

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: P834560

Luminaire Tested: **ORLG-24-4-INS-ASY2-LD4-1STD-35-120-EDD**

Issue Date: 5/16/2024



Test Information

Test Method: LM-79-08
Report Number: P834560
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-LD4-1STD-35-120-EDD
Description: 2FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 3500K CCT, 80 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

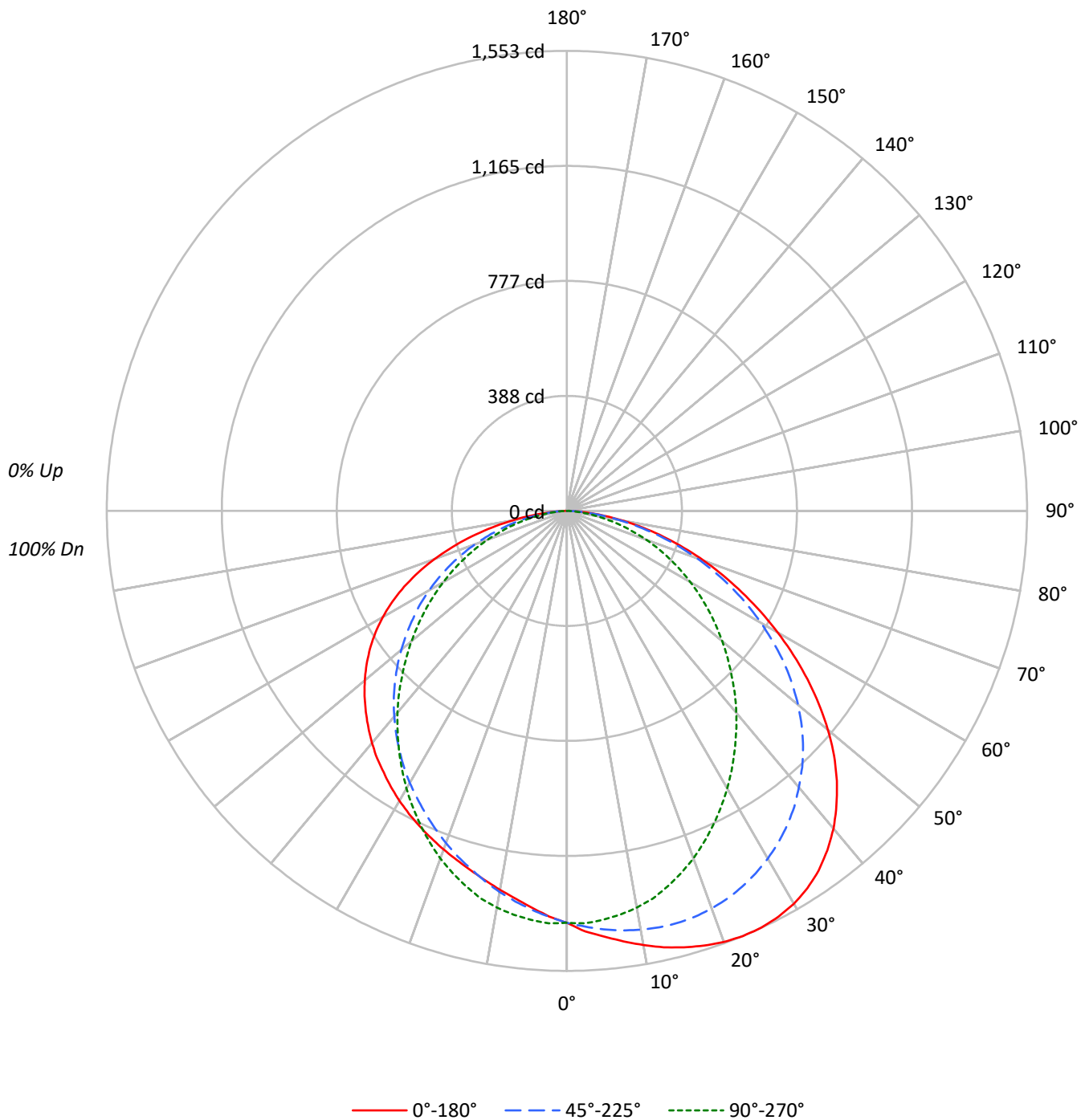
Lumens per Lamp: N/A
Luminaire Lumens: 4090.6 lumens
Efficiency: N/A
Efficacy: 122.8 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 33.3
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°	1871	1871	1871
5°	1948	1872	1817
10°	2033	1858	1774
15°	2125	1828	1749
20°	2217	1788	1742
25°	2305	1736	1745
30°	2380	1682	1756
35°	2434	1622	1770
40°	2459	1562	1796
45°	2452	1496	1826
50°	2408	1433	1864
55°	2326	1367	1902
60°	2213	1297	1931
65°	2078	1217	1929
70°	1934	1123	1871
75°	1756	986	1725
80°	1507	810	1456
85°	1150	554	999



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	131.9	3.2
10°-20°	380.9	9.3
20°-30°	583.5	14.3
30°-40°	712.1	17.4
40°-50°	744.7	18.2
50°-60°	674.0	16.5
60°-70°	510.4	12.5
70°-80°	284.5	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°	1096.3	26.8
0°-40°	1808.4	44.2
0°-60°	3227.1	78.9
0°-90°	4090.6	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4090.6	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1391	1391	1391	1391	1391	
5°	1442	1418	1386	1352	1345	139
15°	1525	1440	1312	1251	1256	433
25°	1552	1400	1169	1128	1175	716
35°	1482	1296	987	986	1078	925
45°	1288	1127	786	821	960	991
55°	992	895	583	634	811	885
65°	653	614	382	435	606	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°	1390.6	1390.6	1390.6	1390.6	1390.6	1390.6	1390.6	1390.6	1390.6	1390.6	1390.6
2.5°	1421.3	1414.7	1409.2	1411.3	1412.5	1408.3	1404.6	1405.2	1401.6	1408.6	1392.2
5°	1442.3	1436.2	1429.8	1432.3	1429.8	1423.5	1418.3	1416.8	1407.1	1411.0	1394.3
7.5°	1465.7	1459.0	1449.6	1452.3	1447.2	1435.3	1428.6	1424.7	1409.8	1410.1	1391.5
10°	1488.2	1482.4	1469.7	1471.5	1462.1	1446.3	1435.6	1430.2	1409.2	1406.1	1387.0
12.5°	1509.2	1501.3	1487.6	1488.5	1474.8	1453.9	1440.2	1432.3	1404.9	1395.8	1377.0
15°	1525.3	1517.7	1501.3	1501.0	1483.3	1456.0	1440.5	1429.5	1394.9	1380.6	1360.8
17.5°	1539.0	1532.0	1511.6	1511.0	1489.7	1455.1	1436.5	1422.9	1380.3	1362.7	1340.8
20°	1548.7	1541.7	1518.9	1516.8	1491.2	1450.5	1428.3	1411.0	1361.2	1340.2	1315.9
22.5°	1553.3	1546.3	1520.4	1517.4	1487.6	1441.4	1416.5	1396.1	1339.3	1311.9	1286.7
25°	1552.3	1545.7	1516.5	1513.4	1480.6	1427.7	1399.8	1376.4	1311.6	1279.4	1254.5
27.5°	1544.7	1539.6	1508.9	1504.9	1467.8	1409.2	1379.4	1353.6	1280.9	1245.0	1218.0
30°	1531.7	1527.7	1495.2	1491.6	1452.0	1388.8	1355.7	1325.9	1247.8	1207.3	1180.0
32.5°	1510.7	1507.1	1474.2	1470.9	1430.8	1362.7	1328.0	1297.3	1211.6	1166.9	1139.6
35°	1481.8	1479.7	1447.8	1444.1	1403.4	1332.9	1296.1	1262.4	1173.9	1123.5	1097.3
37.5°	1443.8	1443.8	1413.1	1409.2	1369.4	1296.4	1260.2	1224.4	1131.4	1077.9	1052.0
40°	1399.8	1403.7	1372.4	1368.4	1329.8	1257.2	1217.7	1180.0	1085.5	1029.8	1004.6
42.5°	1346.9	1350.5	1324.4	1320.7	1284.6	1211.9	1175.1	1134.1	1037.4	980.9	954.8
45°	1288.5	1293.4	1270.0	1267.2	1233.5	1162.4	1127.1	1085.5	987.3	929.8	904.3
47.5°	1223.5	1229.8	1209.5	1208.0	1176.6	1111.6	1074.8	1032.6	934.7	876.6	852.6
50°	1150.5	1159.6	1142.9	1142.9	1114.9	1050.2	1018.3	976.0	880.0	821.9	798.2
52.5°	1072.4	1083.9	1071.5	1071.8	1049.0	990.9	957.8	916.5	822.8	765.7	743.8
55°	991.5	1002.8	994.9	996.1	978.2	925.3	895.2	854.1	764.5	708.8	688.2
57.5°	907.0	919.2	914.0	916.5	904.0	856.6	825.3	789.4	704.3	649.3	631.6
60°	822.2	833.8	831.0	834.4	826.5	785.4	756.9	719.8	643.8	590.9	575.4
62.5°	736.5	747.1	746.5	750.2	745.9	711.9	686.4	654.7	581.2	532.5	518.3
65°	652.6	661.7	661.1	665.1	664.2	636.8	613.7	584.8	518.6	473.9	461.4
67.5°	571.1	578.7	576.6	581.2	582.4	560.5	540.4	514.6	459.0	415.5	404.9
70°	491.5	496.7	493.9	497.0	499.7	483.3	466.3	443.5	395.5	357.2	348.3
72.5°	413.4	417.0	412.8	415.8	418.3	406.4	392.4	372.7	332.8	299.7	292.4
75°	337.7	342.9	334.1	337.1	338.9	327.1	318.9	302.7	268.4	242.9	238.0
77.5°	264.4	267.5	262.6	261.4	262.6	254.1	247.7	235.3	209.4	188.5	185.4
80°	194.5	196.4	191.5	190.3	191.2	185.1	180.3	171.1	152.9	137.1	135.9
82.5°	130.4	131.3	127.1	125.8	126.4	124.6	118.9	112.5	104.0	90.6	90.3
85°	74.5	74.5	71.4	70.2	70.8	67.8	65.7	62.3	59.0	49.9	50.5
87.5°	27.4	27.4	25.8	25.5	28.6	25.2	24.3	22.8	23.7	18.8	20.1
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):

	80°	90°	100°	110°	112.5°	120°	130°	135°	140°	150°	157.5°
0°	1390.6	1390.6	1390.6	1390.6	1390.6	1390.6	1390.6	1390.6	1390.6	1390.6	1390.6
2.5°	1396.7	1393.7	1390.9	1381.5	1385.5	1375.7	1375.1	1371.5	1368.8	1363.6	1370.3
5°	1392.2	1386.1	1378.2	1366.9	1370.3	1358.7	1356.3	1352.0	1348.4	1341.7	1346.9
7.5°	1384.9	1374.8	1362.4	1348.1	1352.6	1338.4	1334.7	1330.1	1327.1	1319.2	1323.8
10°	1374.2	1359.9	1345.3	1328.0	1331.4	1315.9	1311.3	1306.4	1303.7	1296.7	1301.3
12.5°	1357.8	1340.5	1320.7	1301.9	1305.5	1290.9	1284.9	1279.7	1278.8	1273.0	1278.5
15°	1336.5	1312.5	1292.2	1272.1	1276.3	1259.3	1256.6	1251.4	1252.9	1249.0	1255.7
17.5°	1309.5	1281.8	1259.6	1238.0	1242.3	1228.0	1225.9	1223.5	1225.0	1224.4	1231.7
20°	1279.1	1248.7	1223.2	1201.9	1204.3	1193.1	1194.0	1193.4	1196.4	1199.7	1209.8
22.5°	1244.7	1210.4	1183.6	1161.8	1165.4	1155.7	1159.9	1161.1	1166.3	1173.9	1186.7
25°	1206.1	1169.4	1141.4	1120.7	1124.1	1117.7	1125.0	1128.0	1136.2	1149.0	1162.1
27.5°	1165.7	1126.8	1097.0	1077.3	1083.6	1077.3	1088.2	1094.3	1106.7	1120.7	1136.8
30°	1122.8	1082.4	1051.7	1034.1	1040.2	1034.4	1052.0	1060.2	1072.7	1091.8	1111.0
32.5°	1077.9	1035.3	1005.2	991.5	995.8	994.9	1014.6	1023.8	1040.5	1062.4	1082.7
35°	1031.7	987.3	956.9	945.3	950.5	951.7	975.4	986.1	1004.3	1030.7	1052.6
37.5°	983.9	938.6	908.9	899.4	904.0	908.5	936.2	946.8	967.5	996.4	1020.4
40°	934.4	889.1	859.9	852.3	856.9	861.7	891.8	906.4	928.9	960.2	986.4
42.5°	884.2	838.9	810.7	805.2	809.8	819.2	851.1	864.8	888.5	923.1	952.0
45°	833.2	786.1	761.4	757.2	762.0	773.0	804.3	820.7	845.9	883.9	914.9
47.5°	781.5	735.6	712.2	709.5	714.3	726.5	761.1	776.0	802.8	843.2	876.6
50°	729.2	684.5	662.0	661.1	665.7	678.8	711.9	729.5	757.2	802.5	836.8
52.5°	676.3	633.5	613.1	613.1	617.4	630.7	664.2	682.4	711.0	758.7	796.7
55°	623.4	582.7	563.2	564.8	570.8	582.4	614.9	634.1	662.9	712.5	752.6
57.5°	570.5	531.9	514.3	516.4	522.2	533.8	565.7	587.3	613.4	664.8	705.8
60°	518.3	481.8	466.3	468.7	473.9	485.4	518.6	537.1	563.2	615.5	656.6
62.5°	465.4	432.2	417.6	420.7	425.2	436.8	468.1	486.0	511.9	563.2	604.6
65°	413.1	382.4	369.9	373.0	377.2	387.9	417.3	434.7	459.3	509.4	549.0
67.5°	361.4	333.4	323.1	326.2	329.5	339.5	363.8	382.7	405.8	453.5	490.9
70°	310.3	285.4	276.3	279.3	282.4	291.5	312.8	330.1	351.4	395.2	429.8
72.5°	259.9	235.6	231.0	233.7	236.2	244.1	264.4	278.1	296.7	335.6	365.4
75°	210.6	189.7	186.6	189.4	191.5	197.6	214.6	226.5	242.0	275.7	300.0
77.5°	163.2	145.6	144.4	146.5	148.6	152.9	166.3	178.7	190.9	215.8	237.4
80°	118.9	104.6	104.6	106.7	106.1	111.3	120.7	130.7	139.5	157.5	173.3
82.5°	78.4	67.2	68.7	70.2	71.1	73.3	79.0	86.6	92.1	103.0	113.4
85°	43.5	35.9	37.4	38.6	38.0	40.4	43.5	48.0	50.8	55.9	61.4
87.5°	16.1	13.4	13.7	14.6	15.2	16.4	16.4	19.1	19.5	20.1	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°	1390.6	1390.6	1390.6
2.5°	1357.5	1364.8	1370.3
5°	1334.1	1340.2	1345.0
7.5°	1311.3	1316.8	1321.0
10°	1289.7	1295.8	1298.8
12.5°	1267.5	1274.5	1277.0
15°	1245.6	1252.6	1255.7
17.5°	1223.2	1232.3	1235.6
20°	1202.2	1213.7	1216.5
22.5°	1180.9	1192.8	1196.1
25°	1157.8	1171.8	1175.1
27.5°	1133.2	1149.9	1153.2
30°	1108.6	1126.8	1130.1
32.5°	1082.1	1101.9	1104.9
35°	1054.5	1074.2	1077.9
37.5°	1023.8	1045.3	1052.6
40°	991.8	1015.2	1022.8
42.5°	958.4	983.9	991.8
45°	922.5	950.5	959.6
47.5°	886.4	918.0	925.9
50°	847.1	880.9	890.3
52.5°	806.1	842.9	852.3
55°	763.6	800.6	811.0
57.5°	717.4	755.7	766.6
60°	669.0	707.3	717.7
62.5°	619.5	654.1	664.2
65°	564.2	596.7	605.8
67.5°	505.5	535.3	542.9
70°	443.2	469.0	475.7
72.5°	378.1	396.1	404.9
75°	311.0	325.2	331.9
77.5°	243.5	253.5	259.0
80°	177.5	183.3	187.9
82.5°	116.1	118.5	121.9
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)