

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: P835216

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

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P835216
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-LD4-4LO-35-120-EDD
Description: 2FT x 2FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 3500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

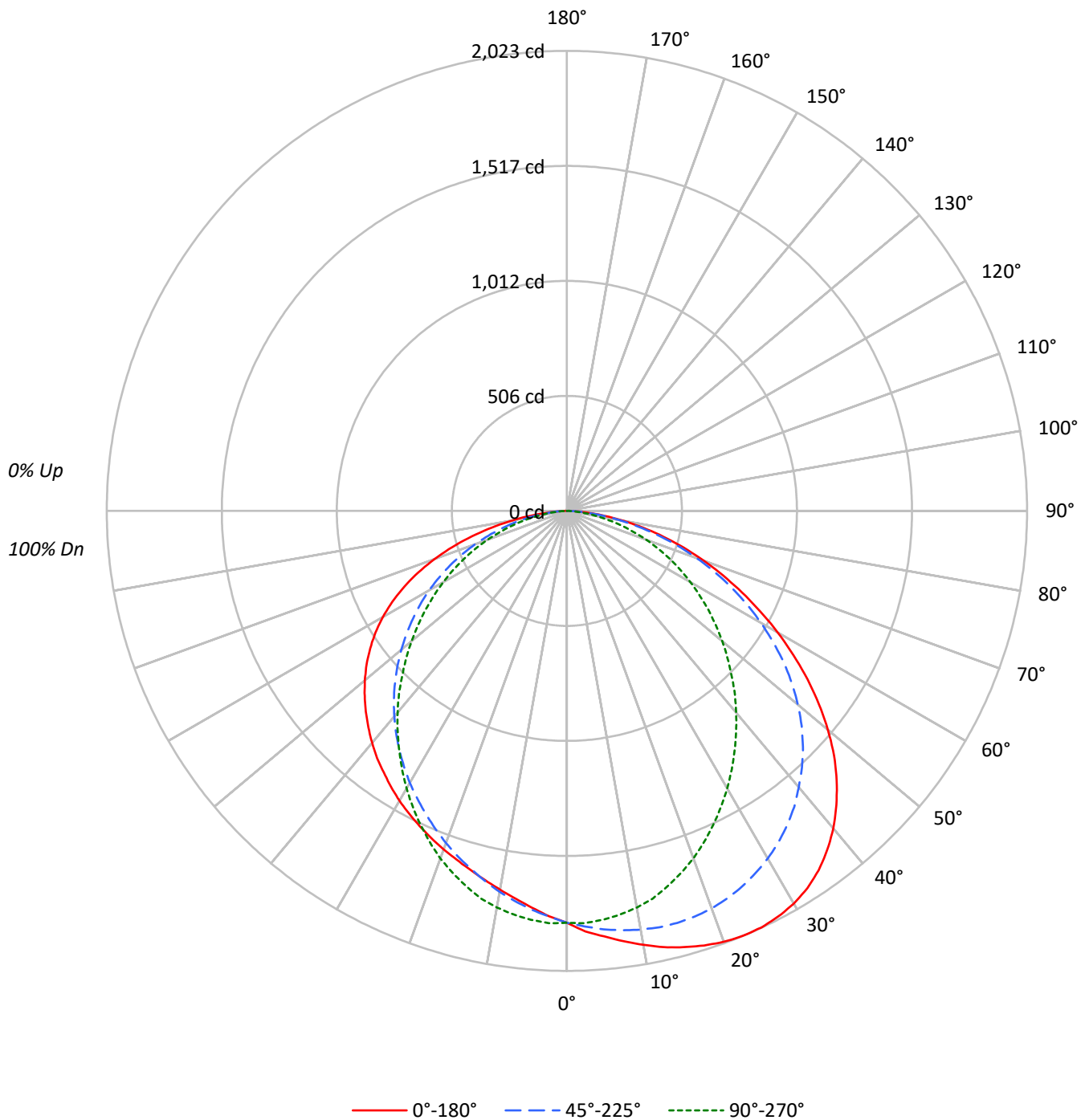
Lumens per Lamp: N/A
Luminaire Lumens: 5326.8 lumens
Efficiency: N/A
Efficacy: 113.8 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

Input Watts (W): 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
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°	4873	4873	4873
5°	5074	4876	4731
10°	5295	4839	4621
15°	5533	4762	4555
20°	5775	4656	4536
25°	6002	4521	4543
30°	6197	4380	4573
35°	6339	4223	4611
40°	6403	4067	4679
45°	6385	3895	4756
50°	6272	3732	4854
55°	6058	3560	4954
60°	5762	3377	5029
65°	5411	3170	5023
70°	5035	2924	4874
75°	4573	2568	4494
80°	3925	2111	3790
85°	2995	1442	2603



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	171.7	3.2
10°-20°	496.0	9.3
20°-30°	759.8	14.3
30°-40°	927.3	17.4
40°-50°	969.7	18.2
50°-60°	877.7	16.5
60°-70°	664.7	12.5
70°-80°	370.4	7.0
80°-90°	89.4	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°	1427.6	26.8
0°-40°	2354.9	44.2
0°-60°	4202.3	78.9
0°-90°	5326.8	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5326.8	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1811	1811	1811	1811	1811	
5°	1878	1847	1805	1761	1752	181
15°	1986	1876	1709	1630	1635	563
25°	2022	1823	1523	1469	1530	933
35°	1930	1688	1286	1284	1404	1205
45°	1678	1468	1024	1069	1250	1291
55°	1291	1166	759	826	1056	1152
65°	850	799	498	566	789	843
75°	440	415	247	295	432	466
85°	97	86	47	62	84	117
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°	1810.9	1810.9	1810.9	1810.9	1810.9	1810.9	1810.9	1810.9	1810.9	1810.9	1810.9
2.5°	1850.9	1842.1	1835.0	1837.8	1839.4	1833.8	1829.1	1829.9	1825.1	1834.2	1812.9
5°	1878.2	1870.3	1861.9	1865.1	1861.9	1853.6	1846.9	1844.9	1832.3	1837.4	1815.6
7.5°	1908.6	1899.9	1887.7	1891.2	1884.5	1869.1	1860.4	1855.2	1835.8	1836.2	1812.1
10°	1937.9	1930.4	1913.8	1916.2	1903.9	1883.3	1869.5	1862.3	1835.0	1831.1	1806.1
12.5°	1965.2	1955.0	1937.1	1938.3	1920.5	1893.2	1875.4	1865.1	1829.5	1817.6	1793.1
15°	1986.2	1976.3	1955.0	1954.6	1931.6	1896.0	1875.8	1861.5	1816.4	1797.8	1772.1
17.5°	2004.0	1994.9	1968.4	1967.6	1939.9	1894.8	1870.6	1852.8	1797.4	1774.5	1746.0
20°	2016.7	2007.6	1977.9	1975.1	1941.9	1888.9	1860.0	1837.4	1772.5	1745.2	1713.5
22.5°	2022.6	2013.5	1979.9	1975.9	1937.1	1877.0	1844.5	1818.0	1744.0	1708.4	1675.5
25°	2021.5	2012.7	1974.7	1970.8	1928.0	1859.2	1822.8	1792.3	1708.0	1666.0	1633.6
27.5°	2011.6	2004.8	1964.9	1959.7	1911.4	1835.0	1796.2	1762.6	1668.0	1621.3	1586.1
30°	1994.5	1989.4	1947.0	1942.3	1890.8	1808.5	1765.4	1726.6	1624.8	1572.2	1536.6
32.5°	1967.2	1962.5	1919.7	1915.4	1863.1	1774.5	1729.3	1689.4	1577.7	1519.6	1483.9
35°	1929.6	1926.9	1885.3	1880.5	1827.5	1735.7	1687.8	1643.8	1528.7	1463.0	1428.9
37.5°	1880.1	1880.1	1840.2	1835.0	1783.2	1688.2	1641.1	1594.4	1473.2	1403.6	1369.9
40°	1822.8	1827.9	1787.1	1782.0	1731.7	1637.1	1585.7	1536.6	1413.5	1341.0	1308.2
42.5°	1753.9	1758.6	1724.6	1719.8	1672.7	1578.1	1530.2	1476.8	1350.9	1277.3	1243.3
45°	1677.9	1684.2	1653.7	1650.2	1606.2	1513.6	1467.7	1413.5	1285.6	1210.8	1177.6
47.5°	1593.2	1601.5	1575.0	1573.0	1532.2	1447.5	1399.6	1344.6	1217.1	1141.5	1110.3
50°	1498.2	1510.1	1488.3	1488.3	1451.9	1367.6	1326.0	1271.0	1145.9	1070.3	1039.4
52.5°	1396.5	1411.5	1395.3	1395.7	1366.0	1290.4	1247.2	1193.4	1071.5	997.1	968.6
55°	1291.2	1305.8	1295.5	1297.1	1273.8	1204.9	1165.7	1112.3	995.5	923.1	896.1
57.5°	1181.1	1197.0	1190.2	1193.4	1177.2	1115.4	1074.7	1027.9	917.1	845.5	822.5
60°	1070.7	1085.7	1082.2	1086.5	1076.2	1022.8	985.6	937.3	838.3	769.5	749.3
62.5°	959.1	972.9	972.1	976.9	971.3	927.0	893.8	852.6	756.8	693.5	674.9
65°	849.8	861.7	860.9	866.1	864.9	829.2	799.2	761.6	675.3	617.1	600.9
67.5°	743.7	753.6	750.9	756.8	758.4	729.9	703.8	670.1	597.7	541.1	527.2
70°	640.0	646.8	643.2	647.2	650.7	629.4	607.2	577.5	515.0	465.1	453.6
72.5°	538.3	543.1	537.5	541.5	544.6	529.2	511.0	485.3	433.4	390.3	380.8
75°	439.8	446.5	435.0	439.0	441.3	425.9	415.2	394.2	349.5	316.3	309.9
77.5°	344.4	348.3	342.0	340.4	342.0	330.9	322.6	306.4	272.7	245.4	241.5
80°	253.3	255.7	249.4	247.8	249.0	241.1	234.7	222.8	199.1	178.5	176.9
82.5°	169.8	171.0	165.5	163.9	164.7	162.3	154.8	146.5	135.4	118.0	117.6
85°	97.0	97.0	93.0	91.4	92.2	88.3	85.5	81.1	76.8	64.9	65.7
87.5°	35.6	35.6	33.6	33.2	37.2	32.9	31.7	29.7	30.9	24.5	26.1
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°	1810.9	1810.9	1810.9	1810.9	1810.9	1810.9	1810.9	1810.9	1810.9	1810.9	1810.9
2.5°	1818.8	1814.8	1811.3	1799.0	1804.1	1791.5	1790.7	1785.9	1782.4	1775.7	1784.4
5°	1812.9	1804.9	1794.7	1780.0	1784.4	1769.3	1766.2	1760.6	1755.9	1747.2	1753.9
7.5°	1803.4	1790.3	1774.1	1755.5	1761.4	1742.8	1738.0	1732.1	1728.2	1717.9	1723.8
10°	1789.5	1770.9	1751.9	1729.3	1733.7	1713.5	1707.6	1701.2	1697.7	1688.6	1694.5
12.5°	1768.1	1745.6	1719.8	1695.3	1700.0	1681.0	1673.1	1666.4	1665.2	1657.7	1664.8
15°	1740.4	1709.2	1682.6	1656.5	1662.1	1639.9	1636.3	1629.6	1631.6	1626.4	1635.1
17.5°	1705.2	1669.2	1640.3	1612.2	1617.7	1599.1	1596.3	1593.2	1595.2	1594.4	1603.9
20°	1665.6	1626.0	1592.8	1565.1	1568.2	1553.6	1554.8	1554.0	1557.9	1562.3	1575.4
22.5°	1620.9	1576.2	1541.3	1512.8	1517.6	1504.9	1510.5	1512.0	1518.8	1528.7	1545.3
25°	1570.6	1522.7	1486.3	1459.4	1463.7	1455.4	1464.9	1468.9	1479.6	1496.2	1513.2
27.5°	1518.0	1467.3	1428.5	1402.8	1411.1	1402.8	1417.0	1425.0	1441.2	1459.4	1480.4
30°	1462.2	1409.5	1369.5	1346.6	1354.5	1347.0	1369.9	1380.6	1396.9	1421.8	1446.7
32.5°	1403.6	1348.2	1309.0	1291.2	1296.7	1295.5	1321.2	1333.1	1354.9	1383.4	1409.9
35°	1343.4	1285.6	1246.0	1231.0	1237.7	1239.3	1270.2	1284.0	1307.8	1342.2	1370.7
37.5°	1281.3	1222.3	1183.5	1171.2	1177.2	1183.1	1219.1	1233.0	1259.9	1297.5	1328.8
40°	1216.8	1157.8	1119.8	1109.9	1115.8	1122.2	1161.3	1180.3	1209.6	1250.4	1284.4
42.5°	1151.4	1092.5	1055.7	1048.5	1054.5	1066.7	1108.3	1126.1	1157.0	1202.1	1239.7
45°	1084.9	1023.6	991.5	986.0	992.3	1006.6	1047.3	1068.7	1101.6	1151.0	1191.4
47.5°	1017.7	957.9	927.4	923.8	930.2	946.0	991.1	1010.5	1045.4	1098.0	1141.5
50°	949.6	891.4	862.1	860.9	866.8	883.9	927.0	950.0	986.0	1045.0	1089.7
52.5°	880.7	824.9	798.4	798.4	803.9	821.3	864.9	888.6	925.8	988.0	1037.4
55°	811.8	758.8	733.5	735.4	743.4	758.4	800.7	825.7	863.3	927.8	980.1
57.5°	743.0	692.7	669.7	672.5	680.0	695.1	736.6	764.7	798.8	865.7	919.1
60°	674.9	627.4	607.2	610.4	617.1	632.1	675.3	699.4	733.5	801.5	855.0
62.5°	606.0	562.9	543.9	547.8	553.8	568.8	609.6	632.9	666.6	733.5	787.3
65°	537.9	497.9	481.7	485.7	491.2	505.1	543.5	566.0	598.1	663.4	714.9
67.5°	470.6	434.2	420.8	424.7	429.1	442.1	473.8	498.3	528.4	590.6	639.3
70°	404.1	371.7	359.8	363.8	367.7	379.6	407.3	429.9	457.6	514.6	559.7
72.5°	338.4	306.8	300.8	304.4	307.6	317.8	344.4	362.2	386.3	437.0	475.8
75°	274.3	247.0	243.0	246.6	249.4	257.3	279.4	294.9	315.1	359.0	390.7
77.5°	212.6	189.6	188.0	190.8	193.6	199.1	216.5	232.7	248.6	281.0	309.1
80°	154.8	136.2	136.2	138.9	138.1	144.9	157.1	170.2	181.7	205.0	225.6
82.5°	102.1	87.5	89.5	91.4	92.6	95.4	102.9	112.8	119.9	134.2	147.6
85°	56.6	46.7	48.7	50.3	49.5	52.6	56.6	62.5	66.1	72.8	80.0
87.5°	21.0	17.4	17.8	19.0	19.8	21.4	21.4	24.9	25.3	26.1	27.7
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°	1810.9	1810.9	1810.9
2.5°	1767.7	1777.2	1784.4
5°	1737.3	1745.2	1751.5
7.5°	1707.6	1714.7	1720.2
10°	1679.5	1687.4	1691.3
12.5°	1650.6	1659.7	1662.8
15°	1622.1	1631.2	1635.1
17.5°	1592.8	1604.7	1609.0
20°	1565.5	1580.5	1584.1
22.5°	1537.8	1553.2	1557.6
25°	1507.7	1525.9	1530.2
27.5°	1475.6	1497.4	1501.7
30°	1443.6	1467.3	1471.7
32.5°	1409.1	1434.8	1438.8
35°	1373.1	1398.8	1403.6
37.5°	1333.1	1361.2	1370.7
40°	1291.6	1322.0	1331.9
42.5°	1248.0	1281.3	1291.6
45°	1201.3	1237.7	1249.6
47.5°	1154.2	1195.4	1205.7
50°	1103.2	1147.1	1159.4
52.5°	1049.7	1097.6	1109.9
55°	994.3	1042.6	1056.0
57.5°	934.1	984.0	998.3
60°	871.2	921.1	934.5
62.5°	806.7	851.8	864.9
65°	734.6	777.0	788.9
67.5°	658.2	697.0	706.9
70°	577.1	610.8	619.5
72.5°	492.4	515.8	527.2
75°	404.9	423.5	432.2
77.5°	317.1	330.1	337.2
80°	231.2	238.7	244.6
82.5°	151.2	154.4	158.7
85°	81.5	81.5	84.3
87.5°	27.7	26.5	27.7
90°	0.0	0.0	0.0

(END OF REPORT)