

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: P834508

Luminaire Tested: **ORLG-24-4-INS-ASY2-LD4-2LO-20-120-EDD**

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P834508
Test Lab: INNOVATION CENTER(G2)
Issue Date: 5/16/2024
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)
Product Line: FAIL-SAFE
Catalog Number: ORLG-24-4-INS-ASY2-LD4-2LO-20-120-EDD
Description: 2FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 2000K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

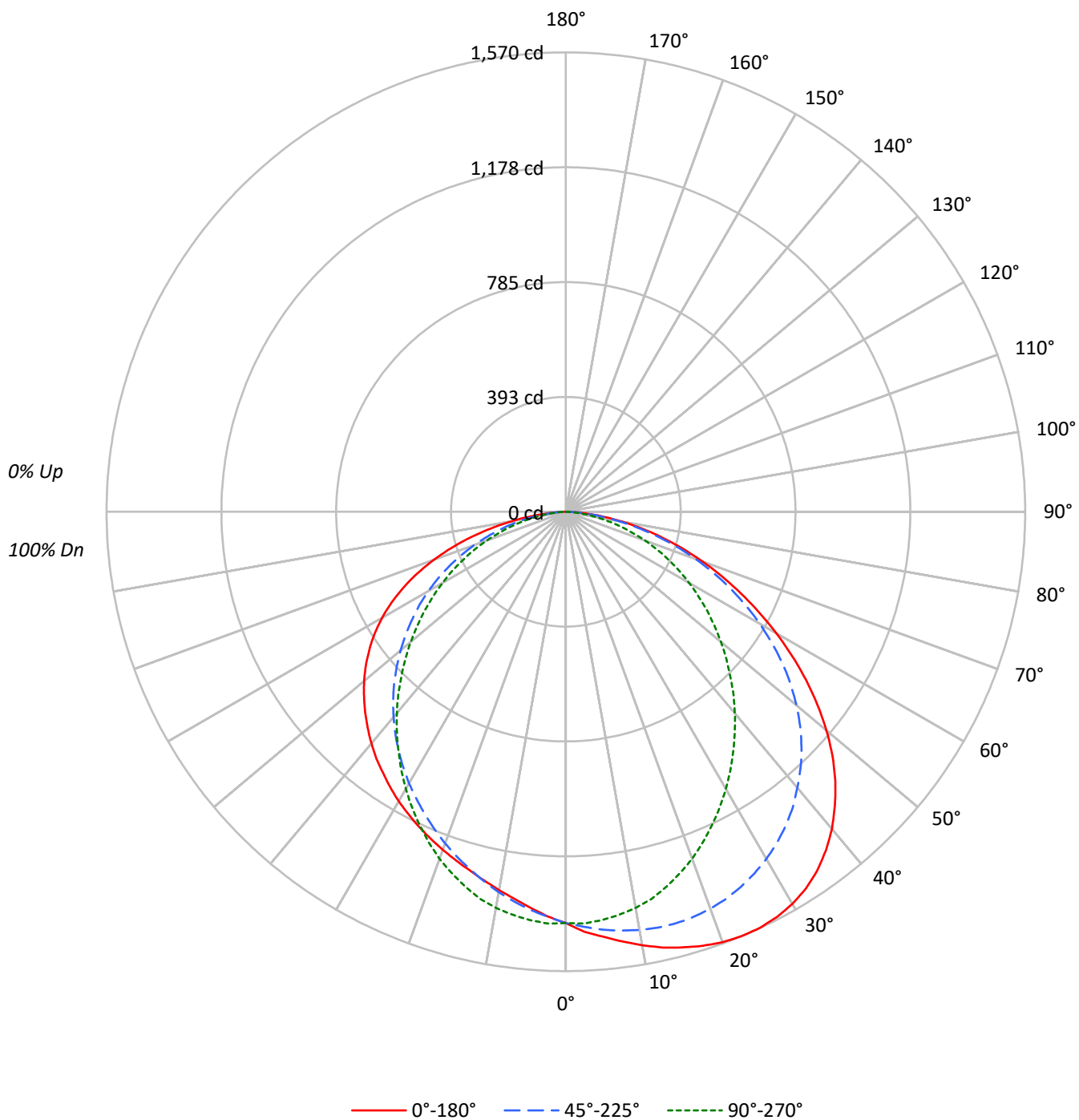
Lumens per Lamp: N/A
Luminaire Lumens: 4134.4 lumens
Efficiency: N/A
Efficacy: 88.3 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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	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°	1891	1891	1891
5°	1969	1892	1836
10°	2055	1878	1794
15°	2147	1848	1768
20°	2241	1807	1760
25°	2329	1755	1763
30°	2405	1700	1775
35°	2460	1639	1789
40°	2485	1578	1816
45°	2478	1512	1846
50°	2434	1448	1884
55°	2351	1381	1923
60°	2236	1310	1952
65°	2100	1230	1949
70°	1954	1135	1891
75°	1774	997	1744
80°	1523	819	1471
85°	1162	560	1010

Classified

Scaled Data Report

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	133.3	3.2
10°-20°	385.0	9.3
20°-30°	589.8	14.3
30°-40°	719.7	17.4
40°-50°	752.7	18.2
50°-60°	681.2	16.5
60°-70°	515.9	12.5
70°-80°	287.5	7.0
80°-90°	69.4	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°	1108.0	26.8
0°-40°	1827.8	44.2
0°-60°	3261.7	78.9
0°-90°	4134.4	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4134.4	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1406	1406	1406	1406	1406	
5°	1458	1434	1401	1366	1360	141
15°	1542	1456	1327	1265	1269	437
25°	1569	1415	1182	1140	1188	724
35°	1498	1310	998	997	1089	935
45°	1302	1139	794	830	970	1002
55°	1002	905	589	641	820	894
65°	660	620	386	439	612	654
75°	341	322	192	229	336	362
85°	75	66	36	48	65	91
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°	1405.5	1405.5	1405.5	1405.5	1405.5	1405.5	1405.5	1405.5	1405.5	1405.5	1405.5
2.5°	1436.6	1429.8	1424.3	1426.4	1427.7	1423.4	1419.7	1420.3	1416.6	1423.7	1407.1
5°	1457.8	1451.6	1445.2	1447.6	1445.2	1438.7	1433.5	1432.0	1422.1	1426.1	1409.2
7.5°	1481.4	1474.7	1465.1	1467.9	1462.7	1450.7	1443.9	1439.9	1424.9	1425.2	1406.5
10°	1504.2	1498.3	1485.4	1487.3	1477.7	1461.8	1451.0	1445.5	1424.3	1421.2	1401.9
12.5°	1525.4	1517.4	1503.5	1504.5	1490.6	1469.4	1455.6	1447.6	1420.0	1410.8	1391.7
15°	1541.6	1534.0	1517.4	1517.1	1499.2	1471.6	1455.9	1444.9	1409.8	1395.4	1375.4
17.5°	1555.5	1548.4	1527.8	1527.2	1505.7	1470.7	1451.9	1438.1	1395.1	1377.3	1355.2
20°	1565.3	1558.2	1535.2	1533.0	1507.2	1466.1	1443.6	1426.1	1375.7	1354.5	1330.0
22.5°	1569.9	1562.8	1536.7	1533.6	1503.5	1456.8	1431.7	1411.1	1353.6	1326.0	1300.5
25°	1569.0	1562.2	1532.7	1529.7	1496.5	1443.0	1414.8	1391.1	1325.7	1293.1	1267.9
27.5°	1561.3	1556.1	1525.0	1521.1	1483.6	1424.3	1394.2	1368.1	1294.6	1258.4	1231.0
30°	1548.1	1544.1	1511.2	1507.5	1467.6	1403.7	1370.2	1340.1	1261.1	1220.3	1192.6
32.5°	1526.9	1523.2	1490.0	1486.6	1446.1	1377.3	1342.3	1311.2	1224.6	1179.4	1151.8
35°	1497.7	1495.6	1463.3	1459.6	1418.4	1347.2	1310.0	1275.9	1186.5	1135.5	1109.1
37.5°	1459.3	1459.3	1428.3	1424.3	1384.0	1310.3	1273.7	1237.5	1143.5	1089.4	1063.3
40°	1414.8	1418.7	1387.1	1383.1	1344.1	1270.7	1230.7	1192.6	1097.1	1040.9	1015.4
42.5°	1361.3	1365.0	1338.6	1334.9	1298.3	1224.9	1187.7	1146.2	1048.5	991.4	965.0
45°	1302.3	1307.2	1283.6	1280.8	1246.7	1174.8	1139.2	1097.1	997.9	939.8	914.0
47.5°	1236.6	1243.0	1222.4	1220.9	1189.3	1123.5	1086.3	1043.6	944.7	886.0	861.8
50°	1162.8	1172.0	1155.2	1155.2	1126.9	1061.5	1029.2	986.5	889.4	830.7	806.8
52.5°	1083.9	1095.6	1083.0	1083.3	1060.2	1001.5	968.1	926.3	831.6	773.9	751.8
55°	1002.2	1013.5	1005.5	1006.8	988.6	935.2	904.8	863.3	772.7	716.4	695.5
57.5°	916.7	929.0	923.8	926.3	913.7	865.8	834.1	797.9	711.8	656.2	638.4
60°	831.0	842.7	839.9	843.3	835.3	793.9	765.0	727.5	650.7	597.2	581.6
62.5°	744.4	755.2	754.5	758.2	753.9	719.5	693.7	661.8	587.4	538.3	523.8
65°	659.6	668.8	668.2	672.2	671.3	643.6	620.3	591.1	524.1	479.0	466.4
67.5°	577.3	584.9	582.8	587.4	588.6	566.5	546.2	520.1	463.9	420.0	409.2
70°	496.8	502.0	499.2	502.3	505.1	488.5	471.3	448.2	399.7	361.0	352.1
72.5°	417.8	421.5	417.2	420.3	422.7	410.8	396.6	376.7	336.4	302.9	295.5
75°	341.3	346.5	337.6	340.7	342.6	330.6	322.3	306.0	271.3	245.5	240.6
77.5°	267.3	270.4	265.4	264.2	265.4	256.8	250.4	237.8	211.7	190.5	187.4
80°	196.6	198.5	193.5	192.3	193.2	187.1	182.2	173.0	154.5	138.6	137.3
82.5°	131.8	132.7	128.4	127.2	127.8	126.0	120.1	113.7	105.1	91.6	91.2
85°	75.3	75.3	72.2	71.0	71.6	68.5	66.4	63.0	59.6	50.4	51.0
87.5°	27.6	27.6	26.1	25.8	28.9	25.5	24.6	23.0	24.0	19.0	20.3
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°	1405.5	1405.5	1405.5	1405.5	1405.5	1405.5	1405.5	1405.5	1405.5	1405.5	1405.5
2.5°	1411.7	1408.6	1405.8	1396.3	1400.3	1390.5	1389.9	1386.2	1383.4	1378.2	1385.0
5°	1407.1	1400.9	1392.9	1381.6	1385.0	1373.3	1370.8	1366.5	1362.8	1356.1	1361.3
7.5°	1399.7	1389.6	1377.0	1362.5	1367.1	1352.7	1349.0	1344.4	1341.3	1333.3	1337.9
10°	1388.9	1374.5	1359.8	1342.3	1345.6	1330.0	1325.4	1320.4	1317.7	1310.6	1315.2
12.5°	1372.4	1354.8	1334.9	1315.8	1319.5	1304.8	1298.6	1293.4	1292.5	1286.6	1292.2
15°	1350.9	1326.6	1306.0	1285.7	1290.0	1272.8	1270.1	1264.8	1266.4	1262.4	1269.1
17.5°	1323.5	1295.6	1273.1	1251.3	1255.6	1241.2	1239.0	1236.6	1238.1	1237.5	1244.9
20°	1292.8	1262.1	1236.3	1214.8	1217.2	1205.8	1206.8	1206.2	1209.2	1212.6	1222.7
22.5°	1258.1	1223.4	1196.3	1174.2	1177.9	1168.1	1172.4	1173.6	1178.8	1186.5	1199.4
25°	1219.1	1181.9	1153.6	1132.7	1136.1	1129.7	1137.0	1140.1	1148.4	1161.3	1174.5
27.5°	1178.2	1138.9	1108.8	1088.8	1095.2	1088.8	1099.9	1106.0	1118.6	1132.7	1149.0
30°	1134.9	1094.0	1063.0	1045.2	1051.3	1045.5	1063.3	1071.6	1084.2	1103.5	1122.9
32.5°	1089.4	1046.4	1016.0	1002.2	1006.5	1005.5	1025.5	1034.7	1051.6	1073.7	1094.3
35°	1042.7	997.9	967.1	955.5	960.7	961.9	985.9	996.6	1015.1	1041.8	1063.9
37.5°	994.5	948.7	918.6	909.1	913.7	918.3	946.2	957.0	977.9	1007.1	1031.3
40°	944.4	898.6	869.1	861.4	866.1	871.0	901.4	916.1	938.9	970.5	996.9
42.5°	893.7	847.9	819.4	813.8	818.4	828.0	860.2	874.0	898.0	933.0	962.2
45°	842.1	794.5	769.6	765.3	770.2	781.3	812.9	829.5	855.0	893.4	924.7
47.5°	789.9	743.5	719.8	717.1	722.0	734.3	769.3	784.3	811.4	852.2	886.0
50°	737.0	691.9	669.1	668.2	672.8	686.0	719.5	737.3	765.3	811.1	845.8
52.5°	683.6	640.2	619.7	619.7	624.0	637.5	671.3	689.7	718.6	766.8	805.2
55°	630.1	588.9	569.3	570.8	577.0	588.6	621.5	640.9	670.1	720.1	760.7
57.5°	576.7	537.6	519.8	522.0	527.8	539.5	571.7	593.6	620.0	671.9	713.4
60°	523.8	486.9	471.3	473.7	479.0	490.6	524.1	542.9	569.3	622.1	663.6
62.5°	470.4	436.9	422.1	425.2	429.8	441.5	473.1	491.2	517.4	569.3	611.1
65°	417.5	386.5	373.9	377.0	381.3	392.0	421.8	439.3	464.2	514.9	554.8
67.5°	365.3	337.0	326.6	329.6	333.0	343.2	367.7	386.8	410.1	458.4	496.2
70°	313.7	288.5	279.3	282.3	285.4	294.6	316.1	333.6	355.1	399.4	434.4
72.5°	262.7	238.1	233.5	236.3	238.7	246.7	267.3	281.1	299.8	339.2	369.3
75°	212.9	191.7	188.6	191.4	193.5	199.7	216.9	228.9	244.5	278.6	303.2
77.5°	165.0	147.2	145.9	148.1	150.2	154.5	168.1	180.6	192.9	218.1	239.9
80°	120.1	105.7	105.7	107.8	107.2	112.4	122.0	132.1	141.0	159.1	175.1
82.5°	79.3	67.9	69.4	71.0	71.9	74.0	79.9	87.6	93.1	104.1	114.6
85°	43.9	36.3	37.8	39.0	38.4	40.9	43.9	48.5	51.3	56.5	62.1
87.5°	16.3	13.5	13.8	14.7	15.4	16.6	16.6	19.4	19.7	20.3	21.5
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°	1405.5	1405.5	1405.5
2.5°	1372.1	1379.4	1385.0
5°	1348.4	1354.5	1359.5
7.5°	1325.4	1330.9	1335.2
10°	1303.5	1309.7	1312.8
12.5°	1281.1	1288.2	1290.6
15°	1259.0	1266.1	1269.1
17.5°	1236.3	1245.5	1248.9
20°	1215.1	1226.7	1229.5
22.5°	1193.6	1205.5	1208.9
25°	1170.2	1184.3	1187.7
27.5°	1145.3	1162.2	1165.6
30°	1120.4	1138.9	1142.2
32.5°	1093.7	1113.7	1116.8
35°	1065.8	1085.7	1089.4
37.5°	1034.7	1056.5	1063.9
40°	1002.5	1026.1	1033.8
42.5°	968.7	994.5	1002.5
45°	932.4	960.7	969.9
47.5°	895.9	927.8	935.8
50°	856.2	890.3	899.9
52.5°	814.8	851.9	861.4
55°	771.7	809.2	819.7
57.5°	725.0	763.8	774.8
60°	676.2	714.9	725.3
62.5°	626.1	661.1	671.3
65°	570.2	603.1	612.3
67.5°	510.9	541.0	548.7
70°	447.9	474.0	480.8
72.5°	382.2	400.3	409.2
75°	314.3	328.7	335.5
77.5°	246.1	256.2	261.8
80°	179.4	185.3	189.9
82.5°	117.4	119.8	123.2
85°	63.3	63.3	65.4
87.5°	21.5	20.6	21.5
90°	0.0	0.0	0.0

(END OF REPORT)