

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: P834526

Luminaire Tested: **ORLG-24-4-INS-ASY2-LD4-2LO-27-120-EDD**

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P834526
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-27-120-EDD
Description: 2FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 2700K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

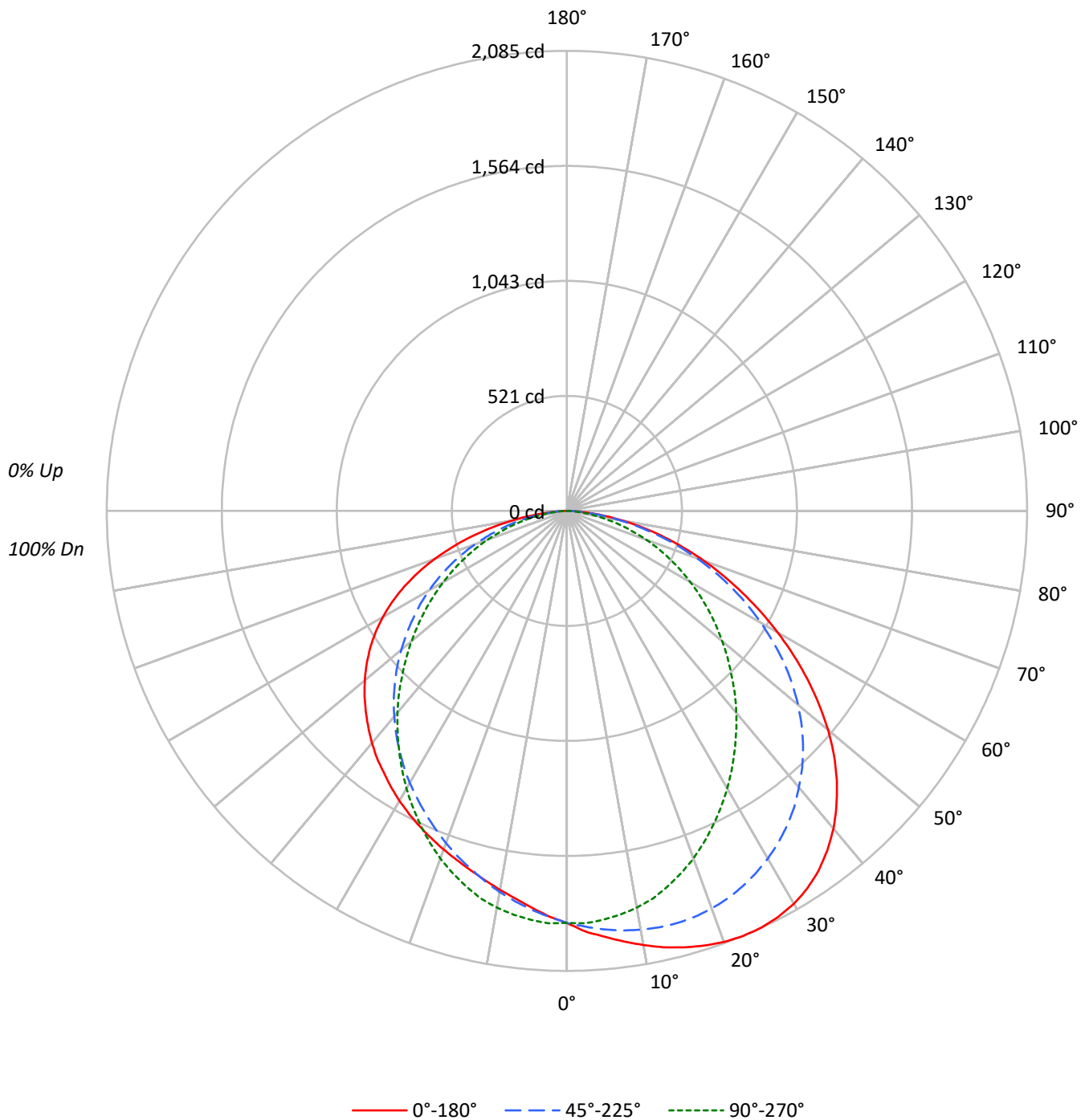
Lumens per Lamp: N/A
Luminaire Lumens: 5492.0 lumens
Efficiency: N/A
Efficacy: 117.4 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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	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°	2512	2512	2512
5°	2615	2513	2439
10°	2730	2494	2382
15°	2852	2455	2348
20°	2977	2400	2338
25°	3094	2331	2342
30°	3195	2258	2357
35°	3268	2177	2377
40°	3301	2097	2412
45°	3292	2008	2452
50°	3233	1924	2502
55°	3123	1835	2554
60°	2971	1741	2593
65°	2790	1635	2589
70°	2596	1507	2513
75°	2357	1324	2316
80°	2024	1088	1954
85°	1544	744	1342

Classified

Scaled Data Report

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	177.1	3.2
10°-20°	511.4	9.3
20°-30°	783.4	14.3
30°-40°	956.1	17.4
40°-50°	999.8	18.2
50°-60°	904.9	16.5
60°-70°	685.3	12.5
70°-80°	381.9	7.0
80°-90°	92.1	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°	1471.9	26.8
0°-40°	2427.9	44.2
0°-60°	4332.6	78.9
0°-90°	5492.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5492.0	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1867	1867	1867	1867	1867	
5°	1936	1904	1861	1815	1806	187
15°	2048	1934	1762	1680	1686	581
25°	2084	1879	1570	1514	1578	961
35°	1990	1740	1326	1324	1447	1242
45°	1730	1513	1055	1102	1288	1331
55°	1331	1202	782	851	1089	1188
65°	876	824	513	584	813	869
75°	453	428	255	304	446	481
85°	100	88	48	64	87	120
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°	1867.1	1867.1	1867.1	1867.1	1867.1	1867.1	1867.1	1867.1	1867.1	1867.1	1867.1
2.5°	1908.3	1899.3	1892.0	1894.8	1896.4	1890.7	1885.8	1886.6	1881.7	1891.1	1869.1
5°	1936.4	1928.3	1919.7	1923.0	1919.7	1911.1	1904.2	1902.2	1889.1	1894.4	1872.0
7.5°	1967.9	1958.9	1946.2	1949.9	1943.0	1927.0	1918.1	1912.8	1892.8	1893.2	1868.3
10°	1998.1	1990.3	1973.2	1975.6	1963.0	1941.7	1927.5	1920.1	1892.0	1887.9	1862.2
12.5°	2026.2	2015.6	1997.2	1998.5	1980.1	1951.9	1933.6	1923.0	1886.2	1874.0	1848.7
15°	2047.8	2037.6	2015.6	2015.2	1991.5	1954.8	1934.0	1919.3	1872.8	1853.6	1827.1
17.5°	2066.2	2056.8	2029.5	2028.7	2000.1	1953.6	1928.7	1910.3	1853.2	1829.5	1800.1
20°	2079.3	2069.9	2039.3	2036.4	2002.1	1947.5	1917.7	1894.4	1827.5	1799.3	1766.7
22.5°	2085.4	2076.0	2041.3	2037.2	1997.2	1935.2	1901.7	1874.4	1798.1	1761.4	1727.5
25°	2084.2	2075.2	2036.0	2031.9	1987.9	1916.8	1879.3	1847.9	1761.0	1717.7	1684.2
27.5°	2074.0	2067.0	2025.8	2020.5	1970.7	1892.0	1852.0	1817.3	1719.7	1671.6	1635.3
30°	2056.4	2051.1	2007.4	2002.5	1949.5	1864.6	1820.1	1780.1	1675.3	1621.0	1584.2
32.5°	2028.3	2023.4	1979.3	1974.8	1920.9	1829.5	1783.0	1741.8	1626.7	1566.7	1530.0
35°	1989.5	1986.6	1943.8	1938.9	1884.2	1789.5	1740.1	1694.8	1576.1	1508.3	1473.2
37.5°	1938.5	1938.5	1897.3	1892.0	1838.5	1740.5	1692.0	1643.8	1518.9	1447.1	1412.4
40°	1879.3	1884.6	1842.6	1837.3	1785.4	1687.9	1634.8	1584.2	1457.3	1382.6	1348.8
42.5°	1808.3	1813.2	1778.1	1773.2	1724.6	1627.1	1577.7	1522.6	1392.8	1316.9	1281.8
45°	1729.9	1736.5	1705.0	1701.4	1656.1	1560.6	1513.2	1457.3	1325.5	1248.4	1214.1
47.5°	1642.6	1651.2	1623.8	1621.8	1579.8	1492.4	1443.0	1386.3	1254.9	1177.0	1144.7
50°	1544.7	1556.9	1534.5	1534.5	1496.9	1410.0	1367.1	1310.4	1181.5	1103.5	1071.7
52.5°	1439.8	1455.3	1438.6	1439.0	1408.4	1330.4	1285.9	1230.4	1104.7	1028.0	998.6
55°	1331.2	1346.3	1335.7	1337.3	1313.3	1242.3	1201.9	1146.8	1026.4	951.7	923.9
57.5°	1217.8	1234.1	1227.2	1230.4	1213.7	1150.0	1108.0	1059.8	945.6	871.7	848.0
60°	1103.9	1119.4	1115.7	1120.2	1109.6	1054.5	1016.2	966.4	864.4	793.3	772.5
62.5°	988.8	1003.1	1002.3	1007.2	1001.5	955.8	921.5	879.0	780.3	715.0	695.8
65°	876.2	888.4	887.6	892.9	891.7	855.0	824.0	785.2	696.2	636.2	619.5
67.5°	766.8	777.0	774.2	780.3	781.9	752.5	725.6	690.9	616.2	557.9	543.6
70°	659.9	666.8	663.2	667.2	670.9	648.9	626.0	595.4	530.9	479.5	467.7
72.5°	555.0	559.9	554.2	558.3	561.5	545.6	526.9	500.3	446.9	402.4	392.6
75°	453.4	460.3	448.5	452.6	455.0	439.1	428.1	406.5	360.4	326.1	319.5
77.5°	355.0	359.1	352.6	351.0	352.6	341.2	332.6	315.9	281.2	253.0	248.9
80°	261.2	263.6	257.1	255.5	256.7	248.5	242.0	229.8	205.3	184.1	182.4
82.5°	175.1	176.3	170.6	169.0	169.8	167.3	159.6	151.0	139.6	121.6	121.2
85°	100.0	100.0	95.9	94.3	95.1	91.0	88.1	83.7	79.2	66.9	67.7
87.5°	36.7	36.7	34.7	34.3	38.4	33.9	32.6	30.6	31.8	25.3	26.9
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°	1867.1	1867.1	1867.1	1867.1	1867.1	1867.1	1867.1	1867.1	1867.1	1867.1	1867.1
2.5°	1875.2	1871.1	1867.5	1854.8	1860.1	1847.1	1846.2	1841.3	1837.7	1830.7	1839.7
5°	1869.1	1860.9	1850.3	1835.2	1839.7	1824.2	1820.9	1815.2	1810.3	1801.4	1808.3
7.5°	1859.3	1845.8	1829.1	1809.9	1816.0	1796.9	1792.0	1785.8	1781.8	1771.2	1777.3
10°	1845.0	1825.8	1806.3	1783.0	1787.5	1766.7	1760.5	1754.0	1750.3	1741.0	1747.1
12.5°	1823.0	1799.7	1773.2	1747.9	1752.8	1733.2	1725.0	1718.1	1716.9	1709.1	1716.5
15°	1794.4	1762.2	1734.8	1707.9	1713.6	1690.8	1687.1	1680.1	1682.2	1676.9	1685.9
17.5°	1758.1	1721.0	1691.2	1662.2	1667.9	1648.7	1645.9	1642.6	1644.6	1643.8	1653.6
20°	1717.3	1676.5	1642.2	1613.6	1616.9	1601.8	1603.0	1602.2	1606.3	1610.8	1624.2
22.5°	1671.2	1625.1	1589.1	1559.8	1564.7	1551.6	1557.3	1558.9	1565.9	1576.1	1593.2
25°	1619.3	1570.0	1532.4	1504.7	1509.2	1500.6	1510.4	1514.5	1525.5	1542.6	1560.2
27.5°	1565.1	1512.8	1472.8	1446.3	1454.9	1446.3	1461.0	1469.2	1485.9	1504.7	1526.3
30°	1507.5	1453.2	1412.0	1388.4	1396.5	1388.8	1412.4	1423.5	1440.2	1465.9	1491.6
32.5°	1447.1	1390.0	1349.6	1331.2	1336.9	1335.7	1362.2	1374.5	1396.9	1426.3	1453.7
35°	1385.1	1325.5	1284.7	1269.2	1276.1	1277.8	1309.6	1323.9	1348.4	1383.9	1413.3
37.5°	1321.0	1260.2	1220.2	1207.6	1213.7	1219.8	1256.9	1271.2	1299.0	1337.8	1370.0
40°	1254.5	1193.7	1154.5	1144.3	1150.4	1157.0	1197.4	1217.0	1247.2	1289.2	1324.3
42.5°	1187.2	1126.4	1088.4	1081.1	1087.2	1099.8	1142.7	1161.0	1192.9	1239.4	1278.2
45°	1118.6	1055.3	1022.3	1016.6	1023.1	1037.8	1079.8	1101.9	1135.7	1186.8	1228.4
47.5°	1049.2	987.6	956.2	952.5	959.0	975.4	1021.9	1041.9	1077.8	1132.1	1177.0
50°	979.0	919.0	888.8	887.6	893.7	911.3	955.8	979.4	1016.6	1077.4	1123.5
52.5°	908.0	850.5	823.1	823.1	828.9	846.8	891.7	916.2	954.5	1018.6	1069.6
55°	837.0	782.3	756.2	758.3	766.4	781.9	825.6	851.3	890.1	956.6	1010.5
57.5°	766.0	714.2	690.5	693.4	701.1	716.6	759.5	788.4	823.5	892.5	947.6
60°	695.8	646.8	626.0	629.3	636.2	651.7	696.2	721.1	756.2	826.4	881.5
62.5°	624.8	580.3	560.7	564.8	570.9	586.4	628.5	652.6	687.2	756.2	811.7
65°	554.6	513.4	496.7	500.7	506.5	520.7	560.3	583.6	616.6	684.0	737.0
67.5°	485.2	447.7	433.8	437.9	442.4	455.8	488.5	513.8	544.8	608.9	659.1
70°	416.7	383.2	371.0	375.0	379.1	391.4	419.9	443.2	471.8	530.5	577.1
72.5°	348.9	316.3	310.2	313.8	317.1	327.7	355.0	373.4	398.3	450.5	490.5
75°	282.8	254.7	250.6	254.2	257.1	265.3	288.1	304.0	324.8	370.1	402.8
77.5°	219.1	195.5	193.8	196.7	199.6	205.3	223.2	240.0	256.3	289.8	318.7
80°	159.6	140.4	140.4	143.2	142.4	149.4	162.0	175.5	187.3	211.4	232.6
82.5°	105.3	90.2	92.2	94.3	95.5	98.4	106.1	116.3	123.7	138.3	152.2
85°	58.4	48.2	50.2	51.8	51.0	54.3	58.4	64.5	68.2	75.1	82.4
87.5°	21.6	18.0	18.4	19.6	20.4	22.0	22.0	25.7	26.1	26.9	28.6
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):

	160°	170°	180°
0°	1867.1	1867.1	1867.1
2.5°	1822.6	1832.4	1839.7
5°	1791.2	1799.3	1805.8
7.5°	1760.5	1767.9	1773.6
10°	1731.6	1739.7	1743.8
12.5°	1701.8	1711.2	1714.4
15°	1672.4	1681.8	1685.9
17.5°	1642.2	1654.4	1658.9
20°	1614.0	1629.5	1633.2
22.5°	1585.5	1601.4	1605.9
25°	1554.5	1573.2	1577.7
27.5°	1521.4	1543.8	1548.3
30°	1488.3	1512.8	1517.3
32.5°	1452.8	1479.4	1483.4
35°	1415.7	1442.2	1447.1
37.5°	1374.5	1403.5	1413.3
40°	1331.6	1363.1	1373.3
42.5°	1286.7	1321.0	1331.6
45°	1238.6	1276.1	1288.4
47.5°	1190.0	1232.5	1243.1
50°	1137.4	1182.7	1195.3
52.5°	1082.3	1131.7	1144.3
55°	1025.1	1074.9	1088.8
57.5°	963.1	1014.5	1029.2
60°	898.2	949.6	963.5
62.5°	831.7	878.2	891.7
65°	757.4	801.1	813.3
67.5°	678.7	718.7	728.9
70°	595.0	629.7	638.7
72.5°	507.7	531.8	543.6
75°	417.5	436.7	445.6
77.5°	326.9	340.4	347.7
80°	238.3	246.1	252.2
82.5°	155.9	159.2	163.6
85°	84.1	84.1	86.9
87.5°	28.6	27.3	28.6
90°	0.0	0.0	0.0

(END OF REPORT)