

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: P834241

Luminaire Tested: **ORLG-12-4-INS-ASY2-LD4-3LO-20-120-EDD-90**

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P834241
Test Lab: INNOVATION CENTER(G2)
Issue Date: 5/16/2024
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: ORLG-12-4-INS-ASY2-LD4-3LO-20-120-EDD-90
Description: 1FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 2000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

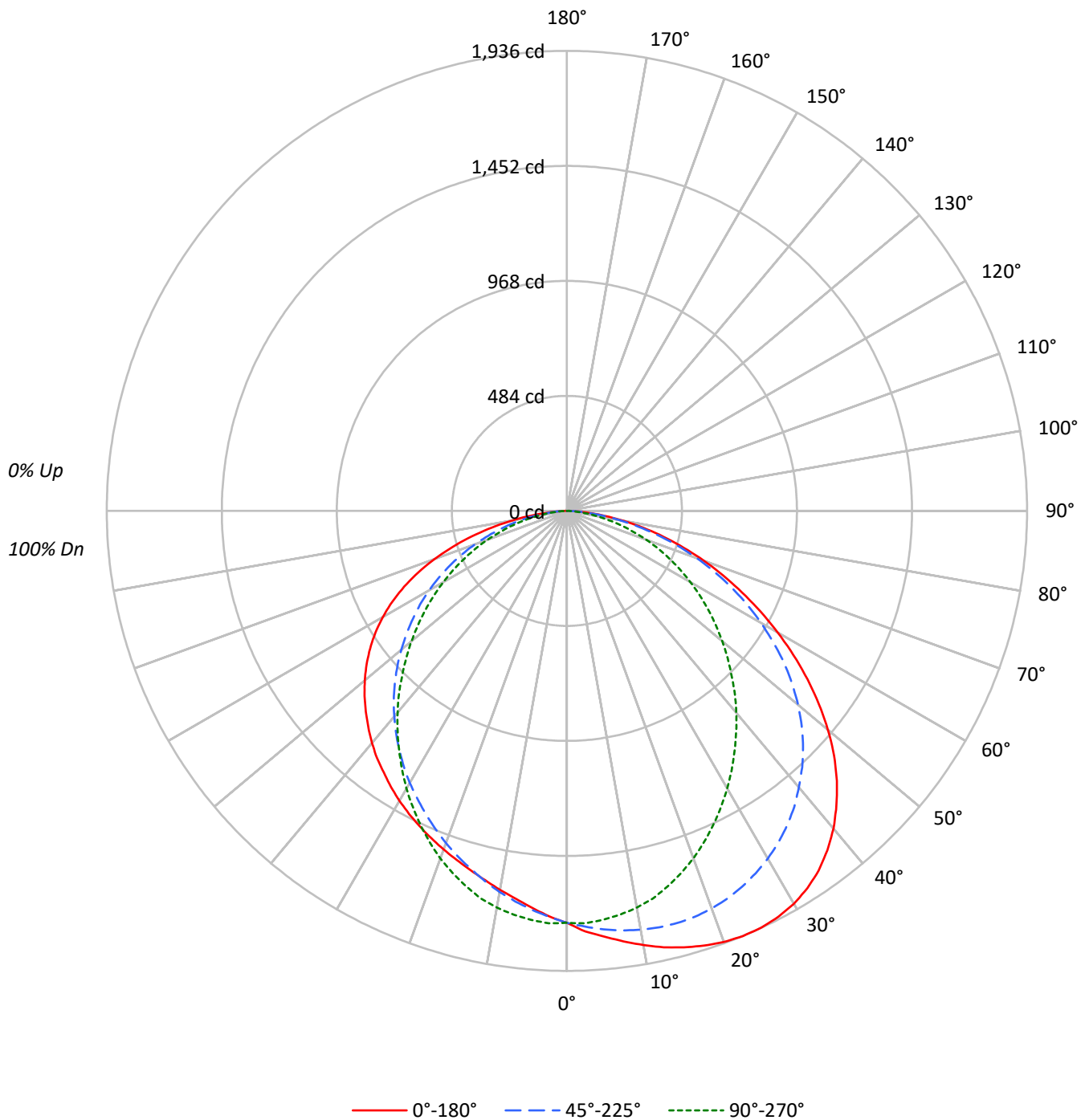
Lumens per Lamp: N/A
Luminaire Lumens: 5099.2 lumens
Efficiency: N/A
Efficacy: 72.6 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 70.2
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: P834241

CATALOG NUMBER: ORLG-12-4-INS-ASY2-LD4-3LO-20-120-EDD-90

Luminous Intensity Polar Plot



Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



TEST NUMBER: P834241

CATALOG NUMBER: ORLG-12-4-INS-ASY2-LD4-3LO-20-120-EDD-90

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°	4665	4665	4665
5°	4857	4668	4529
10°	5069	4632	4424
15°	5297	4558	4361
20°	5529	4458	4342
25°	5746	4328	4350
30°	5933	4193	4378
35°	6068	4043	4414
40°	6130	3893	4479
45°	6113	3729	4552
50°	6004	3572	4646
55°	5799	3408	4743
60°	5517	3232	4815
65°	5180	3035	4809
70°	4821	2799	4666
75°	4377	2458	4302
80°	3758	2019	3629
85°	2865	1380	2492



TEST NUMBER: P834241

CATALOG NUMBER: ORLG-12-4-INS-ASY2-LD4-3LO-20-120-EDD-90

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	164.4	3.2
10°-20°	474.8	9.3
20°-30°	727.4	14.3
30°-40°	887.7	17.4
40°-50°	928.3	18.2
50°-60°	840.2	16.5
60°-70°	636.3	12.5
70°-80°	354.6	7.0
80°-90°	85.5	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°	1366.6	26.8
0°-40°	2254.3	44.2
0°-60°	4022.8	78.9
0°-90°	5099.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5099.2	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1734	1734	1734	1734	1734	
5°	1798	1768	1728	1685	1677	173
15°	1901	1796	1636	1560	1565	539
25°	1935	1745	1458	1406	1465	893
35°	1847	1616	1231	1229	1344	1153
45°	1606	1405	980	1023	1196	1236
55°	1236	1116	726	790	1011	1103
65°	814	765	477	542	755	807
75°	421	398	236	282	414	446
85°	93	82	45	60	81	112
90°	0	0	0	0	0	

Cooper Lighting Solutions Photometric Lab

1121 Highway 74 South

Peachtree City, GA 30269



TEST NUMBER: P834241

CATALOG NUMBER: ORLG-12-4-INS-ASY2-LD4-3LO-20-120-EDD-90

CANDELA DISTRIBUTION (FULL):

	0°	10°	20°	22.5°	30°	40°	45°	50°	60°	67.5°	70°
0°	1733.5	1733.5	1733.5	1733.5	1733.5	1733.5	1733.5	1733.5	1733.5	1733.5	1733.5
2.5°	1771.8	1763.5	1756.6	1759.3	1760.8	1755.5	1751.0	1751.7	1747.2	1755.9	1735.4
5°	1797.9	1790.4	1782.4	1785.4	1782.4	1774.5	1768.0	1766.1	1754.0	1758.9	1738.1
7.5°	1827.1	1818.8	1807.0	1810.5	1804.0	1789.2	1780.9	1776.0	1757.4	1757.8	1734.7
10°	1855.2	1848.0	1832.1	1834.3	1822.6	1802.9	1789.6	1782.8	1756.6	1752.9	1729.0
12.5°	1881.3	1871.5	1854.4	1855.5	1838.5	1812.3	1795.3	1785.4	1751.3	1740.0	1716.5
15°	1901.4	1891.9	1871.5	1871.1	1849.1	1815.0	1795.7	1782.0	1738.8	1721.0	1696.4
17.5°	1918.4	1909.7	1884.3	1883.6	1857.1	1813.9	1790.8	1773.7	1720.7	1698.7	1671.4
20°	1930.6	1921.9	1893.4	1890.8	1859.0	1808.2	1780.5	1758.9	1696.8	1670.6	1640.3
22.5°	1936.3	1927.5	1895.3	1891.5	1854.4	1796.8	1765.7	1740.4	1669.5	1635.4	1603.9
25°	1935.1	1926.8	1890.4	1886.6	1845.7	1779.8	1744.9	1715.7	1635.0	1594.9	1563.8
27.5°	1925.6	1919.2	1880.9	1876.0	1829.8	1756.6	1719.5	1687.3	1596.7	1552.0	1518.3
30°	1909.4	1904.4	1863.9	1859.3	1810.1	1731.3	1690.0	1652.8	1555.4	1505.0	1470.9
32.5°	1883.2	1878.7	1837.7	1833.6	1783.6	1698.7	1655.5	1617.2	1510.4	1454.7	1420.6
35°	1847.2	1844.6	1804.8	1800.2	1749.4	1661.5	1615.7	1573.6	1463.4	1400.5	1367.9
37.5°	1799.8	1799.8	1761.6	1756.6	1707.0	1616.1	1571.0	1526.3	1410.3	1343.6	1311.4
40°	1744.9	1749.8	1710.8	1705.9	1657.8	1567.2	1517.9	1470.9	1353.1	1283.8	1252.3
42.5°	1679.0	1683.5	1650.9	1646.4	1601.3	1510.7	1464.9	1413.7	1293.2	1222.8	1190.2
45°	1606.2	1612.3	1583.1	1579.7	1537.6	1449.0	1405.0	1353.1	1230.7	1159.1	1127.3
47.5°	1525.1	1533.1	1507.7	1505.8	1466.8	1385.7	1339.8	1287.2	1165.2	1092.8	1062.9
50°	1434.2	1445.6	1424.7	1424.7	1389.9	1309.1	1269.4	1216.7	1097.0	1024.6	995.0
52.5°	1336.8	1351.2	1335.7	1336.1	1307.6	1235.3	1194.0	1142.4	1025.7	954.5	927.2
55°	1236.0	1250.0	1240.2	1241.7	1219.3	1153.4	1115.9	1064.7	953.0	883.6	857.9
57.5°	1130.7	1145.8	1139.4	1142.4	1126.9	1067.8	1028.8	984.0	877.9	809.4	787.4
60°	1025.0	1039.4	1036.0	1040.1	1030.3	979.1	943.5	897.3	802.5	736.6	717.3
62.5°	918.1	931.4	930.6	935.2	929.9	887.4	855.6	816.2	724.5	663.9	646.0
65°	813.5	824.9	824.1	829.1	827.9	793.8	765.0	729.0	646.4	590.7	575.2
67.5°	712.0	721.5	718.8	724.5	726.0	698.7	673.7	641.5	572.2	518.0	504.7
70°	612.7	619.1	615.7	619.5	622.9	602.5	581.3	552.8	493.0	445.2	434.2
72.5°	515.3	519.9	514.6	518.4	521.4	506.6	489.2	464.5	414.9	373.6	364.5
75°	421.0	427.4	416.4	420.2	422.5	407.7	397.5	377.4	334.6	302.8	296.7
77.5°	329.7	333.4	327.4	325.9	327.4	316.8	308.8	293.3	261.1	234.9	231.1
80°	242.5	244.8	238.7	237.2	238.3	230.8	224.7	213.3	190.6	170.9	169.4
82.5°	162.6	163.7	158.4	156.9	157.6	155.4	148.2	140.2	129.6	112.9	112.5
85°	92.8	92.8	89.0	87.5	88.3	84.5	81.8	77.7	73.5	62.1	62.9
87.5°	34.1	34.1	32.2	31.8	35.6	31.4	30.3	28.4	29.6	23.5	25.0
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: P834241

CATALOG NUMBER: ORLG-12-4-INS-ASY2-LD4-3LO-20-120-EDD-90

CANDELA DISTRIBUTION (continued):

	80°	90°	100°	110°	112.5°	120°	130°	135°	140°	150°	157.5°
0°	1733.5	1733.5	1733.5	1733.5	1733.5	1733.5	1733.5	1733.5	1733.5	1733.5	1733.5
2.5°	1741.1	1737.3	1733.9	1722.2	1727.1	1715.0	1714.2	1709.7	1706.3	1699.8	1708.1
5°	1735.4	1727.9	1718.0	1704.0	1708.1	1693.7	1690.7	1685.4	1680.9	1672.5	1679.0
7.5°	1726.3	1713.8	1698.3	1680.5	1686.2	1668.4	1663.8	1658.1	1654.3	1644.5	1650.2
10°	1713.1	1695.3	1677.1	1655.5	1659.6	1640.3	1634.6	1628.6	1625.2	1616.4	1622.1
12.5°	1692.6	1671.0	1646.4	1622.9	1627.4	1609.2	1601.7	1595.2	1594.1	1586.9	1593.7
15°	1666.1	1636.2	1610.8	1585.8	1591.1	1569.8	1566.4	1560.0	1561.9	1557.0	1565.3
17.5°	1632.4	1597.9	1570.2	1543.3	1548.6	1530.8	1528.2	1525.1	1527.0	1526.3	1535.4
20°	1594.5	1556.6	1524.8	1498.2	1501.3	1487.2	1488.4	1487.6	1491.4	1495.6	1508.1
22.5°	1551.7	1508.8	1475.5	1448.2	1452.8	1440.6	1445.9	1447.5	1453.9	1463.4	1479.3
25°	1503.5	1457.7	1422.8	1397.1	1401.2	1393.3	1402.4	1406.2	1416.4	1432.3	1448.6
27.5°	1453.1	1404.6	1367.5	1342.9	1350.8	1342.9	1356.5	1364.1	1379.6	1397.1	1417.1
30°	1399.7	1349.3	1311.0	1289.1	1296.6	1289.4	1311.4	1321.7	1337.2	1361.1	1384.9
32.5°	1343.6	1290.6	1253.1	1236.0	1241.3	1240.2	1264.8	1276.2	1297.0	1324.3	1349.7
35°	1286.0	1230.7	1192.8	1178.4	1184.9	1186.4	1215.9	1229.2	1251.9	1284.9	1312.2
37.5°	1226.5	1170.1	1133.0	1121.2	1126.9	1132.6	1167.1	1180.3	1206.1	1242.1	1272.0
40°	1164.8	1108.3	1071.9	1062.5	1068.2	1074.2	1111.7	1129.9	1158.0	1197.0	1229.6
42.5°	1102.3	1045.8	1010.6	1003.7	1009.4	1021.2	1061.0	1078.0	1107.6	1150.8	1186.8
45°	1038.6	979.9	949.2	943.9	949.9	963.6	1002.6	1023.1	1054.5	1101.9	1140.5
47.5°	974.2	917.0	887.8	884.4	890.4	905.6	948.8	967.4	1000.7	1051.1	1092.8
50°	909.0	853.3	825.3	824.1	829.8	846.1	887.4	909.4	943.9	1000.3	1043.2
52.5°	843.1	789.7	764.3	764.3	769.6	786.2	827.9	850.7	886.3	945.8	993.1
55°	777.2	726.4	702.1	704.0	711.6	726.0	766.5	790.4	826.4	888.2	938.2
57.5°	711.2	663.1	641.1	643.8	651.0	665.4	705.2	732.1	764.6	828.7	879.8
60°	646.0	600.6	581.3	584.3	590.7	605.1	646.4	669.5	702.1	767.3	818.5
62.5°	580.1	538.8	520.6	524.4	530.1	544.5	583.5	605.9	638.1	702.1	753.7
65°	514.9	476.7	461.1	464.9	470.2	483.5	520.2	541.8	572.5	635.1	684.3
67.5°	450.5	415.7	402.8	406.6	410.7	423.2	453.6	477.1	505.9	565.3	611.9
70°	386.9	355.8	344.4	348.2	352.0	363.4	389.9	411.5	438.0	492.6	535.8
72.5°	324.0	293.7	288.0	291.4	294.4	304.3	329.7	346.7	369.8	418.3	455.5
75°	262.6	236.4	232.7	236.1	238.7	246.3	267.5	282.3	301.6	343.7	374.0
77.5°	203.5	181.5	180.0	182.6	185.3	190.6	207.3	222.8	238.0	269.0	295.9
80°	148.2	130.3	130.3	133.0	132.2	138.7	150.4	162.9	173.9	196.3	216.0
82.5°	97.8	83.7	85.6	87.5	88.7	91.3	98.5	108.0	114.8	128.5	141.3
85°	54.2	44.7	46.6	48.1	47.4	50.4	54.2	59.9	63.3	69.7	76.5
87.5°	20.1	16.7	17.1	18.2	18.9	20.5	20.5	23.9	24.3	25.0	26.5
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: P834241

CATALOG NUMBER: ORLG-12-4-INS-ASY2-LD4-3LO-20-120-EDD-90

CANDELA DISTRIBUTION (continued):

	160°	170°	180°
0°	1733.5	1733.5	1733.5
2.5°	1692.2	1701.3	1708.1
5°	1663.1	1670.6	1676.7
7.5°	1634.6	1641.5	1646.8
10°	1607.7	1615.3	1619.1
12.5°	1580.1	1588.8	1591.8
15°	1552.8	1561.5	1565.3
17.5°	1524.8	1536.1	1540.3
20°	1498.6	1513.0	1516.4
22.5°	1472.1	1486.9	1491.0
25°	1443.3	1460.7	1464.9
27.5°	1412.6	1433.4	1437.6
30°	1381.9	1404.6	1408.8
32.5°	1348.9	1373.6	1377.4
35°	1314.5	1339.1	1343.6
37.5°	1276.2	1303.1	1312.2
40°	1236.4	1265.6	1275.0
42.5°	1194.7	1226.5	1236.4
45°	1150.0	1184.9	1196.2
47.5°	1104.9	1144.3	1154.2
50°	1056.0	1098.1	1109.8
52.5°	1004.9	1050.7	1062.5
55°	951.8	998.1	1010.9
57.5°	894.2	942.0	955.6
60°	834.0	881.7	894.6
62.5°	772.2	815.4	827.9
65°	703.3	743.8	755.2
67.5°	630.1	667.3	676.7
70°	552.5	584.7	593.0
72.5°	471.4	493.7	504.7
75°	387.6	405.4	413.8
77.5°	303.5	316.0	322.8
80°	221.3	228.5	234.2
82.5°	144.7	147.8	151.9
85°	78.1	78.1	80.7
87.5°	26.5	25.4	26.5
90°	0.0	0.0	0.0

(END OF REPORT)