

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: P589452

Luminaire Tested: **FMR-24-2-LD4-3LO-50-UNV-82-97-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P589452  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-1)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/8/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: FMR-24-2-LD4-3LO-50-UNV-82-97-EDD  
Description: 2X2 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .375 CLEAR  
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

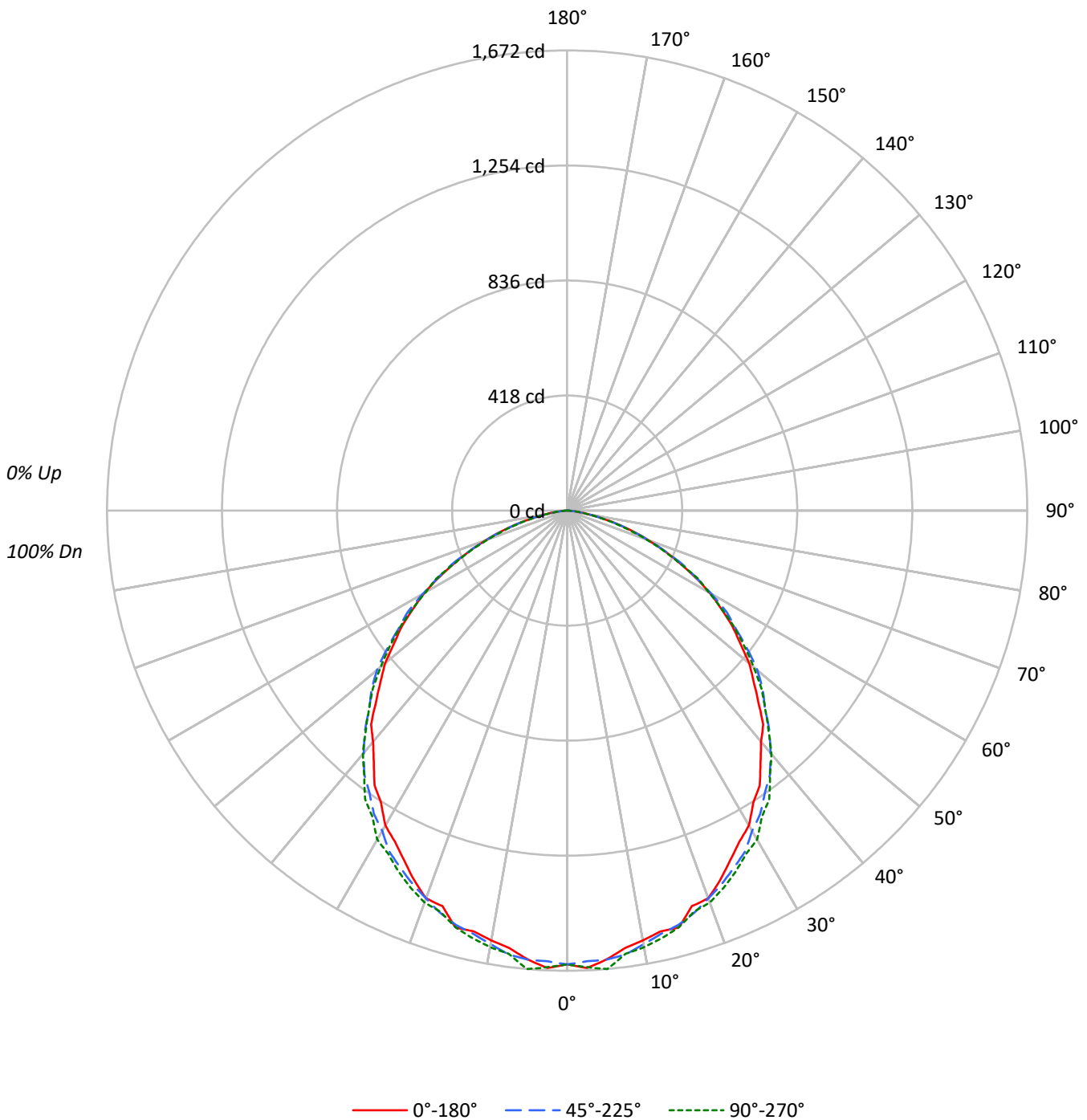
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4156.0 lumens  
Efficiency: N/A  
Efficacy: 118.4 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 35.1  
Input Voltage (V): NR  
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: 25 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	0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
RCR																		
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	110	105	101	98	107	103	100	96	99	96	93	95	93	90	91	90	88	86
2	100	93	86	81	98	91	85	80	87	82	78	84	80	76	81	78	75	73
3	92	82	74	68	89	80	73	67	77	71	66	75	69	65	72	68	64	62
4	84	73	64	58	82	71	64	58	69	62	57	67	61	56	65	59	55	53
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48	46
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	53	47	43	41
7	67	53	45	39	65	53	45	39	51	44	39	50	43	38	48	42	38	36
8	62	49	41	35	61	48	40	35	47	40	34	46	39	34	44	39	34	32
9	58	45	37	31	57	44	37	31	43	36	31	42	36	31	41	35	31	29
10	54	41	34	29	53	41	33	28	40	33	28	39	33	28	38	32	28	26

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	4437	4437	4437
5°	4423	4424	4518
10°	4333	4371	4402
15°	4367	4344	4368
20°	4294	4294	4339
25°	4162	4253	4299
30°	4104	4176	4288
35°	4008	4113	4205
40°	3852	4037	4055
45°	3735	3868	3874
50°	3612	3776	3703
55°	3442	3509	3484
60°	3219	3251	3193
65°	2870	2943	2849
70°	2463	2471	2402
75°	1951	1945	1870
80°	1306	1271	1221
85°	710	704	658



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	155.1	3.7
10°-20°	439.6	10.6
20°-30°	658.6	15.8
30°-40°	780.6	18.8
40°-50°	782.0	18.8
50°-60°	663.8	16.0
60°-70°	447.6	10.8
70°-80°	196.6	4.7
80°-90°	32.0	0.8
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°	1253.4	30.2
0°-40°	2034.0	48.9
0°-60°	3479.8	83.7
0°-90°	4156.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4156.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1649	1649	1649	1649	1649	
5°	1637	1634	1638	1633	1672	154
15°	1568	1550	1559	1567	1568	437
25°	1402	1409	1432	1451	1448	648
35°	1220	1224	1252	1281	1280	757
45°	982	1000	1016	1043	1018	759
55°	734	729	748	743	743	653
65°	451	445	462	445	448	448
75°	188	184	187	174	180	201
85°	23	22	23	22	21	33
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1649.0	1649.0	1649.0	1649.0	1649.0
2.5°	1663.3	1650.7	1639.0	1652.6	1660.9
5°	1637.3	1633.5	1637.9	1633.0	1672.4
7.5°	1603.6	1618.3	1626.9	1621.5	1623.9
10°	1585.8	1580.7	1599.6	1612.8	1610.9
12.5°	1566.6	1574.3	1575.3	1589.6	1590.9
15°	1567.7	1549.6	1559.1	1567.2	1567.9
17.5°	1506.8	1526.4	1533.0	1551.5	1528.5
20°	1499.3	1485.1	1499.3	1518.3	1515.3
22.5°	1453.5	1437.6	1468.2	1485.1	1484.0
25°	1401.6	1409.3	1432.3	1451.0	1448.0
27.5°	1356.0	1365.0	1397.8	1423.5	1406.9
30°	1320.9	1316.4	1344.1	1367.1	1379.9
32.5°	1258.1	1274.3	1306.6	1329.4	1317.3
35°	1220.0	1223.6	1251.9	1280.9	1280.0
37.5°	1153.3	1170.2	1210.0	1218.1	1210.6
40°	1096.5	1113.3	1149.3	1158.0	1154.4
42.5°	1054.5	1057.5	1088.4	1098.4	1082.4
45°	981.5	999.8	1016.4	1042.6	1017.9
47.5°	919.3	927.9	963.6	970.7	957.7
50°	862.9	865.9	901.9	893.2	884.6
52.5°	792.0	804.6	824.8	823.1	813.1
55°	733.7	728.8	748.0	742.8	742.6
57.5°	663.6	672.2	687.9	679.8	666.8
60°	598.1	598.3	604.0	594.9	593.2
62.5°	525.0	527.6	528.9	517.6	535.9
65°	450.7	444.8	462.2	444.6	447.5
67.5°	382.4	385.4	383.7	372.6	376.9
70°	313.0	316.8	314.0	301.5	305.3
72.5°	249.5	244.8	247.8	232.1	239.3
75°	187.6	183.7	187.1	173.9	179.9
77.5°	127.7	130.7	128.6	121.6	125.6
80°	84.3	82.0	82.0	77.9	78.8
82.5°	49.2	46.8	46.2	44.9	46.8
85°	23.0	22.4	22.8	22.1	21.3
87.5°	8.3	8.5	8.5	8.1	7.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)