

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: P589415

Luminaire Tested: **FMR-24-2-LD4-3LO-40-UNV-82-86-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P589415  
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-40-UNV-82-86-EDD  
Description: 2X2 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

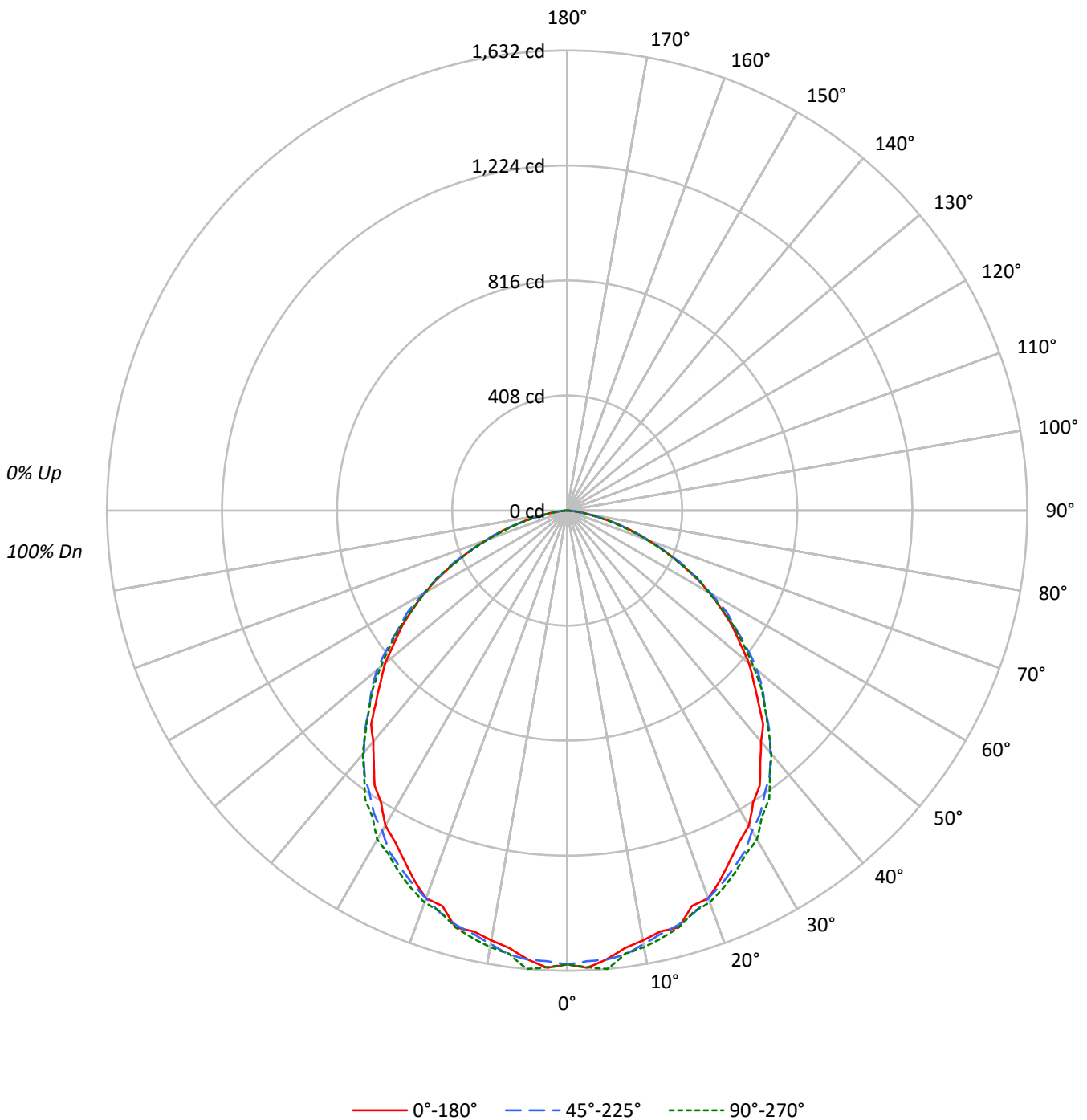
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4056.0 lumens  
Efficiency: N/A  
Efficacy: 115.6 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°	4331	4331	4331
5°	4316	4318	4409
10°	4229	4266	4296
15°	4262	4239	4263
20°	4190	4190	4235
25°	4062	4150	4196
30°	4006	4076	4185
35°	3911	4014	4104
40°	3759	3940	3958
45°	3645	3775	3781
50°	3526	3685	3615
55°	3359	3425	3400
60°	3141	3173	3116
65°	2801	2872	2781
70°	2403	2412	2345
75°	1904	1899	1826
80°	1275	1240	1192
85°	692	685	642



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	151.4	3.7
10°-20°	429.0	10.6
20°-30°	642.8	15.8
30°-40°	761.8	18.8
40°-50°	763.2	18.8
50°-60°	647.9	16.0
60°-70°	436.8	10.8
70°-80°	191.9	4.7
80°-90°	31.2	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°	1223.2	30.2
0°-40°	1985.0	48.9
0°-60°	3396.1	83.7
0°-90°	4056.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4056.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1609	1609	1609	1609	1609	
5°	1598	1594	1598	1594	1632	151
15°	1530	1512	1522	1530	1530	426
25°	1368	1375	1398	1416	1413	632
35°	1191	1194	1222	1250	1249	739
45°	958	976	992	1018	993	741
55°	716	711	730	725	725	637
65°	440	434	451	434	437	437
75°	183	179	183	170	176	196
85°	22	22	22	22	21	33
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1609.3	1609.3	1609.3	1609.3	1609.3
2.5°	1623.2	1611.0	1599.6	1612.9	1621.0
5°	1597.9	1594.1	1598.5	1593.7	1632.2
7.5°	1565.1	1579.4	1587.7	1582.5	1584.8
10°	1547.6	1542.6	1561.1	1574.0	1572.1
12.5°	1528.9	1536.4	1537.4	1551.3	1552.6
15°	1529.9	1512.3	1521.6	1529.5	1530.2
17.5°	1470.5	1489.6	1496.1	1514.2	1491.7
20°	1463.2	1449.3	1463.2	1481.7	1478.8
22.5°	1418.6	1403.0	1432.9	1449.3	1448.3
25°	1367.9	1375.3	1397.8	1416.1	1413.2
27.5°	1323.4	1332.1	1364.1	1389.3	1373.1
30°	1289.1	1284.8	1311.8	1334.2	1346.7
32.5°	1227.8	1243.6	1275.2	1297.4	1285.6
35°	1190.6	1194.2	1221.8	1250.1	1249.2
37.5°	1125.6	1142.0	1180.9	1188.8	1181.5
40°	1070.1	1086.5	1121.6	1130.2	1126.6
42.5°	1029.2	1032.1	1062.2	1072.0	1056.4
45°	957.9	975.8	992.0	1017.5	993.4
47.5°	897.2	905.5	940.4	947.3	934.6
50°	842.2	845.1	880.2	871.7	863.4
52.5°	773.0	785.2	805.0	803.3	793.5
55°	716.0	711.3	730.0	725.0	724.8
57.5°	647.7	656.0	671.4	663.5	650.8
60°	583.7	583.9	589.5	580.6	578.9
62.5°	512.4	514.9	516.1	505.1	523.0
65°	439.9	434.1	451.1	433.9	436.8
67.5°	373.2	376.1	374.4	363.6	367.8
70°	305.4	309.2	306.5	294.2	298.0
72.5°	243.5	239.0	241.9	226.5	233.6
75°	183.1	179.3	182.6	169.8	175.6
77.5°	124.7	127.6	125.5	118.6	122.6
80°	82.3	80.0	80.0	76.1	76.9
82.5°	48.0	45.7	45.1	43.8	45.7
85°	22.4	21.8	22.2	21.6	20.8
87.5°	8.1	8.3	8.3	7.9	7.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)