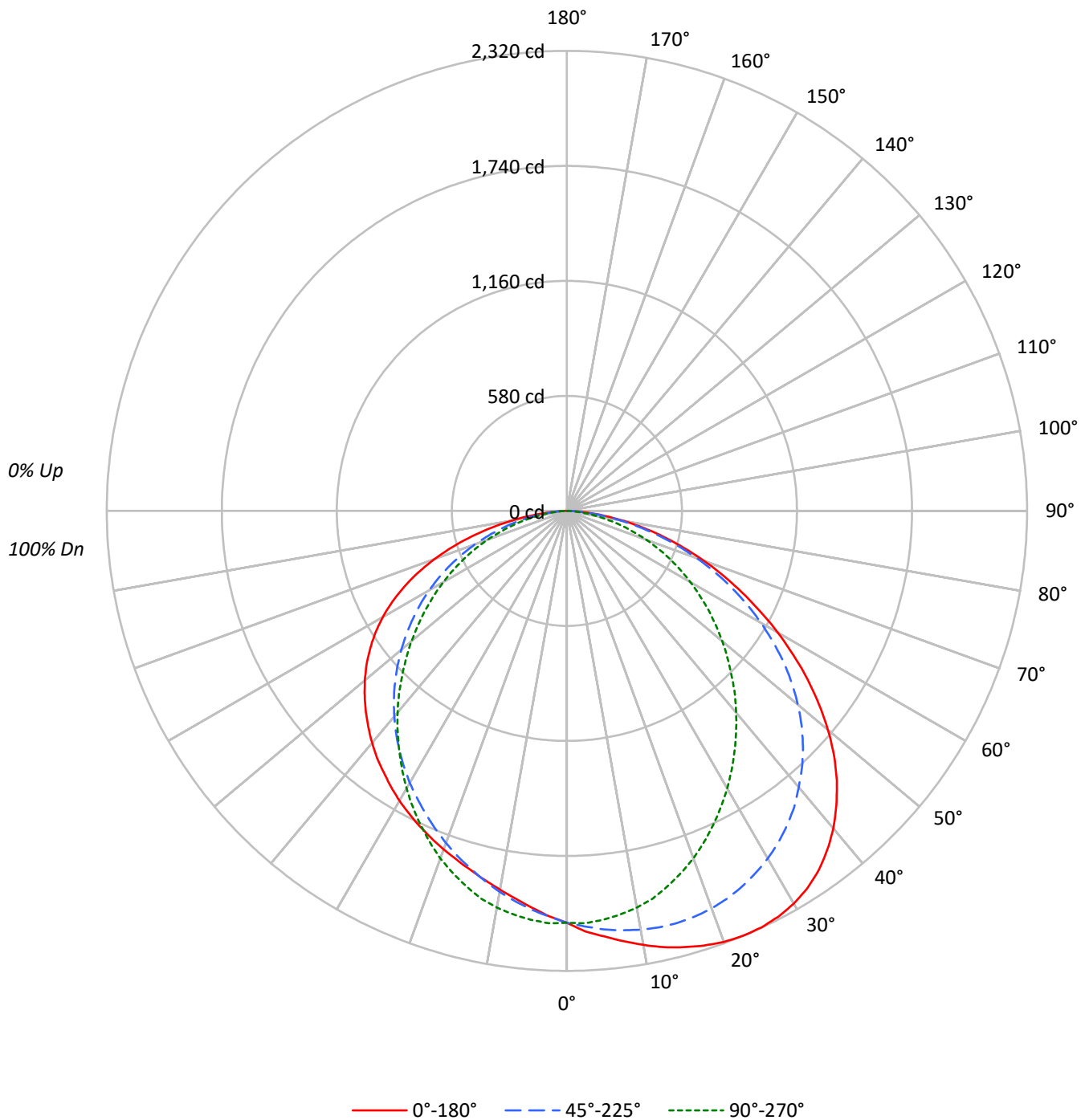
Lumens per Lamp: N/A
Luminaire Lumens: 6109.1 lumens
Efficiency: N/A
Efficacy: 130.5 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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



Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

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

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	2794	2794	2794
5°	2909	2796	2713
10°	3037	2775	2650
15°	3173	2730	2612
20°	3312	2670	2601
25°	3442	2593	2605
30°	3554	2511	2622
35°	3635	2422	2644
40°	3672	2332	2683
45°	3662	2234	2727
50°	3597	2140	2783
55°	3474	2041	2841
60°	3304	1936	2884
65°	3103	1818	2880
70°	2888	1677	2795
75°	2622	1473	2577
80°	2251	1210	2173
85°	1717	827	1493



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	197.0	3.2
10°-20°	568.8	9.3
20°-30°	871.4	14.3
30°-40°	1063.5	17.4
40°-50°	1112.2	18.2
50°-60°	1006.6	16.5
60°-70°	762.3	12.5
70°-80°	424.8	7.0
80°-90°	102.5	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°	1637.2	26.8
0°-40°	2700.7	44.2
0°-60°	4819.5	78.9
0°-90°	6109.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6109.1	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	2077	2077	2077	2077	2077	
5°	2154	2118	2070	2019	2009	208
15°	2278	2151	1960	1869	1875	646
25°	2318	2090	1746	1685	1755	1069
35°	2213	1936	1474	1473	1610	1382
45°	1924	1683	1174	1226	1433	1481
55°	1481	1337	870	947	1211	1321
65°	975	916	571	649	905	967
75°	504	476	283	338	496	535
85°	111	98	54	72	97	134
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°	2076.8	2076.8	2076.8	2076.8	2076.8	2076.8	2076.8	2076.8	2076.8	2076.8	2076.8
2.5°	2122.7	2112.7	2104.5	2107.7	2109.5	2103.2	2097.7	2098.6	2093.2	2103.6	2079.1
5°	2154.0	2144.9	2135.4	2139.0	2135.4	2125.9	2118.1	2115.9	2101.4	2107.3	2082.3
7.5°	2189.0	2179.0	2164.9	2169.0	2161.3	2143.6	2133.6	2127.7	2105.4	2105.9	2078.2
10°	2222.6	2213.9	2194.9	2197.6	2183.5	2159.9	2144.0	2135.9	2104.5	2100.0	2071.4
12.5°	2253.9	2242.1	2221.7	2223.0	2202.6	2171.3	2150.8	2139.0	2098.2	2084.6	2056.4
15°	2277.9	2266.6	2242.1	2241.6	2215.3	2174.4	2151.3	2134.9	2083.2	2061.9	2032.4
17.5°	2298.4	2287.9	2257.5	2256.6	2224.8	2173.1	2145.4	2125.0	2061.4	2035.1	2002.4
20°	2312.9	2302.5	2268.4	2265.2	2227.1	2166.3	2133.1	2107.3	2032.8	2001.5	1965.2
22.5°	2319.7	2309.3	2270.7	2266.1	2221.7	2152.7	2115.4	2085.0	2000.1	1959.3	1921.6
25°	2318.3	2308.4	2264.8	2260.2	2211.2	2132.2	2090.5	2055.5	1958.8	1910.7	1873.5
27.5°	2307.0	2299.3	2253.4	2247.5	2192.1	2104.5	2060.0	2021.5	1913.0	1859.4	1819.0
30°	2287.5	2281.6	2233.0	2227.6	2168.5	2074.1	2024.6	1980.1	1863.5	1803.1	1762.2
32.5°	2256.2	2250.7	2201.7	2196.7	2136.8	2035.1	1983.3	1937.5	1809.5	1742.7	1701.9
35°	2213.0	2209.8	2162.2	2156.7	2095.9	1990.6	1935.7	1885.3	1753.2	1677.8	1638.8
37.5°	2156.3	2156.3	2110.4	2104.5	2045.1	1936.1	1882.1	1828.5	1689.6	1609.7	1571.1
40°	2090.5	2096.4	2049.6	2043.7	1986.0	1877.6	1818.5	1762.2	1621.1	1538.0	1500.3
42.5°	2011.5	2016.9	1977.9	1972.4	1918.4	1809.9	1755.0	1693.7	1549.3	1464.9	1425.9
45°	1924.3	1931.6	1896.6	1892.5	1842.1	1735.9	1683.3	1621.1	1474.4	1388.6	1350.5
47.5°	1827.2	1836.7	1806.3	1804.0	1757.3	1660.1	1605.2	1542.1	1395.9	1309.2	1273.3
50°	1718.2	1731.8	1706.9	1706.9	1665.1	1568.4	1520.7	1457.6	1314.2	1227.5	1192.1
52.5°	1601.6	1618.8	1600.2	1600.6	1566.6	1479.9	1430.4	1368.7	1228.9	1143.5	1110.8
55°	1480.8	1497.6	1485.8	1487.6	1460.8	1381.8	1336.9	1275.6	1141.7	1058.6	1027.8
57.5°	1354.6	1372.8	1365.0	1368.7	1350.1	1279.2	1232.5	1178.9	1051.8	969.6	943.3
60°	1227.9	1245.2	1241.1	1246.1	1234.3	1173.0	1130.3	1075.0	961.5	882.5	859.3
62.5°	1099.9	1115.8	1114.9	1120.4	1114.0	1063.2	1025.0	977.8	868.0	795.3	774.0
65°	974.6	988.3	987.4	993.3	991.9	951.0	916.5	873.4	774.4	707.7	689.1
67.5°	853.0	864.3	861.2	868.0	869.8	837.1	807.1	768.5	685.5	620.6	604.7
70°	734.0	741.8	737.7	742.2	746.3	721.8	696.4	662.3	590.6	533.4	520.2
72.5°	617.4	622.8	616.5	621.0	624.6	606.9	586.1	556.5	497.1	447.6	436.7
75°	504.3	512.1	498.9	503.4	506.2	488.5	476.2	452.1	400.8	362.7	355.4
77.5°	394.9	399.5	392.2	390.4	392.2	379.5	370.0	351.4	312.8	281.5	276.9
80°	290.5	293.3	286.0	284.2	285.5	276.5	269.2	255.6	228.3	204.7	202.9
82.5°	194.7	196.1	189.8	187.9	188.8	186.1	177.5	168.0	155.3	135.3	134.8
85°	111.2	111.2	106.7	104.9	105.8	101.2	98.1	93.1	88.1	74.4	75.4
87.5°	40.9	40.9	38.6	38.1	42.7	37.7	36.3	34.0	35.4	28.1	30.0
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°	2076.8	2076.8	2076.8	2076.8	2076.8	2076.8	2076.8	2076.8	2076.8	2076.8	2076.8
2.5°	2085.9	2081.4	2077.3	2063.2	2069.1	2054.6	2053.7	2048.2	2044.2	2036.4	2046.4
5°	2079.1	2070.0	2058.2	2041.4	2046.4	2029.2	2025.5	2019.2	2013.7	2003.8	2011.5
7.5°	2068.2	2053.2	2034.6	2013.3	2020.1	1998.8	1993.3	1986.5	1982.0	1970.2	1977.0
10°	2052.3	2031.0	2009.2	1983.3	1988.3	1965.2	1958.4	1951.1	1947.0	1936.6	1943.4
12.5°	2027.8	2001.9	1972.4	1944.3	1949.7	1927.9	1918.9	1911.1	1909.8	1901.2	1909.3
15°	1996.0	1960.2	1929.8	1899.8	1906.2	1880.7	1876.6	1868.9	1871.2	1865.3	1875.3
17.5°	1955.6	1914.3	1881.2	1849.0	1855.3	1834.0	1830.8	1827.2	1829.4	1828.5	1839.4
20°	1910.2	1864.8	1826.7	1794.9	1798.6	1781.8	1783.1	1782.2	1786.8	1791.8	1806.7
22.5°	1858.9	1807.6	1767.7	1735.0	1740.5	1725.9	1732.3	1734.1	1741.8	1753.2	1772.2
25°	1801.3	1746.4	1704.6	1673.7	1678.7	1669.2	1680.1	1684.6	1696.9	1715.9	1735.5
27.5°	1740.9	1682.8	1638.3	1608.8	1618.3	1608.8	1625.2	1634.2	1652.8	1673.7	1697.8
30°	1676.9	1616.5	1570.7	1544.4	1553.4	1544.8	1571.1	1583.4	1602.0	1630.6	1659.2
32.5°	1609.7	1546.2	1501.2	1480.8	1487.2	1485.8	1515.3	1528.9	1553.9	1586.6	1617.0
35°	1540.7	1474.4	1429.0	1411.8	1419.5	1421.3	1456.7	1472.6	1499.9	1539.4	1572.0
37.5°	1469.4	1401.8	1357.3	1343.3	1350.1	1356.9	1398.2	1414.1	1444.9	1488.1	1523.9
40°	1395.5	1327.8	1284.2	1272.9	1279.7	1287.0	1331.9	1353.7	1387.3	1434.0	1473.1
42.5°	1320.6	1252.9	1210.7	1202.5	1209.3	1223.4	1271.1	1291.5	1326.9	1378.7	1421.8
45°	1244.3	1173.9	1137.2	1130.8	1138.1	1154.4	1201.2	1225.7	1263.4	1320.1	1366.4
47.5°	1167.1	1098.6	1063.6	1059.5	1066.8	1085.0	1136.7	1158.9	1198.9	1259.3	1309.2
50°	1089.0	1022.3	988.7	987.4	994.2	1013.7	1063.2	1089.5	1130.8	1198.4	1249.7
52.5°	1010.0	946.0	915.6	915.6	922.0	942.0	991.9	1019.1	1061.8	1133.1	1189.8
55°	931.1	870.2	841.2	843.4	852.5	869.8	918.3	946.9	990.1	1064.1	1124.0
57.5°	852.1	794.4	768.1	771.3	779.9	797.1	844.8	877.0	916.1	992.8	1054.1
60°	774.0	719.5	696.4	700.0	707.7	725.0	774.4	802.1	841.2	919.3	980.5
62.5°	695.0	645.5	623.7	628.3	635.1	652.3	699.1	725.9	764.5	841.2	902.9
65°	616.9	571.1	552.5	557.0	563.4	579.2	623.3	649.2	685.9	760.8	819.8
67.5°	539.8	498.0	482.6	487.1	492.1	507.1	543.4	571.5	606.0	677.3	733.1
70°	463.5	426.3	412.6	417.2	421.7	435.3	467.1	493.0	524.8	590.1	641.9
72.5°	388.1	351.8	345.0	349.1	352.7	364.5	394.9	415.4	443.1	501.2	545.7
75°	314.6	283.3	278.7	282.8	286.0	295.1	320.5	338.2	361.3	411.7	448.1
77.5°	243.8	217.4	215.6	218.8	222.0	228.3	248.3	266.9	285.1	322.3	354.5
80°	177.5	156.2	156.2	159.3	158.4	166.1	180.2	195.2	208.4	235.1	258.8
82.5°	117.1	100.3	102.6	104.9	106.2	109.4	118.0	129.4	137.5	153.9	169.3
85°	64.9	53.6	55.8	57.7	56.7	60.4	64.9	71.7	75.8	83.5	91.7
87.5°	24.1	20.0	20.4	21.8	22.7	24.5	24.5	28.6	29.1	30.0	31.8
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°	2076.8	2076.8	2076.8
2.5°	2027.4	2038.3	2046.4
5°	1992.4	2001.5	2008.7
7.5°	1958.4	1966.5	1972.9
10°	1926.1	1935.2	1939.7
12.5°	1893.0	1903.4	1907.1
15°	1860.3	1870.7	1875.3
17.5°	1826.7	1840.3	1845.3
20°	1795.4	1812.6	1816.7
22.5°	1763.6	1781.3	1786.3
25°	1729.1	1750.0	1755.0
27.5°	1692.3	1717.3	1722.3
30°	1655.6	1682.8	1687.8
32.5°	1616.1	1645.6	1650.1
35°	1574.8	1604.3	1609.7
37.5°	1528.9	1561.1	1572.0
40°	1481.3	1516.2	1527.6
42.5°	1431.3	1469.4	1481.3
45°	1377.8	1419.5	1433.1
47.5°	1323.7	1370.9	1382.7
50°	1265.2	1315.6	1329.6
52.5°	1203.9	1258.8	1272.9
55°	1140.3	1195.7	1211.1
57.5°	1071.3	1128.5	1144.9
60°	999.2	1056.4	1071.8
62.5°	925.2	976.9	991.9
65°	842.5	891.1	904.7
67.5°	754.9	799.4	810.8
70°	661.9	700.5	710.4
72.5°	564.7	591.5	604.7
75°	464.4	485.7	495.7
77.5°	363.6	378.6	386.8
80°	265.1	273.7	280.5
82.5°	173.4	177.0	182.0
85°	93.5	93.5	96.7
87.5°	31.8	30.4	31.8
90°	0.0	0.0	0.0

(END OF REPORT)