

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: P834265

Luminaire Tested: **ORLG-12-4-INS-ASY2-LD4-2LO-35-120-EDD-90**

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P834265
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-LD4-2LO-35-120-EDD-90
Description: 1FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 3500K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

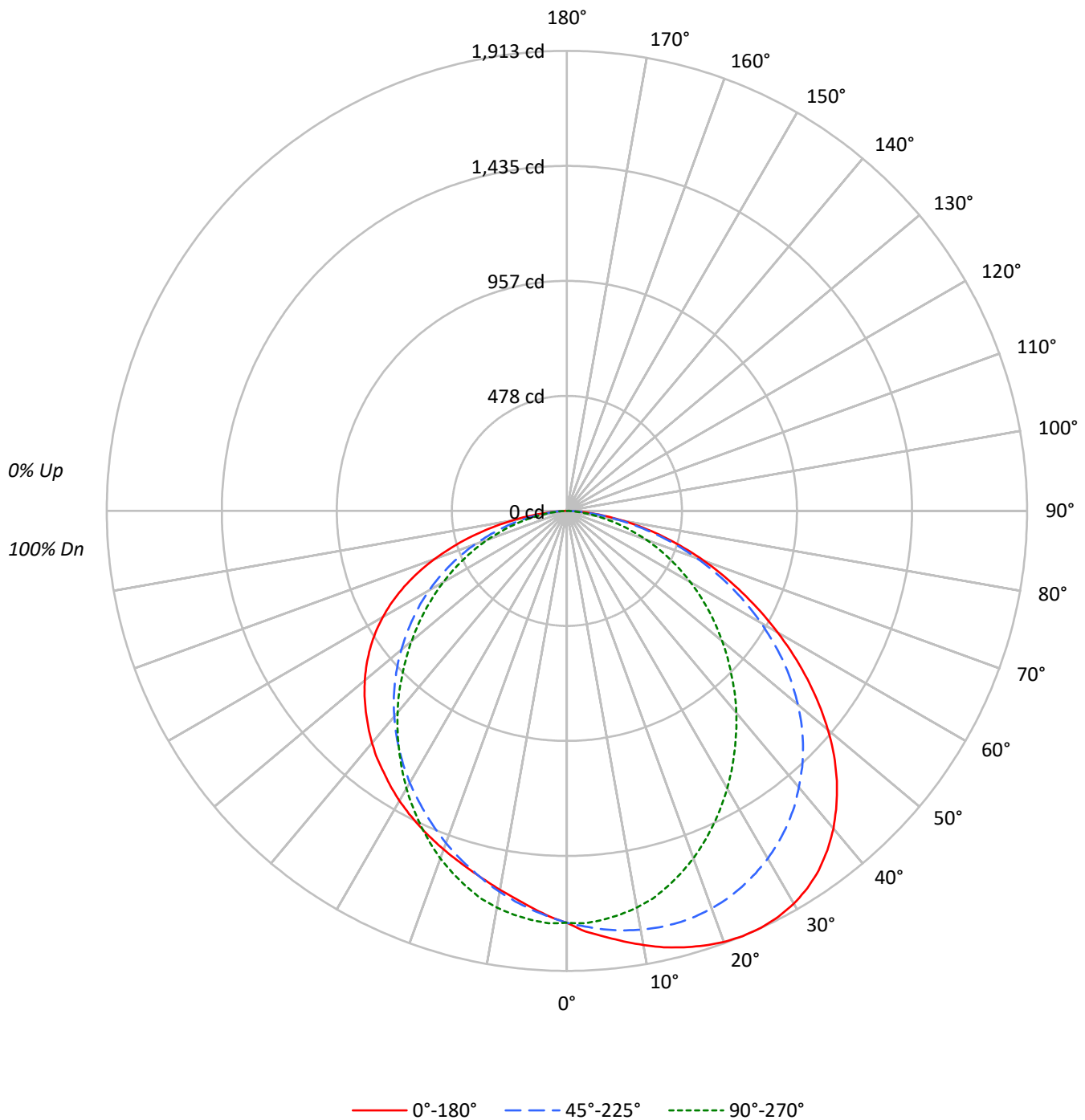
Lumens per Lamp: N/A
Luminaire Lumens: 5038.5 lumens
Efficiency: N/A
Efficacy: 107.7 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 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°	4609	4609	4609
5°	4799	4612	4475
10°	5009	4577	4371
15°	5234	4504	4309
20°	5463	4405	4291
25°	5677	4276	4298
30°	5862	4143	4325
35°	5996	3995	4361
40°	6056	3847	4426
45°	6040	3685	4498
50°	5933	3530	4591
55°	5730	3367	4686
60°	5451	3194	4758
65°	5118	2999	4751
70°	4763	2766	4610
75°	4325	2429	4250
80°	3713	1996	3586
85°	2831	1365	2461



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	162.5	3.2
10°-20°	469.1	9.3
20°-30°	718.7	14.3
30°-40°	877.1	17.4
40°-50°	917.3	18.2
50°-60°	830.2	16.5
60°-70°	628.7	12.5
70°-80°	350.4	7.0
80°-90°	84.5	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°	1350.3	26.8
0°-40°	2227.4	44.2
0°-60°	3974.9	78.9
0°-90°	5038.5	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5038.5	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1713	1713	1713	1713	1713	
5°	1776	1747	1707	1665	1657	171
15°	1879	1774	1617	1541	1547	533
25°	1912	1724	1440	1389	1447	882
35°	1825	1596	1216	1215	1328	1140
45°	1587	1388	968	1011	1182	1221
55°	1221	1103	718	781	999	1090
65°	804	756	471	535	746	797
75°	416	393	234	279	409	441
85°	92	81	44	59	80	110
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°	1712.9	1712.9	1712.9	1712.9	1712.9	1712.9	1712.9	1712.9	1712.9	1712.9	1712.9
2.5°	1750.7	1742.5	1735.7	1738.4	1739.9	1734.6	1730.1	1730.9	1726.4	1735.0	1714.8
5°	1776.5	1769.1	1761.2	1764.2	1761.2	1753.3	1747.0	1745.1	1733.1	1738.0	1717.4
7.5°	1805.4	1797.1	1785.5	1788.9	1782.5	1767.9	1759.7	1754.8	1736.5	1736.9	1714.0
10°	1833.1	1826.0	1810.2	1812.5	1800.9	1781.4	1768.3	1761.6	1735.7	1732.0	1708.4
12.5°	1858.9	1849.2	1832.3	1833.5	1816.6	1790.8	1773.9	1764.2	1730.5	1719.3	1696.0
15°	1878.8	1869.4	1849.2	1848.8	1827.1	1793.4	1774.3	1760.8	1718.1	1700.5	1676.2
17.5°	1895.6	1887.0	1861.9	1861.2	1835.0	1792.3	1769.4	1752.6	1700.2	1678.5	1651.5
20°	1907.6	1899.0	1870.9	1868.3	1836.8	1786.7	1759.3	1738.0	1676.6	1650.7	1620.8
22.5°	1913.2	1904.6	1872.8	1869.0	1832.3	1775.4	1744.7	1719.6	1649.6	1615.9	1584.9
25°	1912.1	1903.8	1867.9	1864.2	1823.7	1758.6	1724.1	1695.3	1615.6	1575.9	1545.2
27.5°	1902.7	1896.4	1858.5	1853.7	1808.0	1735.7	1699.0	1667.2	1577.7	1533.6	1500.2
30°	1886.6	1881.8	1841.7	1837.2	1788.5	1710.7	1669.8	1633.1	1536.9	1487.1	1453.4
32.5°	1860.8	1856.3	1815.9	1811.7	1762.3	1678.5	1635.8	1598.0	1492.4	1437.3	1403.6
35°	1825.2	1822.6	1783.3	1778.8	1728.6	1641.8	1596.5	1554.9	1445.9	1383.8	1351.6
37.5°	1778.4	1778.4	1740.6	1735.7	1686.7	1596.8	1552.3	1508.1	1393.5	1327.6	1295.8
40°	1724.1	1729.0	1690.4	1685.6	1638.0	1548.5	1499.9	1453.4	1337.0	1268.5	1237.4
42.5°	1659.0	1663.5	1631.3	1626.8	1582.2	1492.7	1447.4	1396.9	1277.8	1208.2	1176.0
45°	1587.1	1593.1	1564.3	1560.9	1519.3	1431.7	1388.3	1337.0	1216.1	1145.3	1113.9
47.5°	1507.0	1514.8	1489.8	1487.9	1449.3	1369.2	1323.9	1271.8	1151.3	1079.8	1050.2
50°	1417.1	1428.3	1407.8	1407.8	1373.3	1293.6	1254.3	1202.2	1083.9	1012.4	983.2
52.5°	1320.9	1335.1	1319.8	1320.1	1292.1	1220.6	1179.7	1128.8	1013.5	943.1	916.2
55°	1221.3	1235.2	1225.4	1226.9	1204.8	1139.7	1102.6	1052.1	941.6	873.1	847.6
57.5°	1117.2	1132.2	1125.8	1128.8	1113.5	1055.1	1016.5	972.3	867.5	799.7	778.0
60°	1012.8	1027.0	1023.6	1027.7	1018.0	967.5	932.3	886.6	793.0	727.8	708.7
62.5°	907.2	920.3	919.5	924.0	918.8	876.9	845.4	806.5	715.9	656.0	638.4
65°	803.8	815.1	814.3	819.2	818.1	784.4	755.9	720.4	638.7	583.7	568.3
67.5°	703.5	712.9	710.2	715.9	717.4	690.4	665.7	633.9	565.3	511.8	498.7
70°	605.4	611.8	608.4	612.1	615.5	595.3	574.3	546.3	487.1	439.9	429.1
72.5°	509.2	513.7	508.4	512.2	515.2	500.6	483.4	459.0	410.0	369.2	360.2
75°	416.0	422.3	411.5	415.2	417.5	402.9	392.7	372.9	330.6	299.1	293.2
77.5°	325.7	329.5	323.5	322.0	323.5	313.0	305.1	289.8	258.0	232.1	228.4
80°	239.6	241.9	235.9	234.4	235.5	228.0	222.0	210.8	188.3	168.9	167.4
82.5°	160.6	161.7	156.5	155.0	155.8	153.5	146.4	138.5	128.0	111.6	111.2
85°	91.7	91.7	88.0	86.5	87.2	83.5	80.9	76.8	72.6	61.4	62.2
87.5°	33.7	33.7	31.8	31.4	35.2	31.1	30.0	28.1	29.2	23.2	24.7
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):

	80°	90°	100°	110°	112.5°	120°	130°	135°	140°	150°	157.5°
0°	1712.9	1712.9	1712.9	1712.9	1712.9	1712.9	1712.9	1712.9	1712.9	1712.9	1712.9
2.5°	1720.4	1716.6	1713.3	1701.7	1706.5	1694.6	1693.8	1689.3	1685.9	1679.6	1687.8
5°	1714.8	1707.3	1697.5	1683.7	1687.8	1673.6	1670.6	1665.3	1660.9	1652.6	1659.0
7.5°	1705.8	1693.4	1678.1	1660.5	1666.1	1648.5	1644.0	1638.4	1634.6	1624.9	1630.5
10°	1692.7	1675.1	1657.1	1635.8	1639.9	1620.8	1615.2	1609.2	1605.8	1597.2	1602.8
12.5°	1672.5	1651.1	1626.8	1603.6	1608.1	1590.1	1582.6	1576.2	1575.1	1568.0	1574.7
15°	1646.3	1616.7	1591.6	1566.9	1572.1	1551.2	1547.8	1541.4	1543.3	1538.4	1546.7
17.5°	1612.9	1578.9	1551.5	1524.9	1530.2	1512.6	1510.0	1507.0	1508.8	1508.1	1517.1
20°	1575.5	1538.1	1506.6	1480.4	1483.4	1469.5	1470.7	1469.9	1473.7	1477.8	1490.1
22.5°	1533.2	1490.9	1457.9	1431.0	1435.5	1423.5	1428.7	1430.2	1436.6	1445.9	1461.7
25°	1485.6	1440.3	1405.9	1380.4	1384.5	1376.7	1385.7	1389.4	1399.5	1415.2	1431.3
27.5°	1435.8	1387.9	1351.2	1326.9	1334.7	1326.9	1340.4	1347.9	1363.2	1380.4	1400.3
30°	1383.0	1333.3	1295.4	1273.7	1281.2	1274.1	1295.8	1305.9	1321.3	1344.9	1368.4
32.5°	1327.6	1275.2	1238.2	1221.3	1226.5	1225.4	1249.8	1261.0	1281.6	1308.5	1333.6
35°	1270.7	1216.1	1178.6	1164.4	1170.8	1172.3	1201.5	1214.6	1237.0	1269.6	1296.6
37.5°	1211.9	1156.2	1119.5	1107.9	1113.5	1119.1	1153.2	1166.3	1191.7	1227.3	1256.9
40°	1150.9	1095.1	1059.2	1049.8	1055.4	1061.4	1098.5	1116.5	1144.2	1182.7	1214.9
42.5°	1089.1	1033.4	998.5	991.8	997.4	1009.0	1048.3	1065.2	1094.4	1137.1	1172.6
45°	1026.2	968.2	937.9	932.6	938.6	952.1	990.7	1010.9	1042.0	1088.8	1127.0
47.5°	962.6	906.1	877.2	873.9	879.8	894.8	937.5	955.9	988.8	1038.6	1079.8
50°	898.2	843.2	815.5	814.3	819.9	836.0	876.9	898.6	932.6	988.4	1030.7
52.5°	833.0	780.3	755.2	755.2	760.4	776.9	818.1	840.5	875.7	934.5	981.3
55°	767.9	717.7	693.8	695.6	703.1	717.4	757.4	781.0	816.6	877.6	927.0
57.5°	702.8	655.2	633.5	636.1	643.2	657.5	696.8	723.3	755.5	818.8	869.4
60°	638.4	593.4	574.3	577.3	583.7	597.9	638.7	661.6	693.8	758.2	808.7
62.5°	573.2	532.4	514.4	518.2	523.8	538.0	576.6	598.7	630.5	693.8	744.7
65°	508.8	471.0	455.6	459.4	464.6	477.7	514.1	535.4	565.7	627.5	676.2
67.5°	445.2	410.7	398.0	401.7	405.9	418.2	448.2	471.4	499.8	558.6	604.7
70°	382.3	351.6	340.3	344.1	347.8	359.1	385.3	406.6	432.8	486.7	529.4
72.5°	320.1	290.2	284.5	287.9	290.9	300.6	325.7	342.6	365.4	413.3	450.0
75°	259.5	233.6	229.9	233.3	235.9	243.4	264.3	278.9	298.0	339.6	369.5
77.5°	201.1	179.3	177.8	180.5	183.1	188.3	204.8	220.1	235.1	265.8	292.4
80°	146.4	128.8	128.8	131.4	130.7	137.0	148.6	161.0	171.9	193.9	213.4
82.5°	96.6	82.7	84.6	86.5	87.6	90.2	97.3	106.7	113.4	126.9	139.7
85°	53.5	44.2	46.1	47.5	46.8	49.8	53.5	59.2	62.5	68.9	75.6
87.5°	19.8	16.5	16.8	18.0	18.7	20.2	20.2	23.6	24.0	24.7	26.2
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):

	160°	170°	180°
0°	1712.9	1712.9	1712.9
2.5°	1672.1	1681.1	1687.8
5°	1643.3	1650.7	1656.7
7.5°	1615.2	1621.9	1627.2
10°	1588.6	1596.1	1599.8
12.5°	1561.3	1569.9	1572.9
15°	1534.3	1542.9	1546.7
17.5°	1506.6	1517.8	1522.0
20°	1480.8	1495.0	1498.4
22.5°	1454.6	1469.2	1473.3
25°	1426.1	1443.3	1447.4
27.5°	1395.8	1416.4	1420.5
30°	1365.5	1387.9	1392.0
32.5°	1332.9	1357.2	1361.0
35°	1298.8	1323.1	1327.6
37.5°	1261.0	1287.6	1296.6
40°	1221.7	1250.5	1259.9
42.5°	1180.5	1211.9	1221.7
45°	1136.3	1170.8	1182.0
47.5°	1091.8	1130.7	1140.4
50°	1043.5	1085.0	1096.6
52.5°	992.9	1038.2	1049.8
55°	940.5	986.2	998.9
57.5°	883.6	930.8	944.2
60°	824.1	871.2	884.0
62.5°	763.0	805.7	818.1
65°	694.9	735.0	746.2
67.5°	622.6	659.3	668.7
70°	545.9	577.7	585.9
72.5°	465.8	487.8	498.7
75°	383.0	400.6	408.8
77.5°	299.9	312.3	319.0
80°	218.7	225.8	231.4
82.5°	143.0	146.0	150.1
85°	77.1	77.1	79.7
87.5°	26.2	25.1	26.2
90°	0.0	0.0	0.0

(END OF REPORT)