

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: P835271

Luminaire Tested: **ORLG-24-2-INS-ASY2-LD4-4STD-20-120-EDD-90**

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P835271
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-LD4-4STD-20-120-EDD-90
Description: 2FT x 2FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 2000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

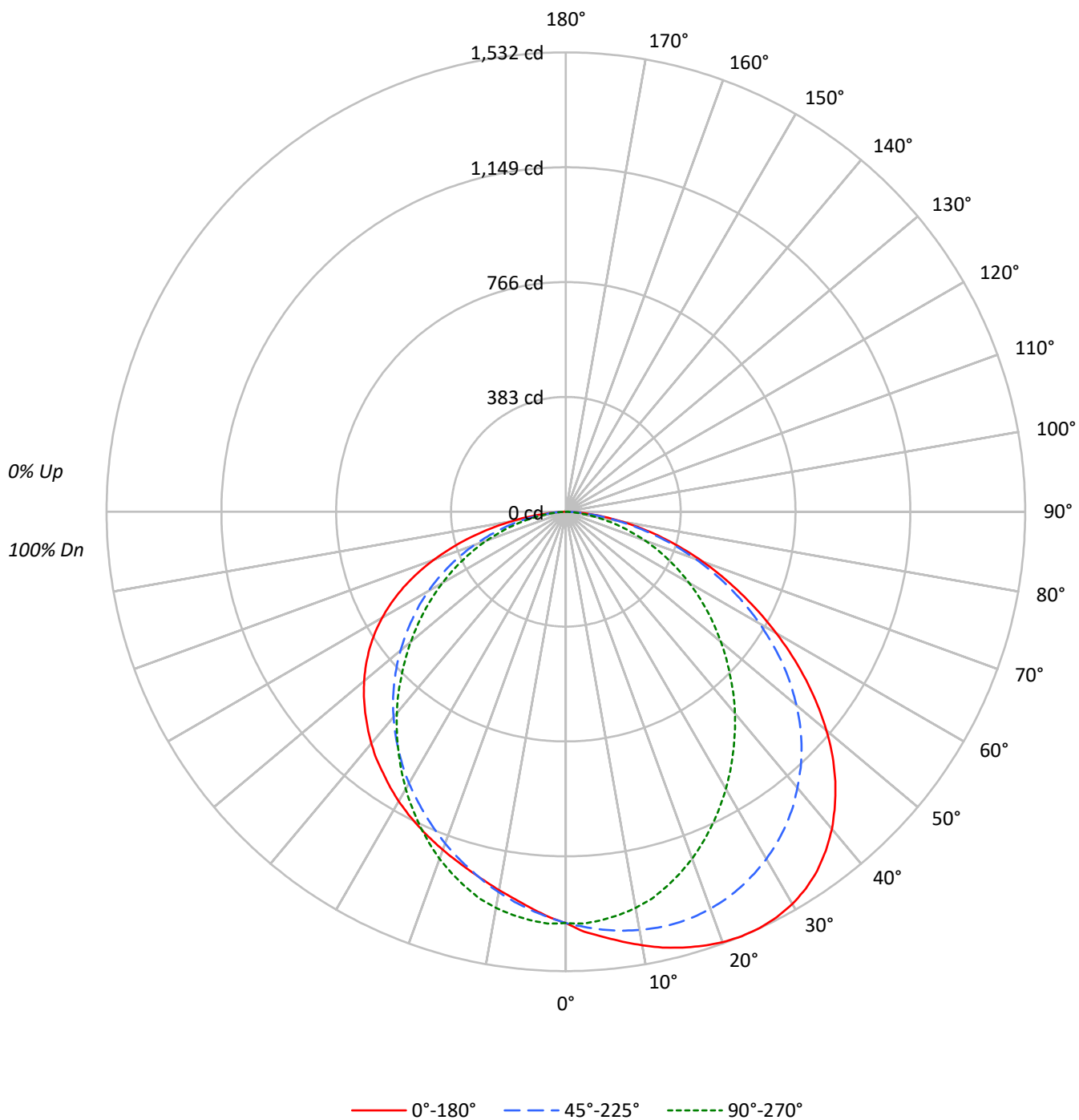
Lumens per Lamp: N/A
Luminaire Lumens: 4035.1 lumens
Efficiency: N/A
Efficacy: 60.6 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

Input Watts (W): 66.6
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°	3691	3691	3691
5°	3843	3693	3584
10°	4011	3666	3501
15°	4192	3607	3451
20°	4375	3527	3436
25°	4547	3425	3442
30°	4695	3318	3464
35°	4802	3199	3493
40°	4851	3081	3544
45°	4837	2951	3602
50°	4751	2827	3677
55°	4589	2697	3753
60°	4365	2558	3810
65°	4099	2402	3805
70°	3814	2216	3692
75°	3463	1945	3404
80°	2974	1598	2872
85°	2269	1093	1973



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	130.1	3.2
10°-20°	375.7	9.3
20°-30°	575.6	14.3
30°-40°	702.4	17.4
40°-50°	734.6	18.2
50°-60°	664.9	16.5
60°-70°	503.5	12.5
70°-80°	280.6	7.0
80°-90°	67.7	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°	1081.4	26.8
0°-40°	1783.9	44.2
0°-60°	3183.3	78.9
0°-90°	4035.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4035.1	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1372	1372	1372	1372	1372	
5°	1423	1399	1367	1334	1327	137
15°	1505	1421	1295	1234	1239	427
25°	1531	1381	1154	1113	1159	706
35°	1462	1278	974	973	1063	913
45°	1271	1112	775	810	947	978
55°	978	883	575	626	800	873
65°	644	605	377	429	598	639
75°	333	314	187	223	327	353
85°	74	65	35	47	64	88
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°	1371.8	1371.8	1371.8	1371.8	1371.8	1371.8	1371.8	1371.8	1371.8	1371.8	1371.8
2.5°	1402.1	1395.5	1390.1	1392.2	1393.4	1389.2	1385.6	1386.2	1382.6	1389.5	1373.3
5°	1422.8	1416.8	1410.5	1412.9	1410.5	1404.2	1399.1	1397.6	1388.0	1391.9	1375.4
7.5°	1445.8	1439.2	1430.0	1432.6	1427.6	1415.9	1409.3	1405.4	1390.7	1391.0	1372.7
10°	1468.0	1462.3	1449.7	1451.5	1442.2	1426.7	1416.2	1410.8	1390.1	1387.1	1368.2
12.5°	1488.7	1480.9	1467.4	1468.3	1454.8	1434.1	1420.7	1412.9	1385.9	1376.9	1358.3
15°	1504.6	1497.1	1480.9	1480.6	1463.2	1436.2	1421.0	1410.2	1376.0	1361.9	1342.4
17.5°	1518.1	1511.2	1491.1	1490.5	1469.5	1435.3	1417.1	1403.6	1361.6	1344.2	1322.6
20°	1527.7	1520.8	1498.3	1496.2	1471.0	1430.9	1409.0	1391.9	1342.7	1322.0	1298.0
22.5°	1532.2	1525.3	1499.8	1496.8	1467.4	1421.9	1397.3	1377.2	1321.1	1294.1	1269.2
25°	1531.3	1524.7	1495.9	1492.9	1460.5	1408.4	1380.8	1357.7	1293.8	1262.0	1237.5
27.5°	1523.8	1518.7	1488.4	1484.5	1447.9	1390.1	1360.7	1335.2	1263.5	1228.2	1201.5
30°	1510.9	1507.0	1474.9	1471.3	1432.3	1370.0	1337.3	1307.9	1230.9	1191.0	1164.0
32.5°	1490.2	1486.6	1454.2	1450.9	1411.4	1344.2	1310.0	1279.7	1195.2	1151.1	1124.1
35°	1461.7	1459.6	1428.2	1424.6	1384.4	1314.8	1278.5	1245.2	1158.0	1108.2	1082.4
37.5°	1424.3	1424.3	1394.0	1390.1	1350.8	1278.8	1243.1	1207.8	1116.0	1063.2	1037.8
40°	1380.8	1384.7	1353.8	1349.9	1311.8	1240.1	1201.2	1164.0	1070.7	1015.9	991.0
42.5°	1328.6	1332.2	1306.4	1302.8	1267.1	1195.5	1159.2	1118.7	1023.4	967.6	941.8
45°	1271.0	1275.8	1252.7	1250.0	1216.8	1146.6	1111.8	1070.7	973.9	917.2	892.0
47.5°	1206.9	1213.2	1193.1	1191.6	1160.7	1096.5	1060.2	1018.6	922.0	864.7	841.1
50°	1134.9	1143.9	1127.4	1127.4	1099.8	1036.0	1004.5	962.8	868.0	810.8	787.4
52.5°	1057.8	1069.2	1056.9	1057.2	1034.8	977.5	944.8	904.0	811.7	755.3	733.7
55°	978.1	989.2	981.4	982.6	964.9	912.7	883.0	842.6	754.1	699.2	678.8
57.5°	894.7	906.7	901.6	904.0	891.7	845.0	814.1	778.7	694.7	640.5	623.1
60°	811.1	822.5	819.8	823.1	815.3	774.8	746.6	710.0	635.1	582.9	567.6
62.5°	726.5	737.0	736.4	740.0	735.8	702.2	677.0	645.9	573.3	525.3	511.2
65°	643.8	652.8	652.2	656.1	655.2	628.2	605.4	576.9	511.5	467.5	455.2
67.5°	563.4	570.9	568.8	573.3	574.5	552.9	533.1	507.6	452.8	409.9	399.4
70°	484.8	489.9	487.2	490.2	492.9	476.8	460.0	437.5	390.1	352.3	343.6
72.5°	407.8	411.4	407.2	410.2	412.6	400.9	387.1	367.6	328.3	295.6	288.4
75°	333.1	338.2	329.5	332.5	334.3	322.6	314.5	298.6	264.8	239.6	234.8
77.5°	260.9	263.9	259.1	257.9	259.1	250.7	244.4	232.1	206.6	185.9	182.9
80°	191.9	193.7	188.9	187.7	188.6	182.6	177.8	168.8	150.8	135.2	134.0
82.5°	128.6	129.5	125.3	124.1	124.7	122.9	117.2	110.9	102.5	89.4	89.1
85°	73.5	73.5	70.5	69.3	69.9	66.9	64.8	61.5	58.2	49.2	49.8
87.5°	27.0	27.0	25.5	25.2	28.2	24.9	24.0	22.5	23.4	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):

	80°	90°	100°	110°	112.5°	120°	130°	135°	140°	150°	157.5°
0°	1371.8	1371.8	1371.8	1371.8	1371.8	1371.8	1371.8	1371.8	1371.8	1371.8	1371.8
2.5°	1377.8	1374.8	1372.1	1362.8	1366.7	1357.1	1356.5	1352.9	1350.2	1345.1	1351.7
5°	1373.3	1367.3	1359.5	1348.4	1351.7	1340.3	1337.9	1333.7	1330.1	1323.5	1328.6
7.5°	1366.1	1356.2	1343.9	1329.8	1334.3	1320.2	1316.6	1312.1	1309.1	1301.3	1305.8
10°	1355.6	1341.5	1327.1	1310.0	1313.3	1298.0	1293.5	1288.7	1286.0	1279.1	1283.6
12.5°	1339.4	1322.3	1302.8	1284.2	1287.8	1273.4	1267.4	1262.3	1261.4	1255.7	1261.1
15°	1318.4	1294.7	1274.6	1254.8	1259.0	1242.2	1239.6	1234.5	1236.0	1232.1	1238.7
17.5°	1291.7	1264.4	1242.5	1221.3	1225.5	1211.4	1209.3	1206.9	1208.4	1207.8	1215.0
20°	1261.7	1231.8	1206.6	1185.6	1188.0	1176.9	1177.8	1177.2	1180.2	1183.5	1193.4
22.5°	1227.9	1194.0	1167.6	1146.0	1149.6	1140.0	1144.2	1145.4	1150.5	1158.0	1170.6
25°	1189.8	1153.5	1125.9	1105.5	1108.8	1102.5	1109.7	1112.7	1120.8	1133.4	1146.3
27.5°	1149.9	1111.5	1082.1	1062.6	1068.9	1062.6	1073.4	1079.4	1091.7	1105.5	1121.4
30°	1107.6	1067.7	1037.5	1020.1	1026.1	1020.4	1037.8	1045.9	1058.1	1077.0	1095.9
32.5°	1063.2	1021.3	991.6	978.1	982.3	981.4	1000.9	1009.9	1026.4	1048.0	1068.0
35°	1017.7	973.9	943.9	932.5	937.6	938.8	962.2	972.7	990.7	1016.8	1038.4
37.5°	970.6	925.9	896.5	887.2	891.7	896.2	923.5	934.0	954.4	982.9	1006.6
40°	921.7	877.0	848.3	840.8	845.3	850.1	879.7	894.1	916.3	947.2	973.0
42.5°	872.2	827.6	799.7	794.3	798.8	808.1	839.6	853.1	876.4	910.6	939.1
45°	821.9	775.4	751.1	746.9	751.7	762.5	793.4	809.6	834.5	871.9	902.5
47.5°	770.9	725.6	702.5	699.8	704.6	716.6	750.8	765.5	791.9	831.8	864.7
50°	719.3	675.2	653.1	652.2	656.7	669.5	702.2	719.6	746.9	791.6	825.5
52.5°	667.2	624.9	604.8	604.8	609.0	622.2	655.2	673.1	701.3	748.4	785.9
55°	615.0	574.8	555.6	557.1	563.1	574.5	606.6	625.5	654.0	702.8	742.4
57.5°	562.8	524.7	507.3	509.4	515.1	526.5	558.0	579.3	605.1	655.8	696.2
60°	511.2	475.3	460.0	462.4	467.5	478.8	511.5	529.8	555.6	607.2	647.7
62.5°	459.1	426.4	412.0	415.0	419.5	430.9	461.8	479.4	504.9	555.6	596.4
65°	407.5	377.2	364.9	367.9	372.1	382.6	411.7	428.8	453.1	502.5	541.5
67.5°	356.5	328.9	318.7	321.7	325.0	334.9	358.9	377.5	400.3	447.4	484.2
70°	306.1	281.6	272.6	275.6	278.6	287.5	308.5	325.6	346.6	389.8	424.0
72.5°	256.4	232.4	227.9	230.6	233.0	240.8	260.9	274.4	292.6	331.0	360.4
75°	207.8	187.1	184.1	186.8	188.9	194.9	211.7	223.4	238.7	272.0	295.9
77.5°	161.0	143.6	142.4	144.5	146.6	150.8	164.0	176.3	188.3	212.9	234.2
80°	117.2	103.1	103.1	105.2	104.6	109.7	119.0	128.9	137.6	155.3	170.9
82.5°	77.4	66.3	67.8	69.3	70.2	72.3	78.0	85.5	90.9	101.6	111.8
85°	42.9	35.4	36.9	38.1	37.5	39.9	42.9	47.4	50.1	55.2	60.6
87.5°	15.9	13.2	13.5	14.4	15.0	16.2	16.2	18.9	19.2	19.8	21.0
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):

	160°	170°	180°
0°	1371.8	1371.8	1371.8
2.5°	1339.1	1346.3	1351.7
5°	1316.0	1322.0	1326.8
7.5°	1293.5	1298.9	1303.1
10°	1272.2	1278.2	1281.2
12.5°	1250.3	1257.2	1259.6
15°	1228.8	1235.7	1238.7
17.5°	1206.6	1215.6	1218.9
20°	1185.9	1197.3	1200.0
22.5°	1164.9	1176.6	1179.9
25°	1142.1	1155.9	1159.2
27.5°	1117.8	1134.3	1137.6
30°	1093.5	1111.5	1114.8
32.5°	1067.4	1086.9	1089.9
35°	1040.2	1059.6	1063.2
37.5°	1009.9	1031.2	1038.4
40°	978.4	1001.5	1009.0
42.5°	945.4	970.6	978.4
45°	910.0	937.6	946.6
47.5°	874.3	905.5	913.3
50°	835.7	868.9	878.2
52.5°	795.2	831.5	840.8
55°	753.2	789.8	800.0
57.5°	707.6	745.4	756.2
60°	660.0	697.7	707.9
62.5°	611.1	645.3	655.2
65°	556.5	588.6	597.6
67.5°	498.6	528.0	535.5
70°	437.2	462.7	469.3
72.5°	373.0	390.7	399.4
75°	306.7	320.8	327.4
77.5°	240.2	250.1	255.5
80°	175.1	180.8	185.3
82.5°	114.5	116.9	120.2
85°	61.8	61.8	63.9
87.5°	21.0	20.1	21.0
90°	0.0	0.0	0.0

(END OF REPORT)