

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: P834633

Luminaire Tested: **ORLG-24-4-INS-ASY2-LD4-1HI-27-120-EDD-90**

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P834633
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-LD4-1HI-27-120-EDD-90
Description: 2FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 2700K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

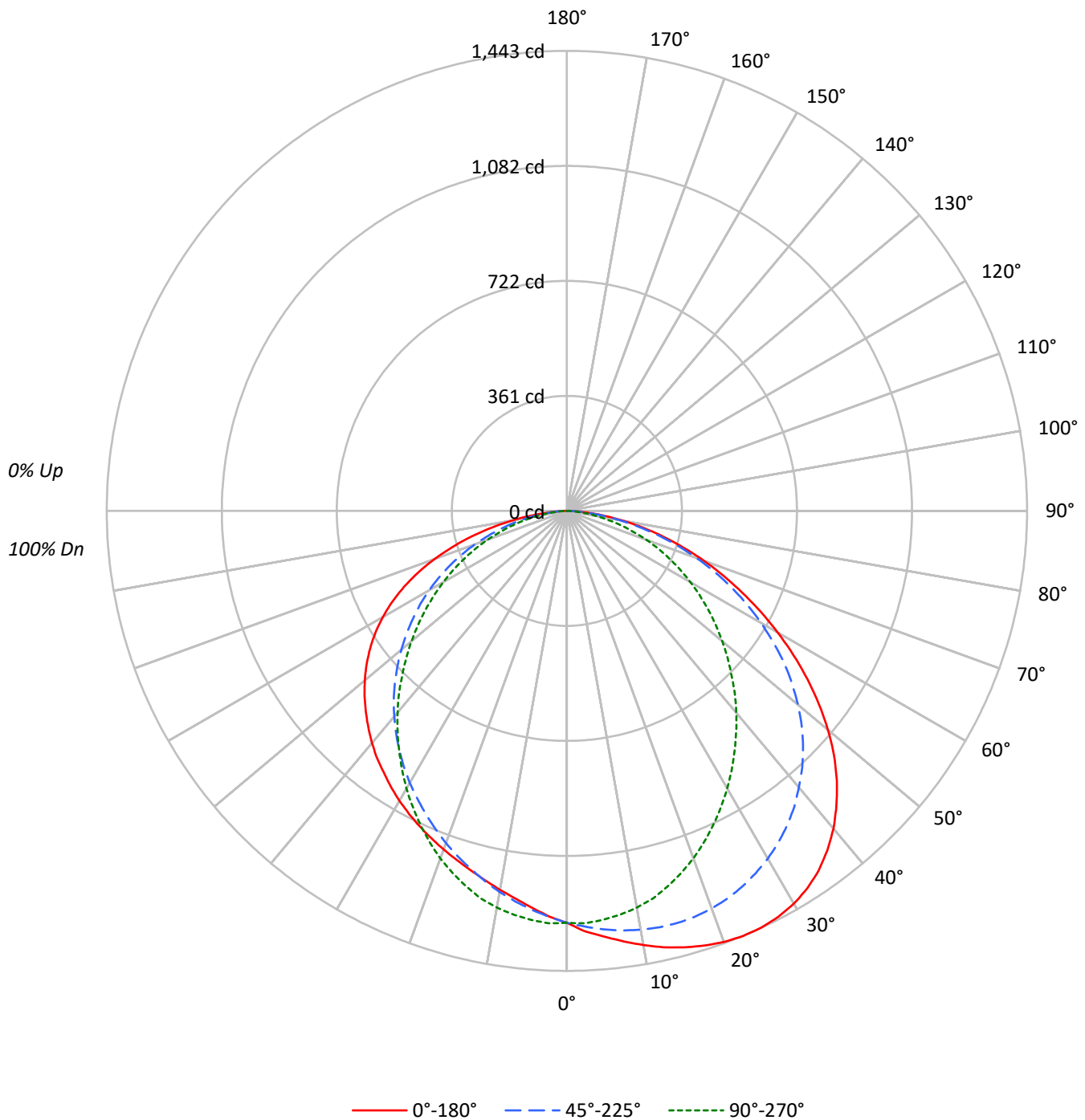
Lumens per Lamp: N/A
Luminaire Lumens: 3800.7 lumens
Efficiency: N/A
Efficacy: 86.4 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 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°	1739	1739	1739
5°	1810	1739	1688
10°	1889	1726	1649
15°	1974	1699	1625
20°	2060	1661	1618
25°	2141	1613	1621
30°	2211	1562	1631
35°	2261	1507	1645
40°	2284	1451	1669
45°	2278	1390	1697
50°	2238	1331	1732
55°	2161	1270	1768
60°	2056	1204	1794
65°	1931	1131	1792
70°	1797	1043	1739
75°	1631	916	1603
80°	1401	753	1352
85°	1068	514	929

Classified

Scaled Data Report

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	122.5	3.2
10°-20°	353.9	9.3
20°-30°	542.2	14.3
30°-40°	661.6	17.4
40°-50°	691.9	18.2
50°-60°	626.2	16.5
60°-70°	474.3	12.5
70°-80°	264.3	7.0
80°-90°	63.8	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°	1018.6	26.8
0°-40°	1680.2	44.2
0°-60°	2998.4	78.9
0°-90°	3800.7	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3800.7	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1292	1292	1292	1292	1292	
5°	1340	1318	1288	1256	1250	129
15°	1417	1338	1220	1163	1167	402
25°	1442	1301	1086	1048	1092	665
35°	1377	1204	917	916	1002	860
45°	1197	1047	730	762	892	921
55°	921	832	541	589	754	822
65°	606	570	355	404	563	602
75°	314	296	176	210	308	333
85°	69	61	33	45	60	83
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°	1292.1	1292.1	1292.1	1292.1	1292.1	1292.1	1292.1	1292.1	1292.1	1292.1	1292.1
2.5°	1320.6	1314.4	1309.3	1311.3	1312.4	1308.5	1305.1	1305.6	1302.3	1308.8	1293.5
5°	1340.1	1334.5	1328.5	1330.8	1328.5	1322.6	1317.8	1316.4	1307.3	1311.0	1295.5
7.5°	1361.9	1355.6	1346.9	1349.4	1344.6	1333.6	1327.4	1323.7	1309.9	1310.2	1292.9
10°	1382.8	1377.4	1365.5	1367.2	1358.5	1343.8	1333.9	1328.8	1309.3	1306.5	1288.7
12.5°	1402.2	1394.9	1382.2	1383.0	1370.3	1350.8	1338.1	1330.8	1305.4	1296.9	1279.4
15°	1417.2	1410.1	1394.9	1394.6	1378.2	1352.8	1338.4	1328.2	1296.0	1282.8	1264.4
17.5°	1429.9	1423.4	1404.5	1403.9	1384.2	1352.0	1334.7	1322.0	1282.5	1266.1	1245.8
20°	1439.0	1432.5	1411.3	1409.3	1385.6	1347.7	1327.1	1311.0	1264.7	1245.2	1222.6
22.5°	1443.2	1436.7	1412.7	1409.9	1382.2	1339.3	1316.1	1297.2	1244.4	1218.9	1195.5
25°	1442.3	1436.1	1409.0	1406.2	1375.7	1326.5	1300.6	1278.8	1218.7	1188.7	1165.6
27.5°	1435.3	1430.5	1402.0	1398.3	1363.8	1309.3	1281.6	1257.6	1190.1	1156.8	1131.7
30°	1423.1	1419.5	1389.2	1385.9	1349.1	1290.4	1259.6	1231.9	1159.4	1121.8	1096.4
32.5°	1403.6	1400.3	1369.8	1366.7	1329.4	1266.1	1233.9	1205.4	1125.7	1084.2	1058.8
35°	1376.8	1374.8	1345.2	1341.8	1304.0	1238.4	1204.3	1172.9	1090.7	1043.8	1019.6
37.5°	1341.5	1341.5	1313.0	1309.3	1272.3	1204.5	1170.9	1137.6	1051.2	1001.5	977.5
40°	1300.6	1304.2	1275.1	1271.5	1235.6	1168.1	1131.4	1096.4	1008.5	956.9	933.4
42.5°	1251.4	1254.8	1230.5	1227.1	1193.5	1126.0	1091.9	1053.7	963.9	911.4	887.1
45°	1197.2	1201.7	1180.0	1177.4	1146.1	1080.0	1047.2	1008.5	917.3	863.9	840.2
47.5°	1136.8	1142.7	1123.8	1122.4	1093.3	1032.8	998.7	959.4	868.5	814.5	792.2
50°	1069.0	1077.4	1061.9	1061.9	1035.9	975.8	946.1	906.9	817.6	763.7	741.6
52.5°	996.4	1007.1	995.5	995.8	974.6	920.7	889.9	851.5	764.5	711.4	691.1
55°	921.3	931.7	924.4	925.5	908.8	859.7	831.7	793.6	710.3	658.6	639.4
57.5°	842.8	854.1	849.3	851.5	839.9	795.9	766.8	733.5	654.4	603.3	586.9
60°	764.0	774.7	772.1	775.3	767.9	729.8	703.2	668.8	598.2	549.0	534.6
62.5°	684.3	694.2	693.6	697.0	693.1	661.4	637.7	608.3	540.0	494.8	481.5
65°	606.4	614.8	614.3	617.9	617.1	591.7	570.2	543.4	481.8	440.3	428.7
67.5°	530.7	537.7	535.8	540.0	541.1	520.8	502.2	478.1	426.5	386.1	376.2
70°	456.7	461.5	458.9	461.8	464.3	449.1	433.2	412.1	367.4	331.8	323.7
72.5°	384.1	387.5	383.5	386.4	388.6	377.6	364.6	346.3	309.3	278.5	271.7
75°	313.8	318.6	310.4	313.2	314.9	303.9	296.3	281.3	249.4	225.7	221.1
77.5°	245.7	248.5	244.0	242.9	244.0	236.1	230.2	218.6	194.6	175.1	172.3
80°	180.8	182.4	177.9	176.8	177.6	172.0	167.5	159.0	142.1	127.4	126.2
82.5°	121.2	122.0	118.1	116.9	117.5	115.8	110.4	104.5	96.6	84.2	83.9
85°	69.2	69.2	66.4	65.2	65.8	63.0	61.0	57.9	54.8	46.3	46.9
87.5°	25.4	25.4	24.0	23.7	26.5	23.4	22.6	21.2	22.0	17.5	18.6
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°	1292.1	1292.1	1292.1	1292.1	1292.1	1292.1	1292.1	1292.1	1292.1	1292.1	1292.1
2.5°	1297.7	1294.9	1292.4	1283.6	1287.3	1278.3	1277.7	1274.3	1271.8	1267.0	1273.2
5°	1293.5	1287.9	1280.5	1270.1	1273.2	1262.4	1260.2	1256.2	1252.8	1246.6	1251.4
7.5°	1286.7	1277.4	1265.8	1252.6	1256.8	1243.5	1240.1	1235.9	1233.1	1225.7	1230.0
10°	1276.8	1263.6	1250.0	1233.9	1237.0	1222.6	1218.4	1213.9	1211.3	1204.8	1209.1
12.5°	1261.6	1245.5	1227.1	1209.6	1213.0	1199.5	1193.8	1189.0	1188.2	1182.8	1187.9
15°	1241.8	1219.5	1200.6	1181.9	1185.9	1170.1	1167.5	1162.7	1164.2	1160.5	1166.7
17.5°	1216.7	1191.0	1170.4	1150.3	1154.3	1141.0	1139.0	1136.8	1138.2	1137.6	1144.4
20°	1188.4	1160.2	1136.5	1116.7	1119.0	1108.5	1109.4	1108.8	1111.6	1114.7	1124.0
22.5°	1156.5	1124.6	1099.8	1079.4	1082.8	1073.8	1077.7	1078.9	1083.7	1090.7	1102.6
25°	1120.7	1086.5	1060.5	1041.3	1044.4	1038.5	1045.3	1048.1	1055.7	1067.6	1079.7
27.5°	1083.1	1046.9	1019.3	1000.9	1006.8	1000.9	1011.1	1016.7	1028.3	1041.3	1056.3
30°	1043.3	1005.7	977.2	960.8	966.5	961.1	977.5	985.1	996.7	1014.5	1032.3
32.5°	1001.5	961.9	934.0	921.3	925.2	924.4	942.7	951.2	966.7	987.1	1006.0
35°	958.5	917.3	889.1	878.3	883.1	884.3	906.3	916.2	933.1	957.7	978.0
37.5°	914.2	872.1	844.4	835.7	839.9	844.2	869.9	879.8	899.0	925.8	948.1
40°	868.2	826.1	799.0	791.9	796.2	800.7	828.6	842.2	863.1	892.2	916.5
42.5°	821.6	779.5	753.2	748.1	752.4	761.1	790.8	803.5	825.5	857.7	884.6
45°	774.1	730.3	707.5	703.5	708.0	718.2	747.3	762.5	786.0	821.3	850.1
47.5°	726.1	683.5	661.7	659.2	663.7	675.0	707.2	721.0	745.9	783.4	814.5
50°	677.5	636.0	615.1	614.3	618.5	630.7	661.4	677.8	703.5	745.6	777.5
52.5°	628.4	588.6	569.7	569.7	573.6	586.0	617.1	634.0	660.6	704.9	740.2
55°	579.3	541.4	523.3	524.7	530.4	541.1	571.3	589.1	616.0	662.0	699.3
57.5°	530.1	494.2	477.9	479.8	485.2	495.9	525.6	545.6	569.9	617.7	655.8
60°	481.5	447.6	433.2	435.5	440.3	451.0	481.8	499.0	523.3	571.9	610.0
62.5°	432.4	401.6	388.1	390.9	395.1	405.8	434.9	451.6	475.6	523.3	561.7
65°	383.8	355.3	343.7	346.5	350.5	360.4	387.8	403.9	426.7	473.3	510.1
67.5°	335.8	309.8	300.2	303.0	306.1	315.5	338.1	355.6	377.0	421.4	456.1
70°	288.4	265.2	256.7	259.5	262.4	270.8	290.6	306.7	326.5	367.2	399.3
72.5°	241.5	218.9	214.6	217.2	219.4	226.8	245.7	258.4	275.6	311.8	339.5
75°	195.7	176.2	173.4	176.0	177.9	183.6	199.4	210.4	224.8	256.2	278.8
77.5°	151.7	135.3	134.2	136.1	138.1	142.1	154.5	166.1	177.4	200.5	220.6
80°	110.4	97.2	97.2	99.1	98.6	103.4	112.1	121.4	129.6	146.3	161.0
82.5°	72.9	62.4	63.8	65.2	66.1	68.1	73.4	80.5	85.6	95.7	105.3
85°	40.4	33.3	34.7	35.9	35.3	37.6	40.4	44.6	47.2	52.0	57.0
87.5°	15.0	12.4	12.7	13.6	14.1	15.3	15.3	17.8	18.1	18.6	19.8
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):

	160°	170°	180°
0°	1292.1	1292.1	1292.1
2.5°	1261.3	1268.1	1273.2
5°	1239.6	1245.2	1249.7
7.5°	1218.4	1223.5	1227.4
10°	1198.3	1204.0	1206.8
12.5°	1177.7	1184.2	1186.5
15°	1157.4	1163.9	1166.7
17.5°	1136.5	1144.9	1148.1
20°	1117.0	1127.7	1130.3
22.5°	1097.2	1108.2	1111.3
25°	1075.8	1088.7	1091.9
27.5°	1052.9	1068.4	1071.5
30°	1030.0	1046.9	1050.1
32.5°	1005.4	1023.8	1026.6
35°	979.7	998.1	1001.5
37.5°	951.2	971.3	978.0
40°	921.6	943.3	950.4
42.5°	890.5	914.2	921.6
45°	857.2	883.1	891.6
47.5°	823.5	852.9	860.3
50°	787.1	818.5	827.2
52.5°	749.0	783.2	791.9
55°	709.5	743.9	753.5
57.5°	666.5	702.1	712.3
60°	621.6	657.2	666.8
62.5°	575.6	607.8	617.1
65°	524.2	554.4	562.9
67.5°	469.7	497.3	504.4
70°	411.8	435.8	442.0
72.5°	351.3	368.0	376.2
75°	288.9	302.2	308.4
77.5°	226.2	235.5	240.6
80°	164.9	170.3	174.5
82.5°	107.9	110.1	113.3
85°	58.2	58.2	60.2
87.5°	19.8	18.9	19.8
90°	0.0	0.0	0.0

(END OF REPORT)