

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: P834650

Luminaire Tested: **ORLG-24-4-INS-ASY2-LD4-1STD-30-120-EDD-90**

Issue Date: 5/16/2024

Cooper Lighting Solutions Photometric Lab
1121 Highway 74 South
Peachtree City, GA 30269

**Test Information**

Test Method: LM-79-08
Report Number: P834650
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-30-120-EDD-90
Description: 2FT x 4FT ORL LED LUMINAIRE WITH asymmetric/symmetric lens v2
Light Source: 3000K CCT, 90 CRI LEDS
Ballast/Driver: ELECTRONIC DRIVER

Summary

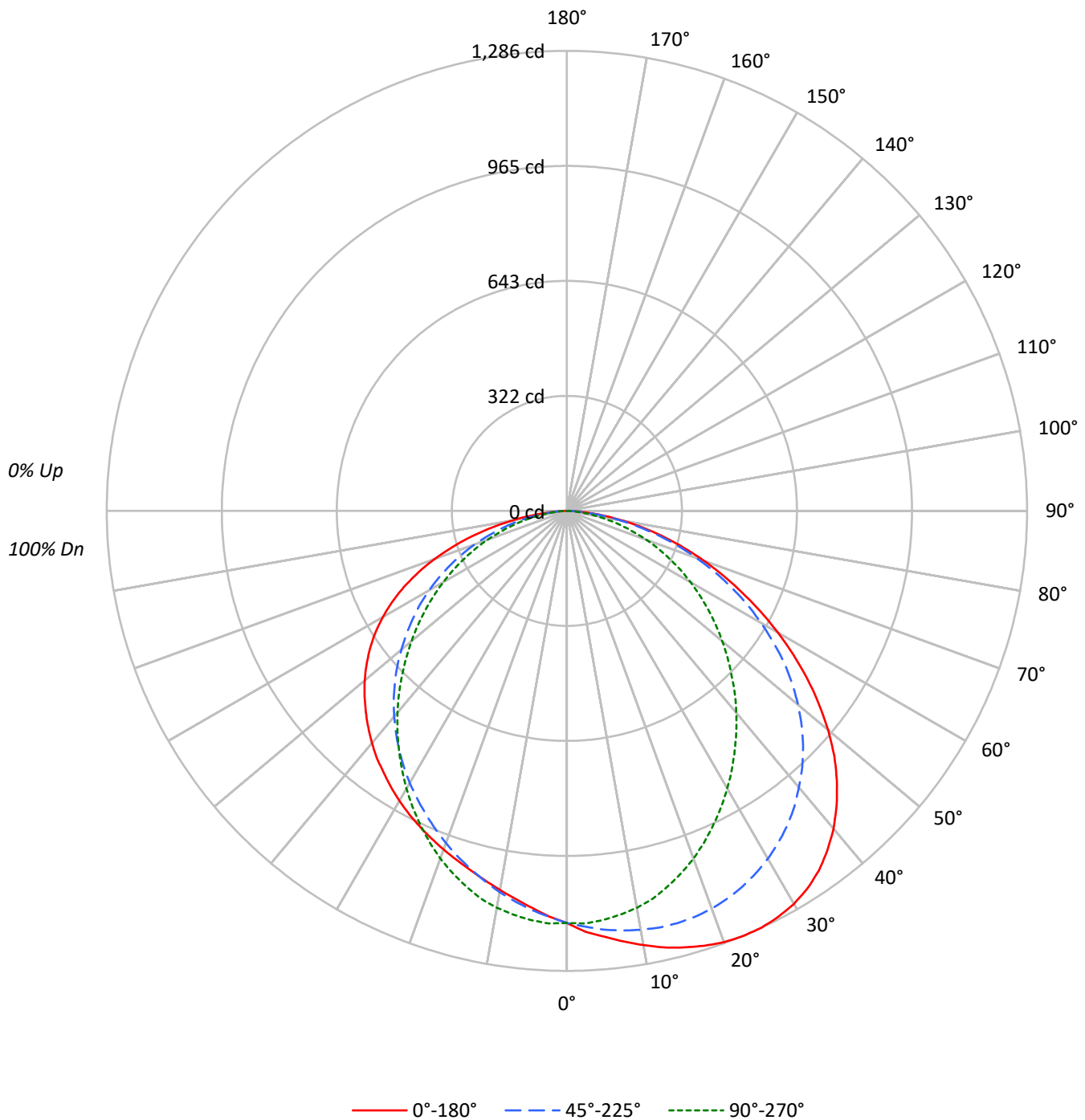
Lumens per Lamp: N/A
Luminaire Lumens: 3388.2 lumens
Efficiency: N/A
Efficacy: 101.7 lumens/watt
Spacing Criteria (0/90/45): 1.41 / 1.17 / 1.4
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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



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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
RCR																	
0	119	119	119	119	116	116	116	116	111	111	111		106	106	106		102
1	109	104	100	96	106	102	98	94	97	94	91		94	91	88		90
2	99	90	84	78	96	89	82	77	85	80	75		82	77	73		79
3	90	79	71	65	87	78	70	64	75	68	63		72	66	62		69
4	82	70	61	55	80	69	61	54	66	59	53		64	58	53		62
5	76	63	54	47	73	61	53	47	59	52	46		57	51	46		55
6	70	56	47	41	68	55	47	41	54	46	40		52	45	40		50
7	65	51	42	36	63	50	42	36	49	41	36		47	40	35		46
8	60	46	38	32	59	46	38	32	44	37	32		43	36	31		42
9	56	43	34	29	55	42	34	29	41	34	29		40	33	28		39
10	53	39	31	26	51	39	31	26	38	31	26		37	30	26		36

AVERAGE LUMINANCE (cd/sqm):

	0°	90°	180°
0°	1550	1550	1550
5°	1613	1551	1505
10°	1684	1539	1470
15°	1760	1514	1449
20°	1837	1481	1443
25°	1909	1438	1445
30°	1971	1393	1454
35°	2016	1343	1466
40°	2036	1293	1488
45°	2031	1239	1512
50°	1995	1187	1544
55°	1927	1132	1576
60°	1833	1074	1600
65°	1721	1008	1598
70°	1602	930	1550
75°	1454	817	1429
80°	1248	671	1206
85°	953	459	827

Classified

Scaled Data Report

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	109.2	3.2
10°-20°	315.5	9.3
20°-30°	483.3	14.3
30°-40°	589.8	17.4
40°-50°	616.8	18.2
50°-60°	558.3	16.5
60°-70°	422.8	12.5
70°-80°	235.6	7.0
80°-90°	56.8	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°	908.0	26.8
0°-40°	1497.8	44.2
0°-60°	2672.9	78.9
0°-90°	3388.2	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3388.2	100.0

CANDELA DISTRIBUTION:

	0°	45°	90°	135°	180°	Flux
0°	1152	1152	1152	1152	1152	
5°	1195	1175	1148	1120	1114	115
15°	1263	1193	1087	1036	1040	358
25°	1286	1159	969	934	973	593
35°	1227	1074	818	817	893	766
45°	1067	934	651	680	795	821
55°	821	742	483	525	672	733
65°	540	508	317	360	502	536
75°	280	264	157	188	275	297
85°	62	54	30	40	54	74
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°	1151.8	1151.8	1151.8	1151.8	1151.8	1151.8	1151.8	1151.8	1151.8	1151.8	1151.8
2.5°	1177.3	1171.7	1167.2	1169.0	1170.0	1166.4	1163.4	1163.9	1160.9	1166.7	1153.1
5°	1194.6	1189.6	1184.3	1186.3	1184.3	1179.0	1174.8	1173.5	1165.4	1168.7	1154.9
7.5°	1214.0	1208.5	1200.7	1203.0	1198.7	1188.9	1183.3	1180.0	1167.7	1168.0	1152.6
10°	1232.7	1227.9	1217.3	1218.8	1211.0	1197.9	1189.1	1184.6	1167.2	1164.7	1148.8
12.5°	1250.0	1243.5	1232.2	1232.9	1221.6	1204.2	1192.9	1186.3	1163.7	1156.1	1140.5
15°	1263.4	1257.1	1243.5	1243.2	1228.6	1206.0	1193.1	1184.1	1155.4	1143.5	1127.2
17.5°	1274.7	1268.9	1252.0	1251.5	1233.9	1205.2	1189.9	1178.5	1143.3	1128.7	1110.6
20°	1282.8	1277.0	1258.1	1256.3	1235.2	1201.4	1183.1	1168.7	1127.4	1110.0	1089.9
22.5°	1286.5	1280.7	1259.3	1256.8	1232.2	1193.9	1173.2	1156.4	1109.3	1086.6	1065.7
25°	1285.8	1280.2	1256.1	1253.6	1226.4	1182.6	1159.4	1140.0	1086.4	1059.7	1039.0
27.5°	1279.5	1275.2	1249.8	1246.5	1215.8	1167.2	1142.5	1121.1	1061.0	1031.2	1008.8
30°	1268.7	1265.4	1238.4	1235.4	1202.7	1150.3	1122.9	1098.2	1033.5	1000.0	977.4
32.5°	1251.3	1248.3	1221.1	1218.3	1185.1	1128.7	1100.0	1074.5	1003.5	966.5	943.9
35°	1227.4	1225.6	1199.2	1196.2	1162.4	1104.0	1073.5	1045.6	972.3	930.5	908.9
37.5°	1195.9	1195.9	1170.5	1167.2	1134.2	1073.8	1043.8	1014.1	937.1	892.8	871.4
40°	1159.4	1162.7	1136.7	1133.5	1101.5	1041.3	1008.6	977.4	899.1	853.0	832.1
42.5°	1115.6	1118.6	1097.0	1093.9	1064.0	1003.8	973.3	939.3	859.3	812.5	790.8
45°	1067.2	1071.3	1051.9	1049.6	1021.7	962.8	933.6	899.1	817.7	770.2	749.0
47.5°	1013.4	1018.7	1001.8	1000.5	974.6	920.7	890.3	855.3	774.2	726.1	706.2
50°	952.9	960.5	946.6	946.6	923.5	869.9	843.4	808.4	728.9	680.8	661.1
52.5°	888.2	897.8	887.5	887.7	868.9	820.8	793.3	759.1	681.5	634.2	616.1
55°	821.3	830.6	824.0	825.0	810.2	766.4	741.5	707.5	633.2	587.1	570.0
57.5°	751.3	761.3	757.1	759.1	748.8	709.5	683.6	653.8	583.3	537.8	523.2
60°	681.0	690.6	688.3	691.1	684.6	650.6	626.9	596.2	533.2	489.4	476.6
62.5°	610.0	618.8	618.3	621.4	617.8	589.6	568.5	542.3	481.4	441.1	429.3
65°	540.5	548.1	547.6	550.9	550.1	527.5	508.3	484.4	429.5	392.5	382.2
67.5°	473.1	479.4	477.6	481.4	482.4	464.3	447.6	426.2	380.2	344.2	335.4
70°	407.1	411.4	409.1	411.6	413.9	400.3	386.2	367.3	327.6	295.8	288.5
72.5°	342.4	345.4	341.9	344.4	346.4	336.6	325.0	308.7	275.7	248.2	242.2
75°	279.7	284.0	276.7	279.2	280.7	270.9	264.1	250.8	222.3	201.2	197.1
77.5°	219.0	221.6	217.5	216.5	217.5	210.5	205.2	194.9	173.5	156.1	153.6
80°	161.1	162.6	158.6	157.6	158.4	153.3	149.3	141.7	126.6	113.5	112.5
82.5°	108.0	108.8	105.2	104.2	104.7	103.2	98.4	93.2	86.1	75.0	74.8
85°	61.7	61.7	59.2	58.2	58.7	56.1	54.4	51.6	48.8	41.3	41.8
87.5°	22.7	22.7	21.4	21.1	23.7	20.9	20.1	18.9	19.6	15.6	16.6
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°	1151.8	1151.8	1151.8	1151.8	1151.8	1151.8	1151.8	1151.8	1151.8	1151.8	1151.8
2.5°	1156.9	1154.4	1152.1	1144.3	1147.6	1139.5	1139.0	1136.0	1133.7	1129.4	1135.0
5°	1153.1	1148.1	1141.5	1132.2	1135.0	1125.4	1123.4	1119.9	1116.8	1111.3	1115.6
7.5°	1147.1	1138.7	1128.4	1116.6	1120.4	1108.5	1105.5	1101.7	1099.2	1092.7	1096.5
10°	1138.2	1126.4	1114.3	1100.0	1102.7	1089.9	1086.1	1082.1	1079.8	1074.0	1077.8
12.5°	1124.7	1110.3	1093.9	1078.3	1081.3	1069.3	1064.2	1059.9	1059.2	1054.4	1058.9
15°	1107.0	1087.1	1070.3	1053.7	1057.2	1043.1	1040.8	1036.5	1037.8	1034.5	1040.1
17.5°	1084.6	1061.7	1043.3	1025.5	1029.0	1017.1	1015.4	1013.4	1014.6	1014.1	1020.2
20°	1059.4	1034.3	1013.1	995.5	997.5	988.2	988.9	988.4	991.0	993.7	1002.0
22.5°	1031.0	1002.5	980.4	962.3	965.3	957.2	960.7	961.8	966.0	972.3	982.9
25°	999.0	968.6	945.4	928.3	931.0	925.8	931.8	934.3	941.1	951.7	962.5
27.5°	965.5	933.3	908.6	892.3	897.6	892.3	901.3	906.4	916.7	928.3	941.6
30°	930.0	896.5	871.1	856.5	861.6	856.8	871.4	878.2	888.5	904.4	920.2
32.5°	892.8	857.5	832.6	821.3	824.8	824.0	840.4	848.0	861.8	879.9	896.8
35°	854.5	817.7	792.6	783.0	787.3	788.3	807.9	816.7	831.8	853.7	871.9
37.5°	815.0	777.5	752.8	745.0	748.8	752.5	775.4	784.3	801.4	825.3	845.2
40°	773.9	736.4	712.3	706.0	709.7	713.8	738.7	750.8	769.4	795.3	817.0
42.5°	732.4	694.9	671.5	666.9	670.7	678.5	705.0	716.3	735.9	764.6	788.5
45°	690.1	651.1	630.7	627.2	631.2	640.2	666.2	679.8	700.7	732.1	757.8
47.5°	647.3	609.3	589.9	587.6	591.7	601.7	630.4	642.8	664.9	698.4	726.1
50°	604.0	567.0	548.4	547.6	551.4	562.2	589.6	604.2	627.2	664.7	693.1
52.5°	560.2	524.7	507.8	507.8	511.3	522.4	550.1	565.2	588.9	628.4	659.9
55°	516.4	482.6	466.5	467.8	472.8	482.4	509.3	525.2	549.1	590.1	623.4
57.5°	472.6	440.6	426.0	427.8	432.5	442.1	468.5	486.4	508.1	550.6	584.6
60°	429.3	399.1	386.2	388.2	392.5	402.1	429.5	444.9	466.5	509.8	543.8
62.5°	385.5	358.0	345.9	348.4	352.2	361.8	387.7	402.6	424.0	466.5	500.8
65°	342.2	316.7	306.4	308.9	312.4	321.3	345.7	360.0	380.4	422.0	454.7
67.5°	299.4	276.2	267.6	270.1	272.9	281.2	301.4	317.0	336.1	375.6	406.6
70°	257.1	236.4	228.9	231.4	233.9	241.4	259.1	273.4	291.0	327.3	356.0
72.5°	215.3	195.1	191.3	193.6	195.6	202.2	219.0	230.4	245.7	278.0	302.6
75°	174.5	157.1	154.6	156.9	158.6	163.6	177.7	187.6	200.4	228.4	248.5
77.5°	135.2	120.6	119.6	121.4	123.1	126.6	137.7	148.0	158.1	178.8	196.6
80°	98.4	86.6	86.6	88.4	87.9	92.1	100.0	108.3	115.6	130.4	143.5
82.5°	65.0	55.6	56.9	58.2	58.9	60.7	65.5	71.8	76.3	85.3	93.9
85°	36.0	29.7	31.0	32.0	31.5	33.5	36.0	39.8	42.0	46.3	50.9
87.5°	13.3	11.1	11.3	12.1	12.6	13.6	13.6	15.9	16.1	16.6	17.6
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):

	160°	170°	180°
0°	1151.8	1151.8	1151.8
2.5°	1124.4	1130.4	1135.0
5°	1105.0	1110.0	1114.1
7.5°	1086.1	1090.7	1094.2
10°	1068.3	1073.3	1075.8
12.5°	1049.9	1055.7	1057.7
15°	1031.7	1037.5	1040.1
17.5°	1013.1	1020.7	1023.4
20°	995.7	1005.3	1007.6
22.5°	978.1	987.9	990.7
25°	959.0	970.6	973.3
27.5°	938.6	952.4	955.2
30°	918.2	933.3	936.1
32.5°	896.3	912.7	915.2
35°	873.4	889.8	892.8
37.5°	848.0	865.8	871.9
40°	821.5	840.9	847.2
42.5°	793.8	815.0	821.5
45°	764.1	787.3	794.8
47.5°	734.2	760.3	766.9
50°	701.7	729.6	737.4
52.5°	667.7	698.2	706.0
55°	632.4	663.2	671.7
57.5°	594.2	625.9	635.0
60°	554.1	585.9	594.4
62.5°	513.1	541.8	550.1
65°	467.3	494.2	501.8
67.5°	418.7	443.4	449.7
70°	367.1	388.5	394.0
72.5°	313.2	328.1	335.4
75°	257.6	269.4	274.9
77.5°	201.7	210.0	214.5
80°	147.0	151.8	155.6
82.5°	96.2	98.2	101.0
85°	51.9	51.9	53.6
87.5°	17.6	16.9	17.6
90°	0.0	0.0	0.0

(END OF REPORT)