

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: P834228

Luminaire Tested: **ORLG-12-4-INS-ASY2-LD4-1HI-50-120-EDD**

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P834228
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-LD4-1HI-50-120-EDD
Description: 1FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 5000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

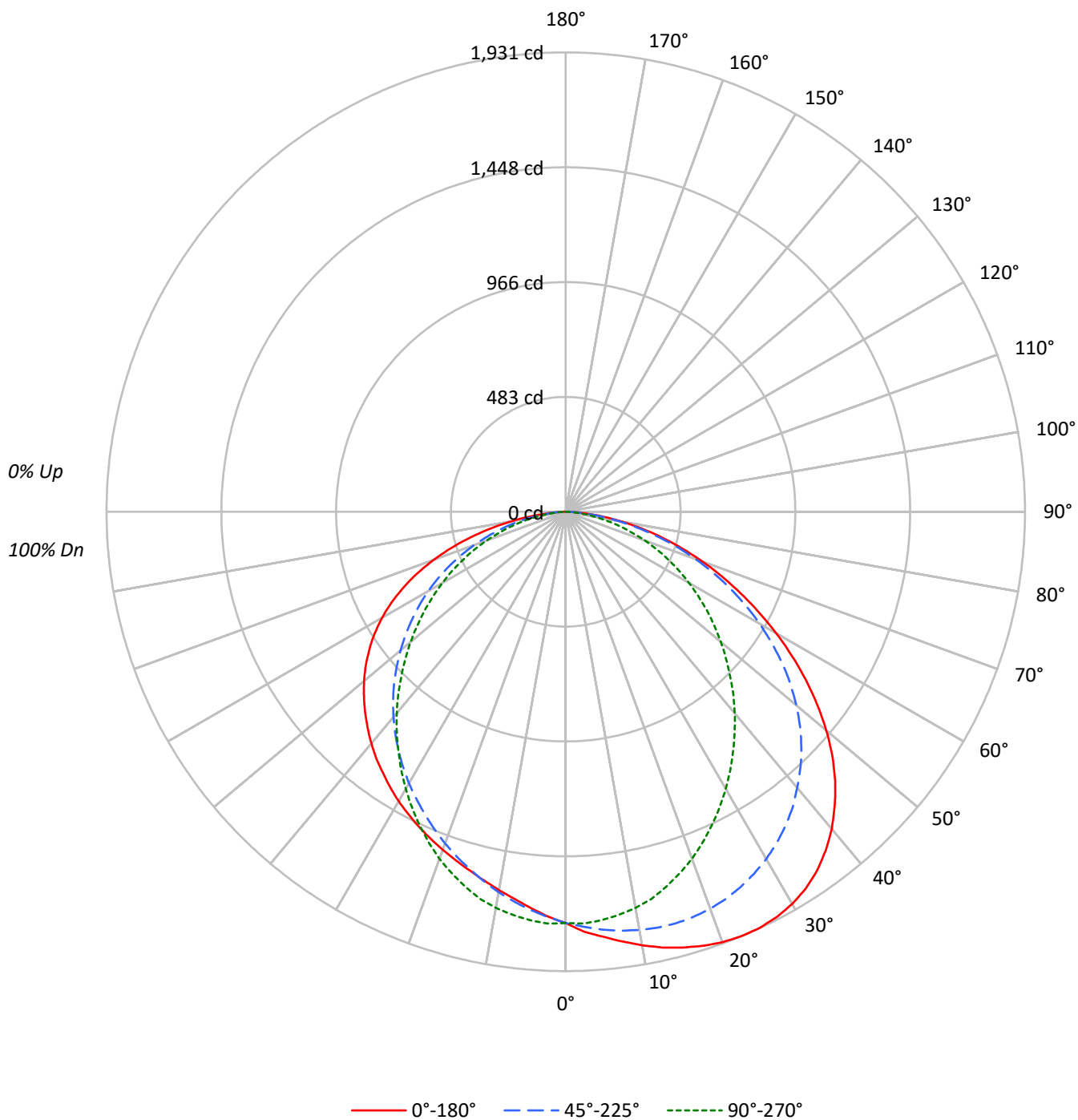
Lumens per Lamp: N/A
Luminaire Lumens: 5085.2 lumens
Efficiency: N/A
Efficacy: 115.6 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 44
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°	4652	4652	4652
5°	4843	4655	4517
10°	5055	4620	4412
15°	5283	4545	4349
20°	5513	4445	4330
25°	5730	4316	4337
30°	5917	4181	4365
35°	6051	4032	4402
40°	6113	3883	4467
45°	6096	3719	4540
50°	5987	3563	4634
55°	5783	3399	4730
60°	5501	3223	4802
65°	5166	3027	4795
70°	4807	2792	4653
75°	4365	2452	4290
80°	3747	2015	3618
85°	2859	1377	2485



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	164.0	3.2
10°-20°	473.5	9.3
20°-30°	725.4	14.3
30°-40°	885.2	17.4
40°-50°	925.8	18.2
50°-60°	837.9	16.5
60°-70°	634.6	12.5
70°-80°	353.6	7.0
80°-90°	85.3	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°	1362.8	26.8
0°-40°	2248.1	44.2
0°-60°	4011.7	78.9
0°-90°	5085.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5085.2	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1729	1729	1729	1729	1729	
5°	1793	1763	1723	1681	1672	173
15°	1896	1791	1632	1556	1561	538
25°	1930	1740	1454	1402	1461	890
35°	1842	1611	1227	1226	1340	1150
45°	1602	1401	977	1020	1193	1232
55°	1233	1113	724	788	1008	1100
65°	811	763	475	540	753	805
75°	420	396	236	282	413	445
85°	93	82	45	60	80	111
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°	1728.8	1728.8	1728.8	1728.8	1728.8	1728.8	1728.8	1728.8	1728.8	1728.8	1728.8
2.5°	1766.9	1758.6	1751.8	1754.5	1756.0	1750.7	1746.1	1746.9	1742.4	1751.1	1730.6
5°	1793.0	1785.4	1777.5	1780.5	1777.5	1769.6	1763.1	1761.3	1749.2	1754.1	1733.3
7.5°	1822.1	1813.8	1802.1	1805.5	1799.0	1784.3	1776.0	1771.1	1752.6	1752.9	1729.9
10°	1850.1	1842.9	1827.0	1829.3	1817.6	1797.9	1784.7	1777.9	1751.8	1748.0	1724.2
12.5°	1876.1	1866.3	1849.3	1850.4	1833.4	1807.4	1790.4	1780.5	1746.5	1735.2	1711.8
15°	1896.2	1886.7	1866.3	1865.9	1844.0	1810.0	1790.7	1777.1	1734.1	1716.3	1691.7
17.5°	1913.2	1904.5	1879.2	1878.4	1851.9	1808.9	1785.8	1768.8	1715.9	1694.0	1666.8
20°	1925.3	1916.6	1888.2	1885.6	1853.8	1803.2	1775.6	1754.1	1692.1	1666.0	1635.8
22.5°	1930.9	1922.2	1890.1	1886.3	1849.3	1791.9	1760.9	1735.6	1664.9	1630.9	1599.5
25°	1929.8	1921.5	1885.2	1881.4	1840.6	1774.9	1740.1	1711.0	1630.5	1590.5	1559.5
27.5°	1920.3	1913.9	1875.8	1870.8	1824.7	1751.8	1714.8	1682.7	1592.3	1547.8	1514.1
30°	1904.1	1899.2	1858.7	1854.2	1805.1	1726.5	1685.3	1648.3	1551.2	1500.9	1466.9
32.5°	1878.0	1873.5	1832.7	1828.5	1778.6	1694.0	1650.9	1612.8	1506.2	1450.6	1416.6
35°	1842.1	1839.5	1799.8	1795.3	1744.6	1657.0	1611.2	1569.3	1459.3	1396.6	1364.1
37.5°	1794.9	1794.9	1756.7	1751.8	1702.3	1611.6	1566.7	1522.1	1406.4	1339.9	1307.8
40°	1740.1	1745.0	1706.1	1701.2	1653.2	1562.9	1513.8	1466.9	1349.4	1280.2	1248.9
42.5°	1674.3	1678.9	1646.4	1641.9	1596.9	1506.6	1460.8	1409.8	1289.7	1219.4	1186.9
45°	1601.8	1607.8	1578.7	1575.3	1533.4	1445.0	1401.1	1349.4	1227.3	1155.9	1124.2
47.5°	1520.9	1528.9	1503.5	1501.7	1462.7	1381.9	1336.2	1283.6	1162.0	1089.8	1059.9
50°	1430.2	1441.6	1420.8	1420.8	1386.0	1305.5	1265.9	1213.3	1093.9	1021.8	992.3
52.5°	1333.1	1347.5	1332.0	1332.4	1304.0	1231.9	1190.7	1139.3	1022.9	951.9	924.7
55°	1232.6	1246.6	1236.8	1238.3	1216.0	1150.2	1112.8	1061.8	950.3	881.2	855.5
57.5°	1127.6	1142.7	1136.3	1139.3	1123.8	1064.8	1025.9	981.3	875.5	807.1	785.2
60°	1022.1	1036.5	1033.1	1037.3	1027.4	976.4	940.9	894.8	800.3	734.6	715.3
62.5°	915.6	928.8	928.1	932.6	927.3	885.0	853.2	813.9	722.5	662.0	644.3
65°	811.3	822.6	821.9	826.8	825.6	791.6	762.9	727.0	644.6	589.1	573.6
67.5°	710.0	719.5	716.8	722.5	724.0	696.8	671.9	639.7	570.6	516.5	503.3
70°	611.0	617.4	614.0	617.8	621.2	600.8	579.7	551.3	491.6	444.0	433.0
72.5°	513.9	518.4	513.1	516.9	520.0	505.2	487.8	463.3	413.8	372.6	363.5
75°	419.8	426.2	415.3	419.1	421.3	406.6	396.4	376.4	333.7	301.9	295.9
77.5°	328.7	332.5	326.5	325.0	326.5	315.9	308.0	292.5	260.4	234.3	230.5
80°	241.8	244.1	238.1	236.5	237.7	230.1	224.1	212.7	190.1	170.4	168.9
82.5°	162.1	163.2	158.0	156.4	157.2	154.9	147.7	139.8	129.2	112.6	112.2
85°	92.6	92.6	88.8	87.3	88.0	84.3	81.6	77.5	73.3	62.0	62.7
87.5°	34.0	34.0	32.1	31.7	35.5	31.4	30.2	28.3	29.5	23.4	24.9
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°	1728.8	1728.8	1728.8	1728.8	1728.8	1728.8	1728.8	1728.8	1728.8	1728.8	1728.8
2.5°	1736.3	1732.5	1729.1	1717.4	1722.3	1710.2	1709.5	1705.0	1701.6	1695.1	1703.4
5°	1730.6	1723.1	1713.3	1699.3	1703.4	1689.1	1686.1	1680.8	1676.2	1667.9	1674.3
7.5°	1721.6	1709.1	1693.6	1675.9	1681.5	1663.8	1659.2	1653.6	1649.8	1640.0	1645.6
10°	1708.4	1690.6	1672.5	1650.9	1655.1	1635.8	1630.1	1624.1	1620.7	1612.0	1617.7
12.5°	1688.0	1666.4	1641.9	1618.4	1623.0	1604.8	1597.3	1590.8	1589.7	1582.5	1589.3
15°	1661.5	1631.6	1606.3	1581.4	1586.7	1565.5	1562.1	1555.7	1557.6	1552.7	1561.0
17.5°	1627.9	1593.5	1565.9	1539.1	1544.4	1526.6	1524.0	1520.9	1522.8	1522.1	1531.1
20°	1590.1	1552.3	1520.6	1494.1	1497.1	1483.1	1484.3	1483.5	1487.3	1491.5	1503.9
22.5°	1547.4	1504.7	1471.4	1444.2	1448.8	1436.7	1442.0	1443.5	1449.9	1459.3	1475.2
25°	1499.4	1453.7	1418.9	1393.2	1397.4	1389.4	1398.5	1402.3	1412.5	1428.4	1444.6
27.5°	1449.1	1400.8	1363.7	1339.2	1347.1	1339.2	1352.8	1360.3	1375.8	1393.2	1413.2
30°	1395.9	1345.6	1307.4	1285.5	1293.1	1285.9	1307.8	1318.0	1333.5	1357.3	1381.1
32.5°	1339.9	1287.0	1249.6	1232.6	1237.9	1236.8	1261.3	1272.7	1293.5	1320.7	1346.0
35°	1282.5	1227.3	1189.5	1175.2	1181.6	1183.1	1212.6	1225.8	1248.5	1281.4	1308.6
37.5°	1223.2	1166.9	1129.8	1118.1	1123.8	1129.5	1163.8	1177.1	1202.8	1238.7	1268.5
40°	1161.6	1105.3	1069.0	1059.6	1065.2	1071.3	1108.7	1126.8	1154.8	1193.7	1226.2
42.5°	1099.2	1042.9	1007.8	1001.0	1006.6	1018.4	1058.0	1075.0	1104.5	1147.6	1183.5
45°	1035.7	977.2	946.6	941.3	947.3	960.9	999.8	1020.3	1051.6	1098.8	1137.4
47.5°	971.5	914.4	885.4	882.0	888.0	903.1	946.2	964.7	998.0	1048.2	1089.8
50°	906.5	851.0	823.0	821.9	827.5	843.8	885.0	906.9	941.3	997.6	1040.3
52.5°	840.8	787.5	762.2	762.2	767.5	784.1	825.6	848.3	883.8	943.2	990.4
55°	775.0	724.4	700.2	702.1	709.6	724.0	764.4	788.2	824.1	885.7	935.6
57.5°	709.3	661.3	639.4	642.0	649.2	663.5	703.2	730.0	762.5	826.4	877.4
60°	644.3	598.9	579.7	582.7	589.1	603.5	644.6	667.7	700.2	765.2	816.2
62.5°	578.5	537.3	519.2	523.0	528.6	543.0	581.9	604.2	636.3	700.2	751.6
65°	513.5	475.4	459.9	463.6	468.9	482.2	518.8	540.4	571.0	633.3	682.4
67.5°	449.3	414.5	401.7	405.5	409.6	422.1	452.3	475.7	504.5	563.8	610.3
70°	385.8	354.8	343.5	347.3	351.0	362.4	388.8	410.4	436.8	491.2	534.3
72.5°	323.1	292.9	287.2	290.6	293.6	303.4	328.7	345.8	368.8	417.2	454.2
75°	261.9	235.8	232.0	235.4	238.1	245.6	266.8	281.5	300.8	342.7	373.0
77.5°	202.9	181.0	179.5	182.1	184.8	190.1	206.7	222.2	237.3	268.3	295.1
80°	147.7	130.0	130.0	132.6	131.9	138.3	150.0	162.5	173.4	195.7	215.4
82.5°	97.5	83.5	85.4	87.3	88.4	91.1	98.2	107.7	114.5	128.1	140.9
85°	54.0	44.6	46.5	48.0	47.2	50.3	54.0	59.7	63.1	69.5	76.3
87.5°	20.0	16.6	17.0	18.1	18.9	20.4	20.4	23.8	24.2	24.9	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

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CANDELA DISTRIBUTION (continued):

	160°	170°	180°
0°	1728.8	1728.8	1728.8
2.5°	1687.6	1696.6	1703.4
5°	1658.5	1666.0	1672.1
7.5°	1630.1	1636.9	1642.2
10°	1603.3	1610.9	1614.6
12.5°	1575.7	1584.4	1587.4
15°	1548.5	1557.2	1561.0
17.5°	1520.6	1531.9	1536.0
20°	1494.5	1508.8	1512.2
22.5°	1468.0	1482.8	1486.9
25°	1439.3	1456.7	1460.8
27.5°	1408.7	1429.5	1433.6
30°	1378.1	1400.8	1404.9
32.5°	1345.2	1369.8	1373.6
35°	1310.8	1335.4	1339.9
37.5°	1272.7	1299.5	1308.6
40°	1233.0	1262.1	1271.5
42.5°	1191.4	1223.2	1233.0
45°	1146.8	1181.6	1192.9
47.5°	1101.9	1141.2	1151.0
50°	1053.1	1095.1	1106.8
52.5°	1002.1	1047.8	1059.6
55°	949.2	995.3	1008.2
57.5°	891.8	939.4	953.0
60°	831.7	879.3	892.2
62.5°	770.1	813.2	825.6
65°	701.3	741.8	753.1
67.5°	628.4	665.4	674.9
70°	550.9	583.1	591.4
72.5°	470.1	492.4	503.3
75°	386.6	404.3	412.6
77.5°	302.7	315.1	321.9
80°	220.7	227.9	233.5
82.5°	144.3	147.4	151.5
85°	77.8	77.8	80.5
87.5°	26.5	25.3	26.5
90°	0.0	0.0	0.0

(END OF REPORT)