

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: P835360

Luminaire Tested: **ORLG-24-2-INS-ASY2-LD4-4LO-50-120-EDD-90**

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P835360
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-50-120-EDD-90
Description: 2FT x 2FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 5000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

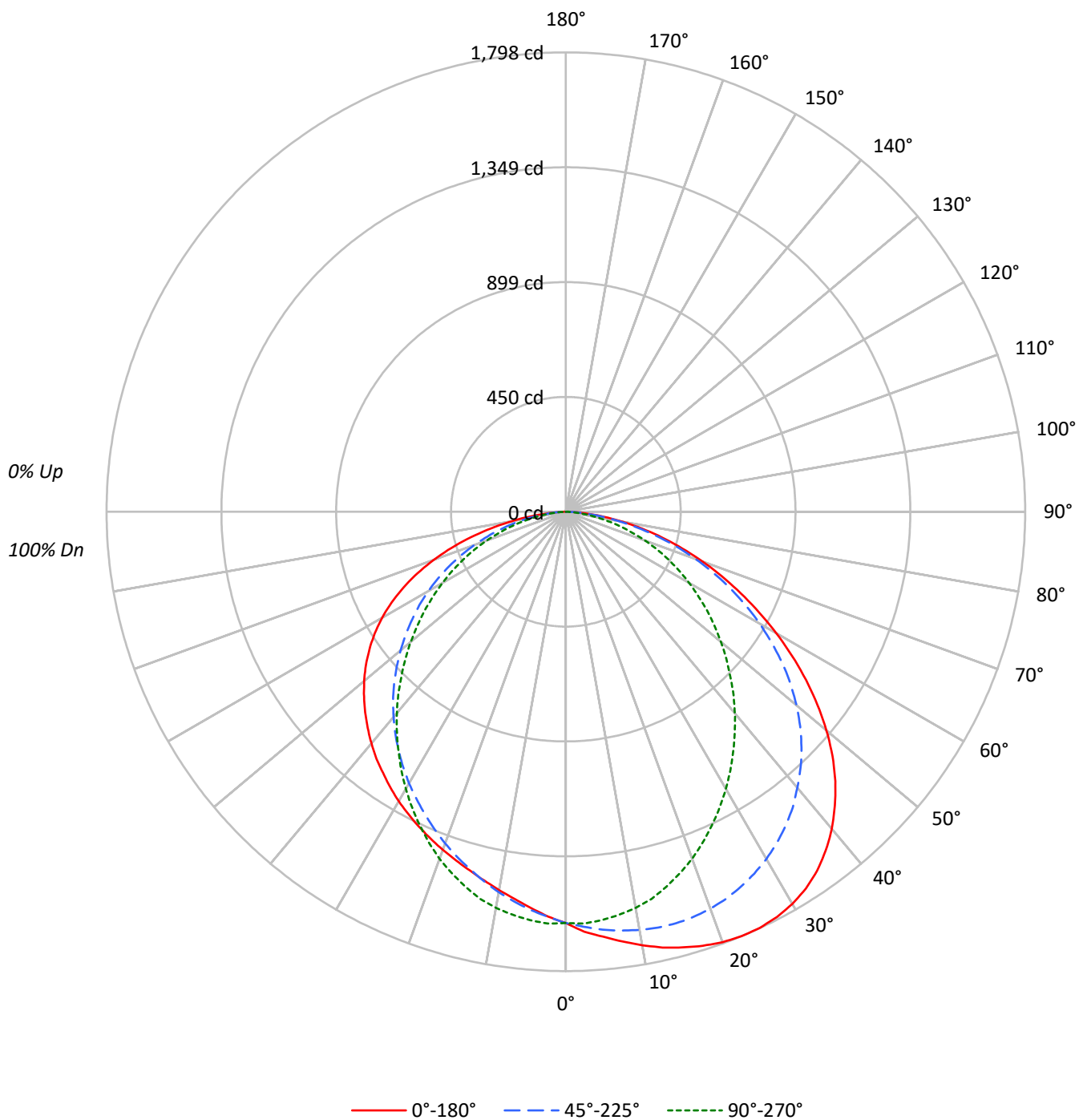
Lumens per Lamp: N/A
Luminaire Lumens: 4734.9 lumens
Efficiency: N/A
Efficacy: 101.2 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

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

Peachtree City, GA 30269



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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°	4332	4332	4332
5°	4510	4334	4206
10°	4707	4301	4108
15°	4919	4232	4049
20°	5133	4139	4032
25°	5335	4019	4039
30°	5509	3893	4065
35°	5635	3754	4098
40°	5691	3615	4159
45°	5676	3463	4227
50°	5575	3317	4314
55°	5385	3164	4404
60°	5122	3002	4471
65°	4810	2818	4465
70°	4476	2600	4332
75°	4064	2282	3995
80°	3490	1875	3369
85°	2661	1281	2313



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	152.7	3.2
10°-20°	440.9	9.3
20°-30°	675.4	14.3
30°-40°	824.3	17.4
40°-50°	862.0	18.2
50°-60°	780.2	16.5
60°-70°	590.8	12.5
70°-80°	329.3	7.0
80°-90°	79.4	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°	1268.9	26.8
0°-40°	2093.2	44.2
0°-60°	3735.4	78.9
0°-90°	4734.9	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4734.9	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1610	1610	1610	1610	1610	
5°	1670	1642	1604	1565	1557	161
15°	1766	1667	1519	1448	1454	501
25°	1797	1620	1354	1306	1360	829
35°	1715	1500	1143	1141	1248	1071
45°	1492	1305	910	950	1111	1148
55°	1148	1036	674	734	939	1024
65°	755	710	443	503	701	749
75°	391	369	220	262	384	415
85°	86	76	42	56	75	104
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°	1609.7	1609.7	1609.7	1609.7	1609.7	1609.7	1609.7	1609.7	1609.7	1609.7	1609.7
2.5°	1645.2	1637.5	1631.1	1633.6	1635.0	1630.1	1625.9	1626.6	1622.3	1630.4	1611.4
5°	1669.5	1662.4	1655.1	1657.9	1655.1	1647.7	1641.7	1639.9	1628.7	1633.2	1613.9
7.5°	1696.6	1688.8	1677.9	1681.1	1675.1	1661.4	1653.6	1649.1	1631.8	1632.2	1610.7
10°	1722.6	1715.9	1701.1	1703.3	1692.4	1674.1	1661.7	1655.4	1631.1	1627.6	1605.4
12.5°	1746.9	1737.7	1721.9	1723.0	1707.1	1682.9	1667.0	1657.9	1626.2	1615.7	1593.8
15°	1765.5	1756.7	1737.7	1737.4	1717.0	1685.3	1667.4	1654.7	1614.6	1598.1	1575.2
17.5°	1781.4	1773.3	1749.7	1749.0	1724.4	1684.3	1662.8	1647.0	1597.7	1577.3	1552.0
20°	1792.6	1784.5	1758.1	1755.7	1726.1	1679.0	1653.3	1633.2	1575.5	1551.3	1523.1
22.5°	1797.9	1789.8	1759.9	1756.4	1721.9	1668.4	1639.6	1616.0	1550.2	1518.5	1489.3
25°	1796.8	1789.1	1755.3	1751.8	1713.8	1652.6	1620.2	1593.1	1518.2	1480.9	1452.0
27.5°	1788.1	1782.1	1746.5	1742.0	1699.0	1631.1	1596.7	1566.7	1482.7	1441.1	1409.8
30°	1772.9	1768.3	1730.7	1726.5	1680.7	1607.6	1569.2	1534.7	1444.3	1397.5	1365.8
32.5°	1748.6	1744.4	1706.4	1702.6	1656.1	1577.3	1537.2	1501.7	1402.4	1350.7	1319.0
35°	1715.2	1712.8	1675.8	1671.6	1624.4	1542.8	1500.2	1461.2	1358.8	1300.4	1270.1
37.5°	1671.2	1671.2	1635.7	1631.1	1585.0	1500.6	1458.7	1417.2	1309.6	1247.6	1217.7
40°	1620.2	1624.8	1588.6	1584.0	1539.3	1455.2	1409.5	1365.8	1256.4	1192.0	1162.8
42.5°	1559.0	1563.2	1533.0	1528.7	1486.9	1402.8	1360.2	1312.7	1200.8	1135.4	1105.1
45°	1491.5	1497.1	1470.0	1466.8	1427.8	1345.4	1304.6	1256.4	1142.8	1076.3	1046.7
47.5°	1416.2	1423.5	1400.0	1398.2	1362.0	1286.7	1244.1	1195.2	1081.9	1014.7	986.9
50°	1331.7	1342.3	1322.9	1322.9	1290.6	1215.6	1178.7	1129.8	1018.6	951.4	923.9
52.5°	1241.3	1254.7	1240.2	1240.6	1214.2	1147.0	1108.6	1060.8	952.4	886.3	861.0
55°	1147.7	1160.7	1151.6	1153.0	1132.2	1071.0	1036.2	988.7	884.9	820.5	796.6
57.5°	1049.9	1064.0	1058.0	1060.8	1046.4	991.5	955.2	913.7	815.2	751.5	731.1
60°	951.7	965.1	961.9	965.8	956.7	909.2	876.1	833.2	745.2	684.0	666.0
62.5°	852.5	864.8	864.1	868.3	863.4	824.0	794.5	757.9	672.7	616.4	599.9
65°	755.4	766.0	765.3	769.8	768.8	737.1	710.4	676.9	600.2	548.5	534.1
67.5°	661.1	669.9	667.4	672.7	674.1	648.8	625.6	595.7	531.3	481.0	468.7
70°	568.9	574.9	571.7	575.3	578.4	559.4	539.7	513.3	457.7	413.4	403.2
72.5°	478.5	482.7	477.8	481.3	484.1	470.4	454.2	431.4	385.3	346.9	338.5
75°	390.9	396.9	386.7	390.2	392.3	378.6	369.1	350.4	310.7	281.1	275.5
77.5°	306.1	309.6	304.0	302.6	304.0	294.1	286.7	272.3	242.4	218.1	214.6
80°	225.2	227.3	221.7	220.3	221.3	214.3	208.6	198.1	177.0	158.7	157.3
82.5°	150.9	152.0	147.1	145.7	146.4	144.3	137.6	130.2	120.3	104.8	104.5
85°	86.2	86.2	82.7	81.3	82.0	78.5	76.0	72.1	68.3	57.7	58.4
87.5°	31.7	31.7	29.9	29.6	33.1	29.2	28.1	26.4	27.4	21.8	23.2
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°	1609.7	1609.7	1609.7	1609.7	1609.7	1609.7	1609.7	1609.7	1609.7	1609.7	1609.7
2.5°	1616.7	1613.2	1610.0	1599.1	1603.7	1592.4	1591.7	1587.5	1584.3	1578.4	1586.1
5°	1611.4	1604.4	1595.2	1582.2	1586.1	1572.7	1569.9	1565.0	1560.8	1553.0	1559.0
7.5°	1603.0	1591.4	1576.9	1560.4	1565.7	1549.2	1544.9	1539.7	1536.1	1527.0	1532.3
10°	1590.7	1574.1	1557.2	1537.2	1541.1	1523.1	1517.8	1512.2	1509.0	1501.0	1506.2
12.5°	1571.7	1551.6	1528.7	1506.9	1511.2	1494.3	1487.2	1481.2	1480.2	1473.5	1479.8
15°	1547.0	1519.2	1495.7	1472.5	1477.4	1457.7	1454.5	1448.5	1450.3	1445.7	1453.5
17.5°	1515.7	1483.7	1458.0	1433.0	1438.0	1421.4	1419.0	1416.2	1417.9	1417.2	1425.7
20°	1480.5	1445.4	1415.8	1391.2	1394.0	1381.0	1382.0	1381.3	1384.8	1388.7	1400.3
22.5°	1440.8	1401.0	1370.1	1344.7	1349.0	1337.7	1342.6	1344.0	1350.0	1358.8	1373.6
25°	1396.1	1353.5	1321.2	1297.2	1301.1	1293.7	1302.2	1305.7	1315.2	1330.0	1345.1
27.5°	1349.3	1304.3	1269.8	1246.9	1254.3	1246.9	1259.6	1266.6	1281.1	1297.2	1315.9
30°	1299.7	1252.9	1217.4	1197.0	1204.0	1197.3	1217.7	1227.2	1241.6	1263.8	1286.0
32.5°	1247.6	1198.4	1163.5	1147.7	1152.6	1151.6	1174.4	1185.0	1204.3	1229.7	1253.3
35°	1194.1	1142.8	1107.6	1094.2	1100.2	1101.6	1129.1	1141.4	1162.5	1193.1	1218.4
37.5°	1138.9	1086.5	1052.0	1041.1	1046.4	1051.7	1083.7	1096.0	1119.9	1153.3	1181.1
40°	1081.6	1029.1	995.4	986.6	991.8	997.5	1032.3	1049.2	1075.2	1111.5	1141.7
42.5°	1023.5	971.1	938.4	932.0	937.3	948.2	985.2	1001.0	1028.4	1068.5	1102.0
45°	964.4	909.9	881.4	876.4	882.1	894.7	931.0	950.0	979.2	1023.2	1059.0
47.5°	904.6	851.5	824.4	821.2	826.8	840.9	881.0	898.2	929.2	976.0	1014.7
50°	844.1	792.3	766.3	765.3	770.5	785.7	824.0	844.4	876.4	928.9	968.6
52.5°	782.8	733.2	709.7	709.7	714.6	730.1	768.8	789.9	823.0	878.2	922.2
55°	721.6	674.5	652.0	653.7	660.8	674.1	711.8	733.9	767.4	824.7	871.2
57.5°	660.4	615.7	595.3	597.8	604.5	617.8	654.8	679.8	710.0	769.5	817.0
60°	599.9	557.7	539.7	542.5	548.5	561.9	600.2	621.7	652.0	712.5	760.0
62.5°	538.7	500.3	483.4	486.9	492.2	505.6	541.8	562.6	592.5	652.0	699.8
65°	478.2	442.6	428.2	431.7	436.6	448.9	483.1	503.1	531.6	589.7	635.4
67.5°	418.3	386.0	374.0	377.5	381.4	393.0	421.2	443.0	469.7	524.9	568.2
70°	359.2	330.4	319.8	323.3	326.9	337.4	362.0	382.1	406.7	457.4	497.5
72.5°	300.8	272.7	267.4	270.6	273.4	282.5	306.1	321.9	343.4	388.4	422.9
75°	243.8	219.5	216.0	219.2	221.7	228.7	248.4	262.1	280.1	319.1	347.3
77.5°	188.9	168.5	167.1	169.6	172.0	177.0	192.5	206.9	221.0	249.8	274.8
80°	137.6	121.0	121.0	123.5	122.8	128.8	139.7	151.3	161.5	182.3	200.5
82.5°	90.8	77.8	79.5	81.3	82.3	84.8	91.5	100.3	106.6	119.3	131.2
85°	50.3	41.5	43.3	44.7	44.0	46.8	50.3	55.6	58.8	64.7	71.1
87.5°	18.6	15.5	15.8	16.9	17.6	19.0	19.0	22.2	22.5	23.2	24.6
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°	1609.7	1609.7	1609.7
2.5°	1571.3	1579.8	1586.1
5°	1544.2	1551.3	1556.9
7.5°	1517.8	1524.2	1529.1
10°	1492.9	1499.9	1503.4
12.5°	1467.2	1475.3	1478.1
15°	1441.8	1449.9	1453.5
17.5°	1415.8	1426.4	1430.2
20°	1391.5	1404.9	1408.1
22.5°	1366.9	1380.6	1384.5
25°	1340.2	1356.3	1360.2
27.5°	1311.7	1331.0	1334.9
30°	1283.2	1304.3	1308.1
32.5°	1252.6	1275.4	1278.9
35°	1220.5	1243.4	1247.6
37.5°	1185.0	1210.0	1218.4
40°	1148.1	1175.1	1183.9
42.5°	1109.4	1138.9	1148.1
45°	1067.8	1100.2	1110.8
47.5°	1026.0	1062.6	1071.7
50°	980.6	1019.6	1030.5
52.5°	933.1	975.7	986.6
55°	883.8	926.7	938.7
57.5°	830.3	874.7	887.3
60°	774.4	818.7	830.7
62.5°	717.1	757.2	768.8
65°	653.0	690.7	701.2
67.5°	585.1	619.6	628.4
70°	513.0	542.9	550.6
72.5°	437.7	458.4	468.7
75°	359.9	376.5	384.2
77.5°	281.8	293.4	299.8
80°	205.5	212.2	217.4
82.5°	134.4	137.2	141.1
85°	72.5	72.5	74.9
87.5°	24.6	23.6	24.6
90°	0.0	0.0	0.0

(END OF REPORT)