

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: P835342

Luminaire Tested: **ORLG-24-2-INS-ASY2-LD4-4LO-40-120-EDD-90**

Issue Date: 5/16/2024

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

**Test Information**

Test Method: LM-79-08
Report Number: P835342
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-40-120-EDD-90
Description: 2FT x 2FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 4000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

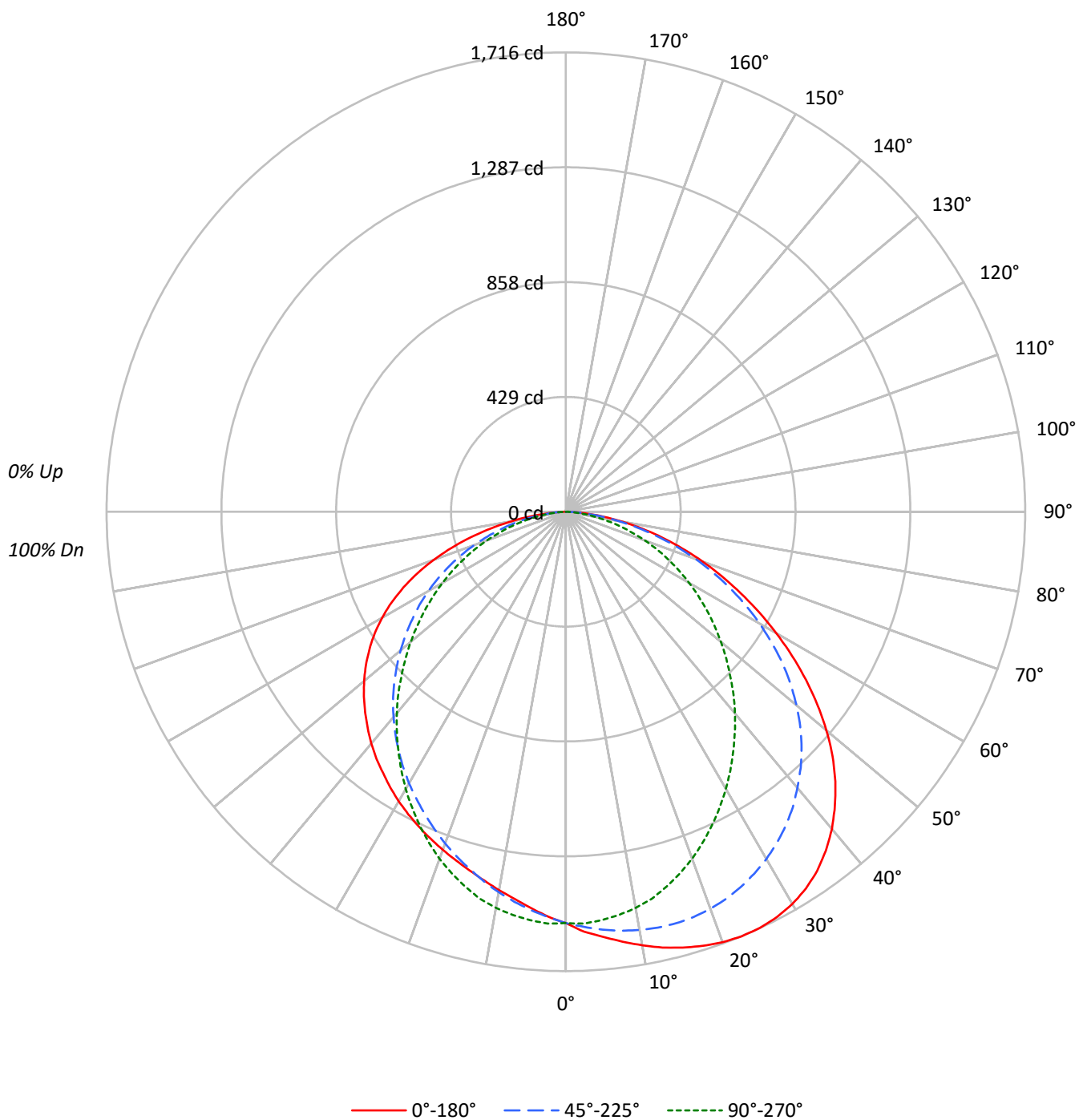
Lumens per Lamp: N/A
Luminaire Lumens: 4519.7 lumens
Efficiency: N/A
Efficacy: 96.6 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

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



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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°	4135	4135	4135
5°	4305	4137	4014
10°	4493	4106	3921
15°	4695	4040	3865
20°	4900	3951	3849
25°	5093	3836	3855
30°	5258	3716	3880
35°	5379	3583	3912
40°	5433	3451	3970
45°	5418	3305	4035
50°	5322	3166	4118
55°	5140	3020	4204
60°	4890	2865	4267
65°	4592	2690	4262
70°	4273	2482	4135
75°	3879	2179	3813
80°	3330	1790	3217
85°	2541	1223	2208



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	145.7	3.2
10°-20°	420.8	9.3
20°-30°	644.7	14.3
30°-40°	786.8	17.4
40°-50°	822.8	18.2
50°-60°	744.7	16.5
60°-70°	564.0	12.5
70°-80°	314.3	7.0
80°-90°	75.8	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°	1211.3	26.8
0°-40°	1998.1	44.2
0°-60°	3565.6	78.9
0°-90°	4519.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4519.7	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1536	1536	1536	1536	1536	
5°	1594	1567	1532	1494	1486	154
15°	1685	1592	1450	1383	1387	478
25°	1715	1547	1292	1246	1298	791
35°	1637	1432	1091	1090	1191	1022
45°	1424	1245	868	907	1060	1095
55°	1096	989	644	701	896	978
65°	721	678	422	480	669	715
75°	373	352	210	250	367	396
85°	82	72	40	53	72	99
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°	1536.5	1536.5	1536.5	1536.5	1536.5	1536.5	1536.5	1536.5	1536.5	1536.5	1536.5
2.5°	1570.4	1563.0	1557.0	1559.3	1560.7	1556.0	1552.0	1552.6	1548.6	1556.3	1538.2
5°	1593.6	1586.9	1579.8	1582.5	1579.8	1572.8	1567.1	1565.4	1554.6	1559.0	1540.5
7.5°	1619.5	1612.1	1601.7	1604.7	1599.0	1585.9	1578.5	1574.1	1557.7	1558.0	1537.5
10°	1644.3	1637.9	1623.8	1625.8	1615.4	1598.0	1586.2	1580.2	1557.0	1553.6	1532.5
12.5°	1667.5	1658.8	1643.6	1644.6	1629.5	1606.4	1591.2	1582.5	1552.3	1542.2	1521.4
15°	1685.3	1676.9	1658.8	1658.4	1638.9	1608.7	1591.6	1579.5	1541.2	1525.4	1503.6
17.5°	1700.4	1692.7	1670.2	1669.5	1646.0	1607.7	1587.2	1572.1	1525.1	1505.6	1481.4
20°	1711.1	1703.4	1678.2	1675.9	1647.7	1602.7	1578.1	1559.0	1503.9	1480.8	1453.9
22.5°	1716.2	1708.5	1679.9	1676.6	1643.6	1592.6	1565.1	1542.5	1479.7	1449.5	1421.6
25°	1715.2	1707.8	1675.5	1672.2	1635.9	1577.5	1546.6	1520.7	1449.2	1413.6	1386.0
27.5°	1706.8	1701.1	1667.1	1662.8	1621.8	1557.0	1524.1	1495.5	1415.3	1375.6	1345.7
30°	1692.3	1688.0	1652.0	1648.0	1604.3	1534.5	1497.9	1465.0	1378.7	1334.0	1303.8
32.5°	1669.2	1665.1	1628.9	1625.2	1580.8	1505.6	1467.3	1433.4	1338.7	1289.3	1259.1
35°	1637.3	1634.9	1599.6	1595.6	1550.6	1472.7	1432.1	1394.8	1297.0	1241.3	1212.4
37.5°	1595.3	1595.3	1561.4	1557.0	1513.0	1432.4	1392.4	1352.8	1250.0	1190.9	1162.4
40°	1546.6	1550.9	1516.4	1512.0	1469.3	1389.1	1345.4	1303.8	1199.3	1137.9	1110.0
42.5°	1488.1	1492.2	1463.3	1459.3	1419.3	1339.0	1298.4	1253.0	1146.2	1083.8	1054.9
45°	1423.7	1429.0	1403.2	1400.1	1362.9	1284.3	1245.3	1199.3	1090.8	1027.4	999.1
47.5°	1351.8	1358.8	1336.3	1334.7	1300.1	1228.2	1187.6	1140.9	1032.7	968.6	942.1
50°	1271.2	1281.3	1262.8	1262.8	1231.9	1160.4	1125.1	1078.4	972.3	908.1	881.9
52.5°	1184.9	1197.6	1183.9	1184.2	1159.0	1094.9	1058.3	1012.6	909.1	846.0	821.8
55°	1095.5	1108.0	1099.2	1100.6	1080.8	1022.3	989.1	943.7	844.7	783.2	760.4
57.5°	1002.2	1015.6	1009.9	1012.6	998.8	946.4	911.8	872.2	778.2	717.4	697.9
60°	908.5	921.2	918.2	921.9	913.2	867.8	836.3	795.3	711.3	652.9	635.8
62.5°	813.8	825.5	824.8	828.9	824.2	786.6	758.3	723.4	642.1	588.4	572.6
65°	721.1	731.1	730.5	734.8	733.8	703.6	678.1	646.2	573.0	523.6	509.8
67.5°	631.1	639.5	637.1	642.1	643.5	619.3	597.1	568.6	507.1	459.1	447.3
70°	543.1	548.8	545.8	549.1	552.1	534.0	515.2	490.0	436.9	394.6	384.9
72.5°	456.8	460.8	456.1	459.4	462.1	449.0	433.6	411.7	367.8	331.1	323.1
75°	373.1	378.8	369.1	372.5	374.5	361.4	352.3	334.5	296.6	268.3	263.0
77.5°	292.2	295.5	290.2	288.8	290.2	280.8	273.7	259.9	231.4	208.2	204.9
80°	214.9	217.0	211.6	210.2	211.2	204.5	199.2	189.1	168.9	151.5	150.1
82.5°	144.1	145.1	140.4	139.0	139.7	137.7	131.3	124.3	114.9	100.1	99.7
85°	82.3	82.3	78.9	77.6	78.3	74.9	72.5	68.8	65.2	55.1	55.8
87.5°	30.2	30.2	28.5	28.2	31.6	27.9	26.9	25.2	26.2	20.8	22.2
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°	1536.5	1536.5	1536.5	1536.5	1536.5	1536.5	1536.5	1536.5	1536.5	1536.5	1536.5
2.5°	1543.2	1539.9	1536.8	1526.4	1530.8	1520.0	1519.4	1515.3	1512.3	1506.6	1514.0
5°	1538.2	1531.5	1522.7	1510.3	1514.0	1501.2	1498.6	1493.9	1489.8	1482.4	1488.1
7.5°	1530.1	1519.0	1505.3	1489.5	1494.5	1478.7	1474.7	1469.7	1466.3	1457.6	1462.6
10°	1518.4	1502.6	1486.5	1467.3	1471.0	1453.9	1448.8	1443.5	1440.5	1432.7	1437.8
12.5°	1500.2	1481.1	1459.3	1438.4	1442.5	1426.3	1419.6	1413.9	1412.9	1406.5	1412.6
15°	1476.7	1450.2	1427.7	1405.5	1410.2	1391.4	1388.4	1382.7	1384.4	1380.0	1387.4
17.5°	1446.8	1416.3	1391.8	1367.9	1372.6	1356.8	1354.5	1351.8	1353.5	1352.8	1360.9
20°	1413.2	1379.7	1351.5	1327.9	1330.6	1318.2	1319.2	1318.5	1321.9	1325.6	1336.7
22.5°	1375.3	1337.3	1307.8	1283.6	1287.6	1276.9	1281.6	1282.9	1288.6	1297.0	1311.1
25°	1332.6	1292.0	1261.1	1238.3	1242.0	1234.9	1243.0	1246.3	1255.4	1269.5	1283.9
27.5°	1288.0	1245.0	1212.1	1190.2	1197.3	1190.2	1202.3	1209.1	1222.8	1238.3	1256.1
30°	1240.6	1196.0	1162.0	1142.6	1149.3	1142.9	1162.4	1171.4	1185.2	1206.4	1227.5
32.5°	1190.9	1143.9	1110.6	1095.5	1100.2	1099.2	1121.1	1131.1	1149.6	1173.8	1196.3
35°	1139.9	1090.8	1057.2	1044.5	1050.2	1051.5	1077.7	1089.5	1109.6	1138.9	1163.0
37.5°	1087.1	1037.1	1004.2	993.8	998.8	1003.8	1034.4	1046.2	1069.0	1100.9	1127.4
40°	1032.4	982.4	950.1	941.7	946.8	952.1	985.4	1001.5	1026.4	1060.9	1089.8
42.5°	977.0	926.9	895.7	889.7	894.7	905.1	940.4	955.5	981.7	1020.0	1051.9
45°	920.6	868.5	841.3	836.6	842.0	854.1	888.7	906.8	934.7	976.6	1010.9
47.5°	863.5	812.8	786.9	783.9	789.2	802.7	841.0	857.4	887.0	931.6	968.6
50°	805.7	756.3	731.5	730.5	735.5	749.9	786.6	806.0	836.6	886.6	924.6
52.5°	747.3	699.9	677.4	677.4	682.1	696.9	733.8	754.0	785.5	838.3	880.3
55°	688.8	643.8	622.3	624.0	630.7	643.5	679.4	700.6	732.5	787.2	831.6
57.5°	630.4	587.7	568.3	570.6	577.0	589.7	625.0	648.9	677.7	734.5	779.8
60°	572.6	532.3	515.2	517.9	523.6	536.3	573.0	593.4	622.3	680.1	725.4
62.5°	514.2	477.6	461.5	464.8	469.9	482.6	517.2	537.0	565.6	622.3	668.0
65°	456.4	422.5	408.7	412.1	416.8	428.5	461.1	480.3	507.5	562.9	606.5
67.5°	399.3	368.4	357.0	360.4	364.1	375.1	402.0	422.8	448.4	501.1	542.4
70°	342.9	315.4	305.3	308.6	312.0	322.1	345.6	364.7	388.2	436.6	474.9
72.5°	287.1	260.3	255.2	258.3	261.0	269.7	292.2	307.3	327.8	370.8	403.7
75°	232.7	209.6	206.2	209.2	211.6	218.3	237.1	250.2	267.3	304.6	331.5
77.5°	180.4	160.9	159.5	161.9	164.2	168.9	183.7	197.5	210.9	238.5	262.3
80°	131.3	115.5	115.5	117.9	117.2	122.9	133.3	144.4	154.2	174.0	191.4
82.5°	86.6	74.2	75.9	77.6	78.6	80.9	87.3	95.7	101.8	113.9	125.3
85°	48.0	39.6	41.3	42.7	42.0	44.7	48.0	53.1	56.1	61.8	67.8
87.5°	17.8	14.8	15.1	16.1	16.8	18.1	18.1	21.2	21.5	22.2	23.5
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°	1536.5	1536.5	1536.5
2.5°	1499.9	1508.0	1514.0
5°	1474.0	1480.8	1486.1
7.5°	1448.8	1454.9	1459.6
10°	1425.0	1431.7	1435.1
12.5°	1400.5	1408.2	1410.9
15°	1376.3	1384.0	1387.4
17.5°	1351.5	1361.5	1365.2
20°	1328.3	1341.0	1344.1
22.5°	1304.8	1317.9	1321.6
25°	1279.2	1294.7	1298.4
27.5°	1252.0	1270.5	1274.2
30°	1224.8	1245.0	1248.7
32.5°	1195.6	1217.4	1220.8
35°	1165.1	1186.9	1190.9
37.5°	1131.1	1155.0	1163.0
40°	1095.9	1121.7	1130.1
42.5°	1058.9	1087.1	1095.9
45°	1019.3	1050.2	1060.3
47.5°	979.3	1014.3	1023.0
50°	936.0	973.3	983.7
52.5°	890.7	931.3	941.7
55°	843.6	884.6	896.0
57.5°	792.6	834.9	847.0
60°	739.2	781.5	792.9
62.5°	684.5	722.7	733.8
65°	623.3	659.3	669.3
67.5°	558.5	591.4	599.8
70°	489.7	518.2	525.6
72.5°	417.8	437.6	447.3
75°	343.6	359.4	366.7
77.5°	269.0	280.1	286.1
80°	196.1	202.5	207.6
82.5°	128.3	131.0	134.7
85°	69.2	69.2	71.5
87.5°	23.5	22.5	23.5
90°	0.0	0.0	0.0

(END OF REPORT)