

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: P834255

Luminaire Tested: **ORLG-12-4-INS-ASY2-LD4-1HI-30-120-EDD-90**

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P834255
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-30-120-EDD-90
Description: 1FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 3000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

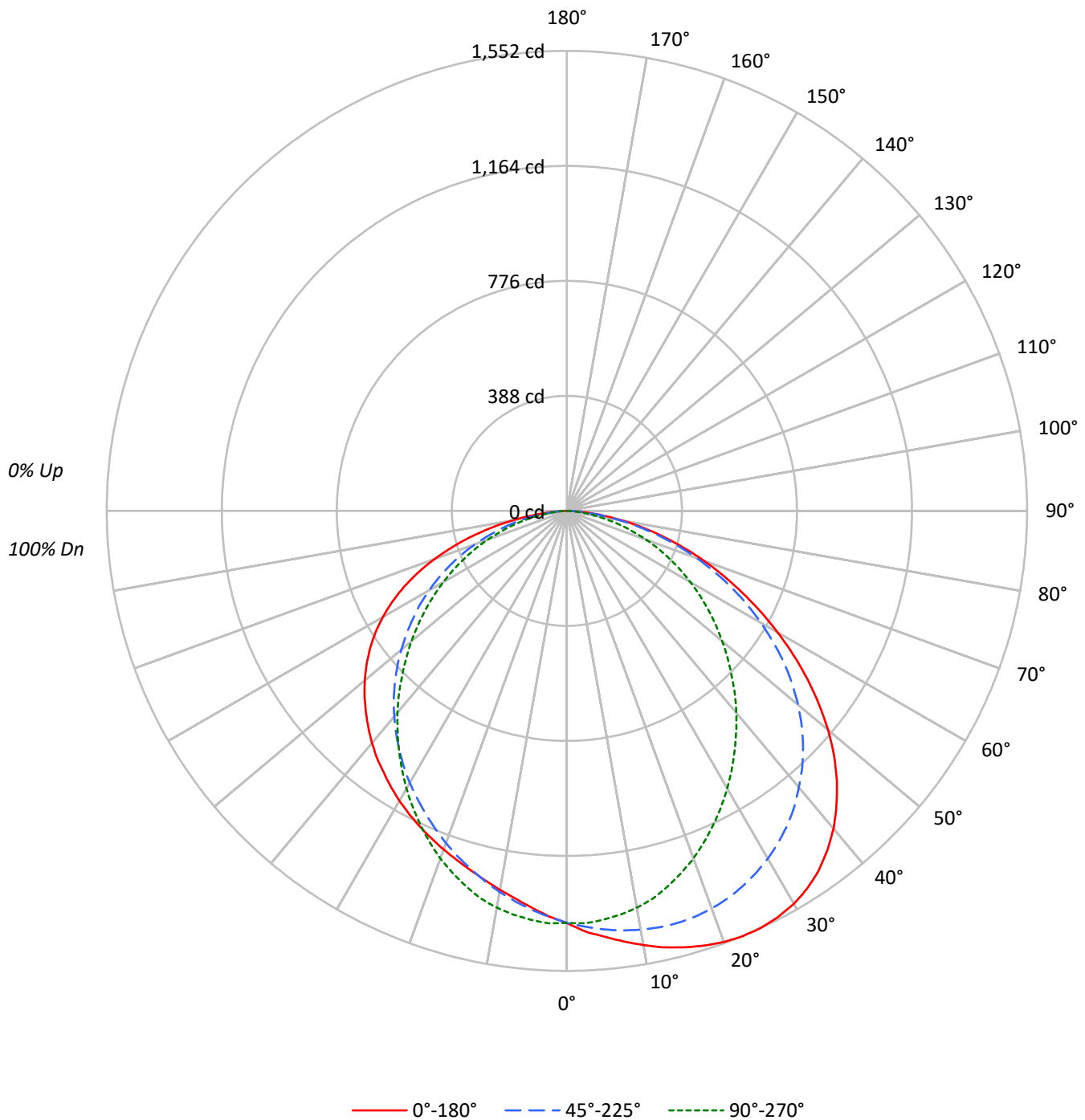
Lumens per Lamp: N/A
Luminaire Lumens: 4088.1 lumens
Efficiency: N/A
Efficacy: 92.9 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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	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°	3740	3740	3740
5°	3894	3742	3631
10°	4064	3714	3547
15°	4247	3654	3496
20°	4432	3574	3481
25°	4606	3470	3487
30°	4756	3361	3509
35°	4865	3241	3539
40°	4914	3121	3591
45°	4900	2990	3650
50°	4814	2864	3725
55°	4649	2732	3803
60°	4422	2591	3860
65°	4153	2434	3855
70°	3865	2244	3740
75°	3509	1971	3449
80°	3013	1619	2909
85°	2297	1105	1998



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	131.8	3.2
10°-20°	380.6	9.3
20°-30°	583.2	14.3
30°-40°	711.7	17.4
40°-50°	744.2	18.2
50°-60°	673.6	16.5
60°-70°	510.1	12.5
70°-80°	284.3	7.0
80°-90°	68.6	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°	1095.6	26.8
0°-40°	1807.3	44.2
0°-60°	3225.1	78.9
0°-90°	4088.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4088.1	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1390	1390	1390	1390	1390	
5°	1441	1417	1385	1351	1344	139
15°	1524	1440	1312	1251	1255	432
25°	1551	1399	1169	1127	1174	716
35°	1481	1295	987	986	1077	925
45°	1288	1126	786	820	959	991
55°	991	895	582	634	810	884
65°	652	613	382	434	605	647
75°	338	319	190	226	332	358
85°	74	66	36	48	65	90
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°	1389.8	1389.8	1389.8	1389.8	1389.8	1389.8	1389.8	1389.8	1389.8	1389.8	1389.8
2.5°	1420.5	1413.8	1408.3	1410.4	1411.7	1407.4	1403.8	1404.4	1400.7	1407.7	1391.3
5°	1441.4	1435.4	1429.0	1431.4	1429.0	1422.6	1417.4	1415.9	1406.2	1410.1	1393.4
7.5°	1464.8	1458.1	1448.7	1451.5	1446.3	1434.4	1427.8	1423.8	1408.9	1409.2	1390.7
10°	1487.3	1481.5	1468.8	1470.6	1461.2	1445.4	1434.7	1429.3	1408.3	1405.3	1386.1
12.5°	1508.3	1500.4	1486.7	1487.6	1473.9	1453.0	1439.3	1431.4	1404.1	1395.0	1376.1
15°	1524.4	1516.8	1500.4	1500.1	1482.4	1455.1	1439.6	1428.7	1394.0	1379.8	1360.0
17.5°	1538.0	1531.0	1510.7	1510.1	1488.8	1454.2	1435.7	1422.0	1379.5	1361.8	1340.0
20°	1547.8	1540.8	1518.0	1515.9	1490.3	1449.6	1427.5	1410.1	1360.3	1339.4	1315.1
22.5°	1552.3	1545.3	1519.5	1516.5	1486.7	1440.5	1415.6	1395.3	1338.4	1311.1	1285.9
25°	1551.4	1544.7	1515.6	1512.5	1479.7	1426.8	1398.9	1375.5	1310.8	1278.6	1253.7
27.5°	1543.8	1538.6	1508.0	1504.0	1466.9	1408.3	1378.5	1352.7	1280.1	1244.3	1217.2
30°	1530.7	1526.8	1494.3	1490.6	1451.2	1388.0	1354.9	1325.1	1247.0	1206.6	1179.3
32.5°	1509.8	1506.1	1473.3	1470.0	1429.9	1361.8	1327.2	1296.5	1210.9	1166.2	1138.9
35°	1480.9	1478.8	1446.9	1443.3	1402.5	1332.1	1295.3	1261.6	1173.2	1122.8	1096.6
37.5°	1442.9	1442.9	1412.3	1408.3	1368.5	1295.6	1259.5	1223.6	1130.7	1077.2	1051.4
40°	1398.9	1402.9	1371.6	1367.6	1329.0	1256.4	1216.9	1179.3	1084.8	1029.2	1004.0
42.5°	1346.0	1349.7	1323.6	1319.9	1283.8	1211.2	1174.4	1133.4	1036.8	980.3	954.2
45°	1287.7	1292.6	1269.2	1266.5	1232.7	1161.6	1126.4	1084.8	986.7	929.3	903.7
47.5°	1222.7	1229.1	1208.7	1207.2	1175.9	1110.9	1074.2	1031.9	934.1	876.1	852.1
50°	1149.8	1158.9	1142.2	1142.2	1114.3	1049.6	1017.7	975.4	879.4	821.4	797.7
52.5°	1071.7	1083.3	1070.8	1071.1	1048.3	990.3	957.2	915.9	822.3	765.2	743.3
55°	990.9	1002.2	994.3	995.5	977.6	924.7	894.6	853.6	764.0	708.4	687.8
57.5°	906.5	918.6	913.5	915.9	903.4	856.0	824.8	788.9	703.9	648.9	631.3
60°	821.7	833.3	830.5	833.9	826.0	785.0	756.4	719.3	643.4	590.5	575.1
62.5°	736.1	746.7	746.1	749.7	745.5	711.4	685.9	654.3	580.8	532.2	517.9
65°	652.2	661.3	660.7	664.7	663.8	636.4	613.3	584.5	518.2	473.6	461.1
67.5°	570.8	578.4	576.3	580.8	582.0	560.2	540.1	514.3	458.7	415.3	404.6
70°	491.2	496.4	493.6	496.7	499.4	483.0	466.0	443.2	395.2	356.9	348.1
72.5°	413.1	416.8	412.5	415.6	418.0	406.2	392.2	372.4	332.6	299.5	292.2
75°	337.5	342.7	333.9	336.9	338.7	326.9	318.7	302.6	268.2	242.7	237.9
77.5°	264.3	267.3	262.5	261.2	262.5	254.0	247.6	235.1	209.3	188.3	185.3
80°	194.4	196.2	191.4	190.2	191.1	185.0	180.1	171.0	152.8	137.0	135.8
82.5°	130.3	131.2	127.0	125.8	126.4	124.5	118.8	112.4	103.9	90.5	90.2
85°	74.4	74.4	71.4	70.2	70.8	67.7	65.6	62.3	58.9	49.8	50.4
87.5°	27.3	27.3	25.8	25.5	28.6	25.2	24.3	22.8	23.7	18.8	20.0
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°	1389.8	1389.8	1389.8	1389.8	1389.8	1389.8	1389.8	1389.8	1389.8	1389.8	1389.8
2.5°	1395.9	1392.8	1390.1	1380.7	1384.6	1374.9	1374.3	1370.6	1367.9	1362.8	1369.4
5°	1391.3	1385.2	1377.3	1366.1	1369.4	1357.9	1355.5	1351.2	1347.6	1340.9	1346.0
7.5°	1384.0	1374.0	1361.5	1347.3	1351.8	1337.5	1333.9	1329.3	1326.3	1318.4	1323.0
10°	1373.4	1359.1	1344.5	1327.2	1330.6	1315.1	1310.5	1305.6	1302.9	1295.9	1300.5
12.5°	1357.0	1339.7	1319.9	1301.1	1304.7	1290.1	1284.1	1278.9	1278.0	1272.2	1277.7
15°	1335.7	1311.7	1291.4	1271.3	1275.6	1258.6	1255.8	1250.7	1252.2	1248.2	1254.9
17.5°	1308.7	1281.0	1258.9	1237.3	1241.5	1227.3	1225.1	1222.7	1224.2	1223.6	1230.9
20°	1278.3	1247.9	1222.4	1201.1	1203.6	1192.3	1193.2	1192.6	1195.7	1199.0	1209.0
22.5°	1244.0	1209.6	1182.9	1161.0	1164.7	1155.0	1159.2	1160.4	1165.6	1173.2	1186.0
25°	1205.4	1168.6	1140.7	1120.0	1123.4	1117.0	1124.3	1127.3	1135.5	1148.3	1161.3
27.5°	1165.0	1126.1	1096.3	1076.6	1083.0	1076.6	1087.5	1093.6	1106.1	1120.0	1136.1
30°	1122.2	1081.8	1051.1	1033.5	1039.5	1033.8	1051.4	1059.6	1072.0	1091.2	1110.3
32.5°	1077.2	1034.7	1004.6	990.9	995.2	994.3	1014.0	1023.1	1039.8	1061.7	1082.1
35°	1031.0	986.7	956.3	944.8	949.9	951.1	974.8	985.5	1003.7	1030.1	1052.0
37.5°	983.3	938.1	908.3	898.9	903.4	908.0	935.6	946.3	966.9	995.8	1019.8
40°	933.8	888.6	859.4	851.8	856.4	861.2	891.3	905.9	928.3	959.6	985.8
42.5°	883.7	838.4	810.2	804.7	809.3	818.7	850.6	864.3	887.9	922.6	951.4
45°	832.7	785.6	761.0	756.7	761.6	772.5	803.8	820.2	845.4	883.4	914.4
47.5°	781.0	735.1	711.8	709.0	713.9	726.0	760.7	775.5	802.3	842.7	876.1
50°	728.8	684.1	661.6	660.7	665.3	678.3	711.4	729.1	756.7	802.0	836.3
52.5°	675.9	633.1	612.7	612.7	617.0	630.3	663.8	682.0	710.5	758.2	796.2
55°	623.1	582.3	562.9	564.4	570.5	582.0	614.5	633.7	662.5	712.1	752.2
57.5°	570.2	531.6	514.0	516.1	521.9	533.4	565.3	586.9	613.0	664.4	705.4
60°	517.9	481.5	466.0	468.4	473.6	485.1	518.2	536.8	562.9	615.2	656.2
62.5°	465.1	432.0	417.4	420.4	425.0	436.5	467.8	485.7	511.6	562.9	604.2
65°	412.8	382.2	369.7	372.7	377.0	387.6	417.1	434.4	459.0	509.1	548.6
67.5°	361.2	333.2	322.9	326.0	329.3	339.3	363.6	382.5	405.5	453.2	490.6
70°	310.2	285.2	276.1	279.2	282.2	291.3	312.6	329.9	351.2	394.9	429.5
72.5°	259.7	235.4	230.9	233.6	236.0	243.9	264.3	278.0	296.5	335.4	365.1
75°	210.5	189.6	186.5	189.3	191.4	197.5	214.5	226.3	241.8	275.5	299.8
77.5°	163.1	145.5	144.3	146.4	148.5	152.8	166.2	178.6	190.8	215.7	237.3
80°	118.8	104.5	104.5	106.6	106.0	111.2	120.6	130.6	139.4	157.4	173.2
82.5°	78.4	67.1	68.7	70.2	71.1	73.2	79.0	86.6	92.0	103.0	113.3
85°	43.4	35.8	37.4	38.6	38.0	40.4	43.4	48.0	50.7	55.9	61.4
87.5°	16.1	13.4	13.7	14.6	15.2	16.4	16.4	19.1	19.4	20.0	21.3
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):

	160°	170°	180°
0°	1389.8	1389.8	1389.8
2.5°	1356.7	1364.0	1369.4
5°	1333.3	1339.4	1344.2
7.5°	1310.5	1316.0	1320.2
10°	1288.9	1295.0	1298.0
12.5°	1266.8	1273.7	1276.2
15°	1244.9	1251.9	1254.9
17.5°	1222.4	1231.5	1234.9
20°	1201.4	1213.0	1215.7
22.5°	1180.2	1192.0	1195.4
25°	1157.1	1171.1	1174.4
27.5°	1132.5	1149.2	1152.5
30°	1107.9	1126.1	1129.4
32.5°	1081.5	1101.2	1104.2
35°	1053.8	1073.6	1077.2
37.5°	1023.1	1044.7	1052.0
40°	991.2	1014.6	1022.2
42.5°	957.8	983.3	991.2
45°	922.0	949.9	959.0
47.5°	885.8	917.4	925.3
50°	846.6	880.4	889.8
52.5°	805.6	842.4	851.8
55°	763.1	800.2	810.5
57.5°	716.9	755.2	766.1
60°	668.6	706.9	717.2
62.5°	619.1	653.7	663.8
65°	563.8	596.3	605.4
67.5°	505.2	535.0	542.5
70°	442.9	468.7	475.4
72.5°	377.9	395.8	404.6
75°	310.8	325.0	331.7
77.5°	243.3	253.4	258.8
80°	177.4	183.2	187.7
82.5°	116.0	118.5	121.8
85°	62.6	62.6	64.7
87.5°	21.3	20.4	21.3
90°	0.0	0.0	0.0

(END OF REPORT)