

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: P835161

Luminaire Tested: **ORLG-24-2-INS-ASY2-LD4-3HI-20-120-EDD**

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P835161
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-LD4-3HI-20-120-EDD
Description: 2FT x 2FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 2000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

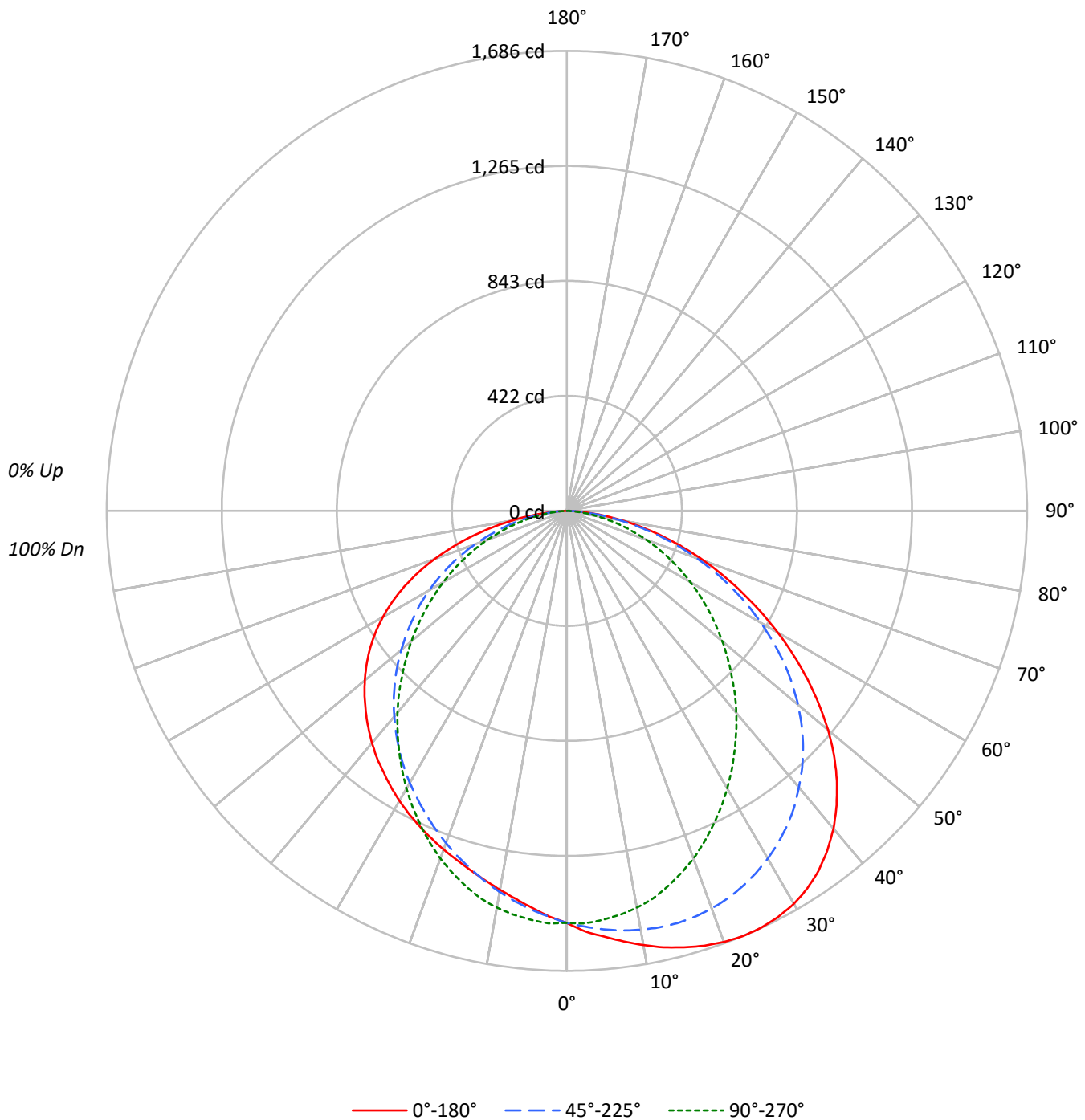
Summary

Lumens per Lamp: N/A
Luminaire Lumens: 4441.3 lumens
Efficiency: N/A
Efficacy: 67.3 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): 66
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
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°	4063	4063	4063
5°	4230	4065	3945
10°	4415	4035	3853
15°	4614	3970	3798
20°	4815	3882	3782
25°	5004	3770	3788
30°	5167	3652	3813
35°	5285	3521	3845
40°	5339	3391	3901
45°	5324	3248	3965
50°	5229	3111	4047
55°	5050	2968	4131
60°	4804	2815	4194
65°	4512	2644	4188
70°	4198	2438	4064
75°	3813	2141	3747
80°	3273	1759	3161
85°	2498	1201	2171



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	143.2	3.2
10°-20°	413.5	9.3
20°-30°	633.5	14.3
30°-40°	773.1	17.4
40°-50°	808.5	18.2
50°-60°	731.8	16.5
60°-70°	554.2	12.5
70°-80°	308.9	7.0
80°-90°	74.5	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°	1190.3	26.8
0°-40°	1963.4	44.2
0°-60°	3503.7	78.9
0°-90°	4441.3	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4441.3	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1510	1510	1510	1510	1510	
5°	1566	1540	1505	1468	1460	151
15°	1656	1564	1425	1359	1363	470
25°	1685	1520	1270	1225	1276	778
35°	1609	1407	1072	1071	1170	1005
45°	1399	1224	853	891	1042	1076
55°	1076	972	633	688	880	961
65°	709	666	415	472	658	703
75°	367	346	206	246	360	389
85°	81	71	39	52	70	97
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°	1509.9	1509.9	1509.9	1509.9	1509.9	1509.9	1509.9	1509.9	1509.9	1509.9	1509.9
2.5°	1543.2	1535.9	1530.0	1532.3	1533.6	1529.0	1525.0	1525.7	1521.7	1529.3	1511.5
5°	1566.0	1559.4	1552.4	1555.1	1552.4	1545.5	1539.9	1538.2	1527.7	1532.0	1513.8
7.5°	1591.4	1584.1	1573.9	1576.9	1571.2	1558.4	1551.1	1546.8	1530.7	1531.0	1510.9
10°	1615.8	1609.5	1595.7	1597.6	1587.4	1570.3	1558.7	1552.8	1530.0	1526.7	1505.9
12.5°	1638.6	1630.0	1615.1	1616.1	1601.3	1578.5	1563.7	1555.1	1525.4	1515.5	1495.0
15°	1656.1	1647.8	1630.0	1629.7	1610.5	1580.8	1564.0	1552.1	1514.5	1499.0	1477.5
17.5°	1670.9	1663.3	1641.2	1640.5	1617.4	1579.8	1559.7	1544.8	1498.6	1479.5	1455.7
20°	1681.5	1673.9	1649.1	1646.8	1619.1	1574.9	1550.8	1532.0	1477.8	1455.1	1428.7
22.5°	1686.4	1678.8	1650.8	1647.5	1615.1	1565.0	1537.9	1515.8	1454.1	1424.4	1397.0
25°	1685.4	1678.2	1646.5	1643.2	1607.5	1550.1	1519.8	1494.3	1424.1	1389.1	1362.0
27.5°	1677.2	1671.6	1638.2	1633.9	1593.7	1530.0	1497.6	1469.6	1390.7	1351.8	1322.4
30°	1663.0	1658.7	1623.4	1619.4	1576.5	1507.9	1471.9	1439.6	1354.7	1310.9	1281.2
32.5°	1640.2	1636.3	1600.6	1597.0	1553.4	1479.5	1441.9	1408.5	1315.5	1267.0	1237.3
35°	1608.9	1606.6	1571.9	1567.9	1523.7	1447.2	1407.2	1370.6	1274.6	1219.8	1191.4
37.5°	1567.6	1567.6	1534.3	1530.0	1486.8	1407.6	1368.3	1329.3	1228.3	1170.3	1142.2
40°	1519.8	1524.1	1490.1	1485.8	1443.9	1365.0	1322.1	1281.2	1178.5	1118.1	1090.7
42.5°	1462.3	1466.3	1437.9	1434.0	1394.7	1315.8	1275.9	1231.3	1126.4	1065.0	1036.6
45°	1399.0	1404.3	1378.8	1375.9	1339.2	1262.0	1223.7	1178.5	1071.9	1009.5	981.8
47.5°	1328.3	1335.3	1313.2	1311.5	1277.5	1206.9	1167.0	1121.1	1014.8	951.8	925.7
50°	1249.1	1259.0	1240.9	1240.9	1210.5	1140.2	1105.6	1059.7	955.4	892.4	866.6
52.5°	1164.3	1176.9	1163.3	1163.7	1138.9	1075.9	1039.9	995.0	893.4	831.3	807.6
55°	1076.5	1088.7	1080.2	1081.5	1062.0	1004.6	971.9	927.4	830.0	769.6	747.2
57.5°	984.8	998.0	992.4	995.0	981.5	930.0	896.0	857.1	764.7	704.9	685.8
60°	892.7	905.3	902.3	905.9	897.3	852.8	821.8	781.5	699.0	641.6	624.7
62.5°	799.6	811.2	810.5	814.5	809.9	772.9	745.2	710.9	631.0	578.2	562.7
65°	708.6	718.5	717.8	722.1	721.1	691.4	666.3	635.0	563.0	514.5	501.0
67.5°	620.1	628.4	626.1	631.0	632.3	608.6	586.8	558.7	498.3	451.1	439.6
70°	533.6	539.3	536.3	539.6	542.6	524.7	506.3	481.5	429.4	387.8	378.2
72.5°	448.8	452.8	448.2	451.5	454.1	441.2	426.1	404.6	361.4	325.4	317.5
75°	366.7	372.3	362.7	366.0	368.0	355.1	346.2	328.7	291.4	263.7	258.4
77.5°	287.1	290.4	285.1	283.8	285.1	275.9	269.0	255.4	227.4	204.6	201.3
80°	211.2	213.2	207.9	206.6	207.6	201.0	195.7	185.8	166.0	148.8	147.5
82.5°	141.6	142.6	138.0	136.6	137.3	135.3	129.0	122.1	112.9	98.3	98.0
85°	80.9	80.9	77.6	76.2	76.9	73.6	71.3	67.7	64.0	54.1	54.8
87.5°	29.7	29.7	28.1	27.7	31.0	27.4	26.4	24.8	25.7	20.5	21.8
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°	1509.9	1509.9	1509.9	1509.9	1509.9	1509.9	1509.9	1509.9	1509.9	1509.9	1509.9
2.5°	1516.5	1513.2	1510.2	1500.0	1504.2	1493.7	1493.0	1489.1	1486.1	1480.5	1487.7
5°	1511.5	1504.9	1496.3	1484.1	1487.7	1475.2	1472.6	1467.9	1464.0	1456.7	1462.3
7.5°	1503.6	1492.7	1479.2	1463.7	1468.6	1453.1	1449.1	1444.2	1440.9	1432.3	1437.3
10°	1492.0	1476.5	1460.7	1441.9	1445.5	1428.7	1423.7	1418.4	1415.5	1407.9	1412.8
12.5°	1474.2	1455.4	1434.0	1413.5	1417.5	1401.6	1395.0	1389.4	1388.4	1382.1	1388.1
15°	1451.1	1425.0	1402.9	1381.2	1385.8	1367.3	1364.3	1358.7	1360.4	1356.1	1363.3
17.5°	1421.7	1391.7	1367.6	1344.2	1348.8	1333.3	1331.0	1328.3	1330.0	1329.3	1337.3
20°	1388.7	1355.7	1328.0	1304.9	1307.6	1295.3	1296.3	1295.7	1299.0	1302.6	1313.5
22.5°	1351.4	1314.2	1285.1	1261.4	1265.3	1254.8	1259.4	1260.7	1266.3	1274.6	1288.4
25°	1309.5	1269.6	1239.2	1216.8	1220.4	1213.5	1221.4	1224.7	1233.6	1247.5	1261.7
27.5°	1265.6	1223.4	1191.1	1169.6	1176.5	1169.6	1181.5	1188.1	1201.6	1216.8	1234.3
30°	1219.1	1175.2	1141.9	1122.7	1129.3	1123.1	1142.2	1151.1	1164.7	1185.4	1206.2
32.5°	1170.3	1124.1	1091.4	1076.5	1081.2	1080.2	1101.6	1111.5	1129.7	1153.4	1175.5
35°	1120.1	1071.9	1038.9	1026.4	1032.0	1033.3	1059.0	1070.6	1090.4	1119.1	1142.9
37.5°	1068.3	1019.1	986.8	976.5	981.5	986.4	1016.5	1028.0	1050.5	1081.8	1107.9
40°	1014.5	965.3	933.6	925.4	930.3	935.6	968.3	984.1	1008.6	1042.5	1070.9
42.5°	960.0	910.9	880.2	874.2	879.2	889.4	924.1	938.9	964.7	1002.3	1033.6
45°	904.6	853.4	826.7	822.1	827.4	839.3	873.2	891.1	918.5	959.7	993.4
47.5°	848.5	798.7	773.2	770.3	775.6	788.8	826.4	842.6	871.6	915.5	951.8
50°	791.7	743.2	718.8	717.8	722.8	736.9	772.9	792.1	822.1	871.3	908.6
52.5°	734.3	687.8	665.7	665.7	670.3	684.8	721.1	740.9	771.9	823.7	865.0
55°	676.9	632.7	611.5	613.2	619.8	632.3	667.6	688.4	719.8	773.6	817.1
57.5°	619.5	577.5	558.4	560.7	567.0	579.5	614.2	637.6	666.0	721.8	766.3
60°	562.7	523.1	506.3	508.9	514.5	527.0	563.0	583.2	611.5	668.3	712.9
62.5°	505.3	469.3	453.5	456.8	461.7	474.2	508.2	527.7	555.8	611.5	656.4
65°	448.5	415.2	401.6	404.9	409.6	421.1	453.1	471.9	498.7	553.1	596.0
67.5°	392.4	362.0	350.8	354.1	357.7	368.6	395.0	415.5	440.6	492.4	533.0
70°	337.0	309.9	300.0	303.3	306.6	316.5	339.6	358.4	381.5	429.0	466.7
72.5°	282.2	255.8	250.8	253.8	256.4	265.0	287.1	302.0	322.1	364.3	396.7
75°	228.7	205.9	202.6	205.6	207.9	214.5	233.0	245.9	262.7	299.3	325.7
77.5°	177.2	158.1	156.8	159.1	161.4	166.0	180.5	194.1	207.3	234.3	257.7
80°	129.0	113.5	113.5	115.8	115.2	120.8	131.0	141.9	151.5	171.0	188.1
82.5°	85.1	72.9	74.6	76.2	77.2	79.5	85.8	94.1	100.0	111.9	123.1
85°	47.2	38.9	40.6	41.9	41.3	43.9	47.2	52.1	55.1	60.7	66.7
87.5°	17.5	14.5	14.9	15.8	16.5	17.8	17.8	20.8	21.1	21.8	23.1
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°	1509.9	1509.9	1509.9
2.5°	1473.9	1481.8	1487.7
5°	1448.5	1455.1	1460.4
7.5°	1423.7	1429.7	1434.3
10°	1400.3	1406.9	1410.2
12.5°	1376.2	1383.8	1386.4
15°	1352.4	1360.0	1363.3
17.5°	1328.0	1337.9	1341.5
20°	1305.2	1317.8	1320.8
22.5°	1282.1	1295.0	1298.6
25°	1257.1	1272.2	1275.9
27.5°	1230.3	1248.5	1252.1
30°	1203.6	1223.4	1227.0
32.5°	1174.9	1196.3	1199.6
35°	1144.9	1166.3	1170.3
37.5°	1111.5	1135.0	1142.9
40°	1076.9	1102.3	1110.5
42.5°	1040.6	1068.3	1076.9
45°	1001.6	1032.0	1041.9
47.5°	962.4	996.7	1005.3
50°	919.8	956.4	966.6
52.5°	875.2	915.2	925.4
55°	829.0	869.3	880.5
57.5°	778.9	820.4	832.3
60°	726.4	768.0	779.2
62.5°	672.6	710.2	721.1
65°	612.5	647.8	657.7
67.5°	548.8	581.2	589.4
70°	481.2	509.2	516.5
72.5°	410.5	430.0	439.6
75°	337.6	353.1	360.4
77.5°	264.3	275.2	281.2
80°	192.7	199.0	204.0
82.5°	126.1	128.7	132.3
85°	68.0	68.0	70.3
87.5°	23.1	22.1	23.1
90°	0.0	0.0	0.0

(END OF REPORT)