

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: P589356

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

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P589356  
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-LD4-3HI-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: -

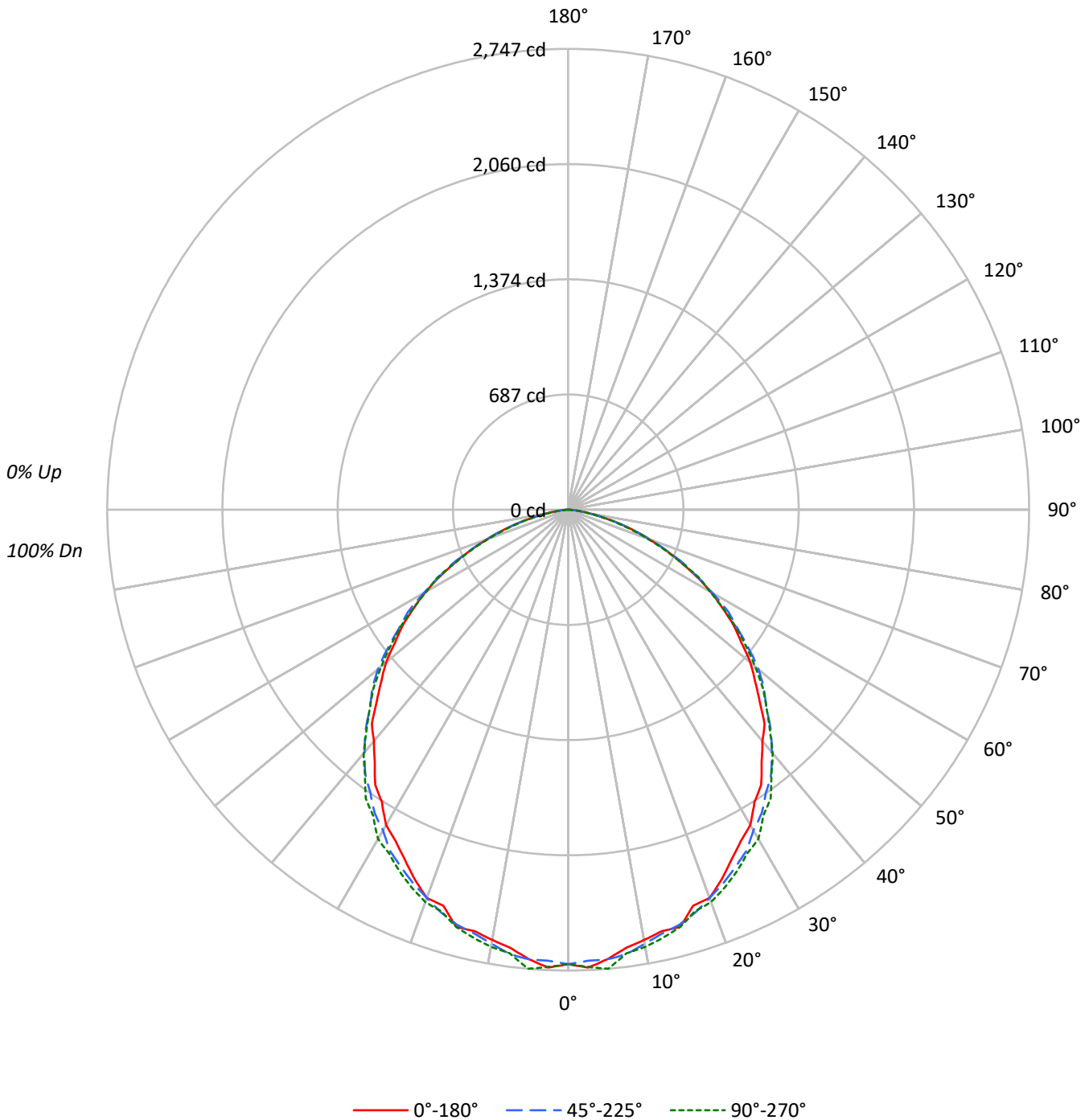
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6826.0 lumens  
Efficiency: N/A  
Efficacy: 105.3 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): 64.8  
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	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					100			
1	110	105	101	98	107	103	100	96	99	96	93	95	93	90	91	90	88	86					86			
2	100	93	86	81	98	91	85	80	87	82	78	84	80	76	81	78	75	73					73			
3	92	82	74	68	89	80	73	67	77	71	66	75	69	65	72	68	64	62					62			
4	84	73	64	58	82	71	64	58	69	62	57	67	61	56	65	59	55	53					53			
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48	46					46			
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	53	47	43	41					41			
7	67	53	45	39	65	53	45	39	51	44	39	50	43	38	48	42	38	36					36			
8	62	49	41	35	61	48	40	35	47	40	34	46	39	34	44	39	34	32					32			
9	58	45	37	31	57	44	37	31	43	36	31	42	36	31	41	35	31	29					29			
10	54	41	34	29	53	41	33	28	40	33	28	39	33	28	38	32	28	26					26			

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

	0°	45°	90°
0°	7288	7288	7288
5°	7264	7267	7420
10°	7117	7179	7230
15°	7173	7134	7174
20°	7052	7052	7127
25°	6835	6985	7062
30°	6741	6860	7042
35°	6582	6755	6907
40°	6326	6631	6660
45°	6135	6353	6363
50°	5933	6201	6083
55°	5653	5764	5722
60°	5287	5339	5243
65°	4714	4834	4681
70°	4045	4058	3946
75°	3203	3196	3072
80°	2146	2086	2005
85°	1167	1155	1081



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	254.8	3.7
10°-20°	722.0	10.6
20°-30°	1081.8	15.8
30°-40°	1282.1	18.8
40°-50°	1284.5	18.8
50°-60°	1090.3	16.0
60°-70°	735.1	10.8
70°-80°	323.0	4.7
80°-90°	52.5	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°	2058.6	30.2
0°-40°	3340.7	48.9
0°-60°	5715.4	83.7
0°-90°	6826.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6826.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2708	2708	2708	2708	2708	
5°	2689	2683	2690	2682	2747	254
15°	2575	2545	2561	2574	2575	717
25°	2302	2315	2352	2383	2378	1064
35°	2004	2010	2056	2104	2102	1244
45°	1612	1642	1669	1712	1672	1247
55°	1205	1197	1228	1220	1220	1072
65°	740	730	759	730	735	736
75°	308	302	307	286	296	330
85°	38	37	37	36	35	55
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2708.4	2708.4	2708.4	2708.4	2708.4
2.5°	2731.8	2711.2	2691.9	2714.3	2728.0
5°	2689.2	2682.9	2690.2	2682.2	2746.9
7.5°	2633.9	2658.0	2672.0	2663.3	2667.1
10°	2604.5	2596.1	2627.3	2648.9	2645.8
12.5°	2573.1	2585.6	2587.4	2610.8	2612.9
15°	2574.8	2545.1	2560.8	2574.1	2575.2
17.5°	2474.8	2507.0	2517.8	2548.2	2510.5
20°	2462.5	2439.1	2462.5	2493.7	2488.8
22.5°	2387.4	2361.1	2411.5	2439.1	2437.4
25°	2302.0	2314.6	2352.4	2383.2	2378.3
27.5°	2227.2	2241.9	2295.7	2338.1	2310.8
30°	2169.5	2162.2	2207.6	2245.4	2266.4
32.5°	2066.3	2092.9	2146.1	2183.5	2163.6
35°	2003.7	2009.7	2056.2	2103.8	2102.4
37.5°	1894.3	1921.9	1987.3	2000.6	1988.4
40°	1800.9	1828.6	1887.7	1902.0	1896.0
42.5°	1732.0	1736.9	1787.6	1804.1	1777.8
45°	1612.1	1642.2	1669.4	1712.5	1671.9
47.5°	1510.0	1524.0	1582.7	1594.3	1572.9
50°	1417.3	1422.2	1481.3	1467.0	1453.0
52.5°	1300.9	1321.5	1354.7	1351.9	1335.5
55°	1205.0	1197.0	1228.5	1220.1	1219.7
57.5°	1090.0	1104.0	1129.9	1116.6	1095.2
60°	982.3	982.6	992.1	977.0	974.2
62.5°	862.3	866.5	868.6	850.1	880.2
65°	740.3	730.5	759.2	730.2	735.1
67.5°	628.1	632.9	630.1	612.0	619.0
70°	514.1	520.3	515.8	495.2	501.5
72.5°	409.8	402.1	407.0	381.2	393.1
75°	308.1	301.8	307.4	285.7	295.5
77.5°	209.8	214.7	211.2	199.7	206.3
80°	138.5	134.6	134.6	128.0	129.4
82.5°	80.8	76.9	75.9	73.8	76.9
85°	37.8	36.7	37.4	36.4	35.0
87.5°	13.6	14.0	14.0	13.3	12.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)