

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: P835291

Luminaire Tested: **ORLG-24-2-INS-ASY2-LD4-5LO-27-120-EDD-90**

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P835291
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-LD4-5LO-27-120-EDD-90
Description: 2FT x 2FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 2700K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

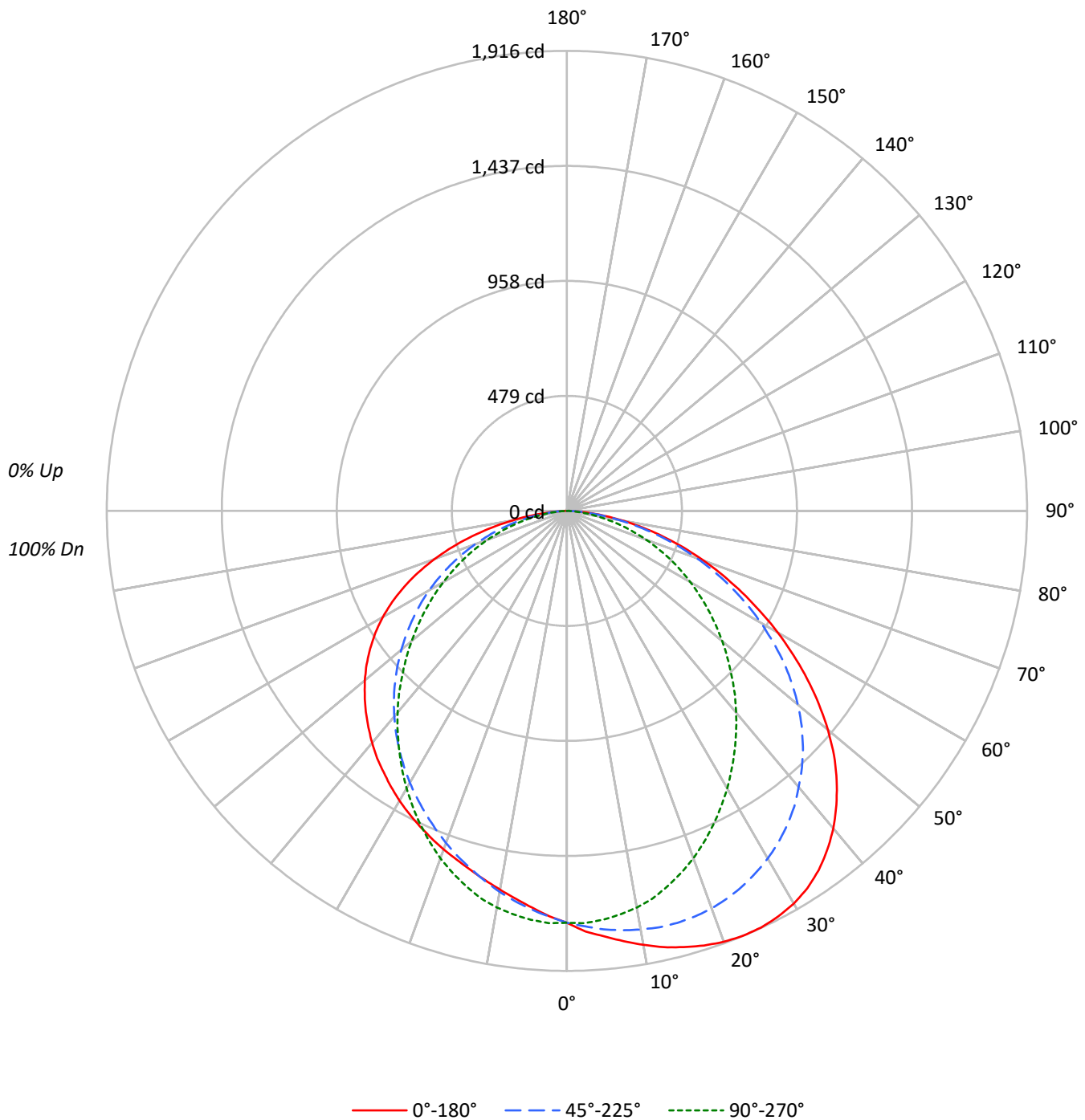
Lumens per Lamp: N/A
Luminaire Lumens: 5044.7 lumens
Efficiency: N/A
Efficacy: 86.2 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

Input Watts (W): 58.5
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°	4615	4615	4615
5°	4805	4618	4481
10°	5015	4583	4377
15°	5240	4509	4314
20°	5469	4410	4296
25°	5684	4282	4303
30°	5869	4148	4331
35°	6003	4000	4367
40°	6064	3852	4431
45°	6047	3689	4504
50°	5940	3534	4597
55°	5737	3371	4692
60°	5457	3198	4763
65°	5124	3003	4757
70°	4769	2769	4616
75°	4330	2432	4256
80°	3718	1999	3591
85°	2834	1365	2464



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	162.7	3.2
10°-20°	469.7	9.3
20°-30°	719.6	14.3
30°-40°	878.2	17.4
40°-50°	918.4	18.2
50°-60°	831.2	16.5
60°-70°	629.5	12.5
70°-80°	350.8	7.0
80°-90°	84.6	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°	1352.0	26.8
0°-40°	2230.1	44.2
0°-60°	3979.7	78.9
0°-90°	5044.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5044.7	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1715	1715	1715	1715	1715	
5°	1779	1749	1709	1667	1659	172
15°	1881	1776	1619	1543	1548	533
25°	1914	1726	1442	1391	1449	883
35°	1827	1598	1218	1216	1329	1141
45°	1589	1390	969	1012	1183	1223
55°	1223	1104	719	782	1000	1091
65°	805	757	472	536	747	798
75°	416	393	234	279	409	442
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°	1715.0	1715.0	1715.0	1715.0	1715.0	1715.0	1715.0	1715.0	1715.0	1715.0	1715.0
2.5°	1752.8	1744.6	1737.8	1740.5	1742.0	1736.7	1732.2	1733.0	1728.5	1737.1	1716.9
5°	1778.7	1771.2	1763.3	1766.3	1763.3	1755.5	1749.1	1747.2	1735.2	1740.1	1719.5
7.5°	1807.6	1799.3	1787.7	1791.1	1784.7	1770.1	1761.8	1757.0	1738.6	1739.0	1716.1
10°	1835.3	1828.2	1812.4	1814.7	1803.1	1783.6	1770.5	1763.7	1737.8	1734.1	1710.5
12.5°	1861.2	1851.4	1834.6	1835.7	1818.8	1792.9	1776.1	1766.3	1732.6	1721.4	1698.1
15°	1881.0	1871.7	1851.4	1851.1	1829.3	1795.6	1776.5	1763.0	1720.2	1702.6	1678.2
17.5°	1897.9	1889.3	1864.2	1863.4	1837.2	1794.4	1771.6	1754.7	1702.2	1680.5	1653.5
20°	1909.9	1901.3	1873.2	1870.5	1839.1	1788.8	1761.5	1740.1	1678.6	1652.8	1622.8
22.5°	1915.5	1906.9	1875.0	1871.3	1834.6	1777.6	1746.8	1721.7	1651.6	1617.9	1586.8
25°	1914.4	1906.2	1870.2	1866.4	1825.9	1760.7	1726.2	1697.4	1617.5	1577.8	1547.0
27.5°	1905.0	1898.7	1860.8	1855.9	1810.2	1737.8	1701.1	1669.2	1579.7	1535.4	1502.1
30°	1888.9	1884.0	1843.9	1839.4	1790.7	1712.7	1671.9	1635.1	1538.8	1488.9	1455.2
32.5°	1863.0	1858.5	1818.1	1813.9	1764.5	1680.5	1637.8	1599.9	1494.2	1439.1	1405.3
35°	1827.4	1824.8	1785.5	1781.0	1730.7	1643.8	1598.4	1556.8	1447.7	1385.5	1353.2
37.5°	1780.6	1780.6	1742.7	1737.8	1688.7	1598.8	1554.2	1509.9	1395.2	1329.2	1297.4
40°	1726.2	1731.1	1692.5	1687.6	1640.0	1550.4	1501.7	1455.2	1338.6	1270.0	1238.9
42.5°	1661.0	1665.5	1633.3	1628.8	1584.2	1494.6	1449.2	1398.6	1279.4	1209.7	1177.4
45°	1589.0	1595.0	1566.2	1562.8	1521.2	1433.5	1390.0	1338.6	1217.5	1146.7	1115.2
47.5°	1508.8	1516.7	1491.6	1489.7	1451.1	1370.9	1325.5	1273.4	1152.7	1081.1	1051.5
50°	1418.8	1430.1	1409.5	1409.5	1375.0	1295.1	1255.8	1203.7	1085.2	1013.6	984.4
52.5°	1322.5	1336.7	1321.4	1321.8	1293.6	1222.0	1181.2	1130.2	1014.7	944.3	917.3
55°	1222.8	1236.7	1226.9	1228.4	1206.3	1141.1	1104.0	1053.4	942.8	874.2	848.7
57.5°	1118.6	1133.6	1127.2	1130.2	1114.8	1056.4	1017.7	973.5	868.5	800.7	779.0
60°	1014.0	1028.2	1024.9	1029.0	1019.2	968.6	933.4	887.7	794.0	728.7	709.6
62.5°	908.3	921.4	920.7	925.2	919.9	877.9	846.4	807.4	716.7	656.8	639.1
65°	804.8	816.1	815.3	820.2	819.1	785.3	756.8	721.2	639.5	584.4	569.0
67.5°	704.4	713.7	711.1	716.7	718.2	691.2	666.5	634.6	566.0	512.4	499.3
70°	606.1	612.5	609.1	612.9	616.3	596.0	575.0	546.9	487.7	440.5	429.6
72.5°	509.8	514.3	509.1	512.8	515.8	501.2	483.9	459.6	410.5	369.6	360.6
75°	416.5	422.8	412.0	415.7	418.0	403.3	393.2	373.4	331.0	299.5	293.5
77.5°	326.1	329.9	323.9	322.4	323.9	313.4	305.5	290.1	258.3	232.4	228.7
80°	239.9	242.2	236.2	234.7	235.8	228.3	222.3	211.0	188.6	169.1	167.6
82.5°	160.8	161.9	156.7	155.2	155.9	153.7	146.6	138.7	128.2	111.7	111.3
85°	91.8	91.8	88.1	86.6	87.3	83.6	81.0	76.8	72.7	61.5	62.2
87.5°	33.7	33.7	31.9	31.5	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°	1715.0	1715.0	1715.0	1715.0	1715.0	1715.0	1715.0	1715.0	1715.0	1715.0	1715.0
2.5°	1722.5	1718.7	1715.4	1703.7	1708.6	1696.6	1695.9	1691.4	1688.0	1681.6	1689.9
5°	1716.9	1709.4	1699.6	1685.7	1689.9	1675.6	1672.6	1667.4	1662.9	1654.6	1661.0
7.5°	1707.9	1695.5	1680.1	1662.5	1668.1	1650.5	1646.0	1640.4	1636.6	1626.9	1632.5
10°	1694.7	1677.1	1659.1	1637.8	1641.9	1622.8	1617.1	1611.1	1607.8	1599.1	1604.8
12.5°	1674.5	1653.1	1628.8	1605.5	1610.0	1592.0	1584.5	1578.2	1577.0	1569.9	1576.7
15°	1648.3	1618.6	1593.5	1568.8	1574.0	1553.0	1549.7	1543.3	1545.2	1540.3	1548.5
17.5°	1614.9	1580.8	1553.4	1526.8	1532.0	1514.4	1511.8	1508.8	1510.7	1509.9	1518.9
20°	1577.4	1539.9	1508.4	1482.2	1485.2	1471.3	1472.4	1471.7	1475.4	1479.6	1491.9
22.5°	1535.0	1492.7	1459.7	1432.7	1437.2	1425.2	1430.5	1432.0	1438.3	1447.7	1463.4
25°	1487.4	1442.1	1407.6	1382.1	1386.2	1378.4	1387.4	1391.1	1401.2	1417.0	1433.1
27.5°	1437.6	1389.6	1352.9	1328.5	1336.4	1328.5	1342.0	1349.5	1364.9	1382.1	1402.0
30°	1384.7	1334.9	1297.0	1275.3	1282.8	1275.6	1297.4	1307.5	1322.9	1346.5	1370.1
32.5°	1329.2	1276.8	1239.7	1222.8	1228.0	1226.9	1251.3	1262.5	1283.1	1310.1	1335.2
35°	1272.3	1217.5	1180.1	1165.8	1172.2	1173.7	1202.9	1216.0	1238.5	1271.1	1298.1
37.5°	1213.4	1157.6	1120.8	1109.2	1114.8	1120.5	1154.6	1167.7	1193.2	1228.8	1258.4
40°	1152.3	1096.5	1060.5	1051.1	1056.7	1062.7	1099.8	1117.8	1145.6	1184.2	1216.4
42.5°	1090.5	1034.6	999.7	993.0	998.6	1010.2	1049.6	1066.5	1095.7	1138.4	1174.1
45°	1027.5	969.4	939.0	933.8	939.8	953.3	991.9	1012.1	1043.2	1090.1	1128.3
47.5°	963.8	907.2	878.3	874.9	880.9	895.9	938.6	957.0	990.0	1039.9	1081.1
50°	899.3	844.2	816.4	815.3	820.9	837.1	877.9	899.7	933.8	989.6	1032.0
52.5°	834.1	781.2	756.1	756.1	761.3	777.8	819.1	841.6	876.8	935.6	982.5
55°	768.8	718.6	694.6	696.5	704.0	718.2	758.3	782.0	817.6	878.7	928.2
57.5°	703.6	656.0	634.3	636.9	644.0	658.3	697.6	724.2	756.5	819.8	870.4
60°	639.1	594.2	575.0	578.0	584.4	598.6	639.5	662.4	694.6	759.1	809.7
62.5°	573.9	533.0	515.1	518.8	524.4	538.7	577.3	599.4	631.3	694.6	745.6
65°	509.4	471.6	456.2	460.0	465.2	478.3	514.7	536.0	566.4	628.3	677.0
67.5°	445.7	411.2	398.5	402.2	406.3	418.7	448.7	471.9	500.4	559.3	605.4
70°	382.7	352.0	340.7	344.5	348.2	359.5	385.7	407.1	433.3	487.3	530.1
72.5°	320.5	290.5	284.9	288.3	291.3	301.0	326.1	343.0	365.9	413.8	450.6
75°	259.8	233.9	230.2	233.5	236.2	243.7	264.7	279.3	298.4	340.0	370.0
77.5°	201.3	179.6	178.1	180.7	183.3	188.6	205.0	220.4	235.4	266.1	292.8
80°	146.6	129.0	129.0	131.6	130.8	137.2	148.8	161.2	172.1	194.2	213.7
82.5°	96.7	82.8	84.7	86.6	87.7	90.3	97.5	106.8	113.6	127.1	139.8
85°	53.6	44.2	46.1	47.6	46.9	49.9	53.6	59.2	62.6	69.0	75.7
87.5°	19.9	16.5	16.9	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°	1715.0	1715.0	1715.0
2.5°	1674.1	1683.1	1689.9
5°	1645.3	1652.8	1658.8
7.5°	1617.1	1623.9	1629.1
10°	1590.5	1598.0	1601.8
12.5°	1563.2	1571.8	1574.8
15°	1536.2	1544.8	1548.5
17.5°	1508.4	1519.7	1523.8
20°	1482.6	1496.8	1500.2
22.5°	1456.3	1470.9	1475.1
25°	1427.8	1445.1	1449.2
27.5°	1397.5	1418.1	1422.2
30°	1367.1	1389.6	1393.7
32.5°	1334.5	1358.9	1362.6
35°	1300.4	1324.8	1329.2
37.5°	1262.5	1289.1	1298.1
40°	1223.2	1252.0	1261.4
42.5°	1181.9	1213.4	1223.2
45°	1137.7	1172.2	1183.4
47.5°	1093.1	1132.1	1141.8
50°	1044.7	1086.3	1098.0
52.5°	994.1	1039.5	1051.1
55°	941.6	987.4	1000.1
57.5°	884.7	931.9	945.4
60°	825.1	872.3	885.0
62.5°	764.0	806.7	819.1
65°	695.7	735.8	747.1
67.5°	623.4	660.1	669.5
70°	546.5	578.4	586.7
72.5°	466.3	488.4	499.3
75°	383.5	401.1	409.3
77.5°	300.3	312.6	319.4
80°	218.9	226.0	231.7
82.5°	143.2	146.2	150.3
85°	77.2	77.2	79.8
87.5°	26.2	25.1	26.2
90°	0.0	0.0	0.0

(END OF REPORT)