

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: P588750

Luminaire Tested: **FMR-24-2-LD4-1HI-40-UNV-93-85-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P588750  
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-LD4-1HI-40-UNV-93-85-EDD  
Description: 2X2 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

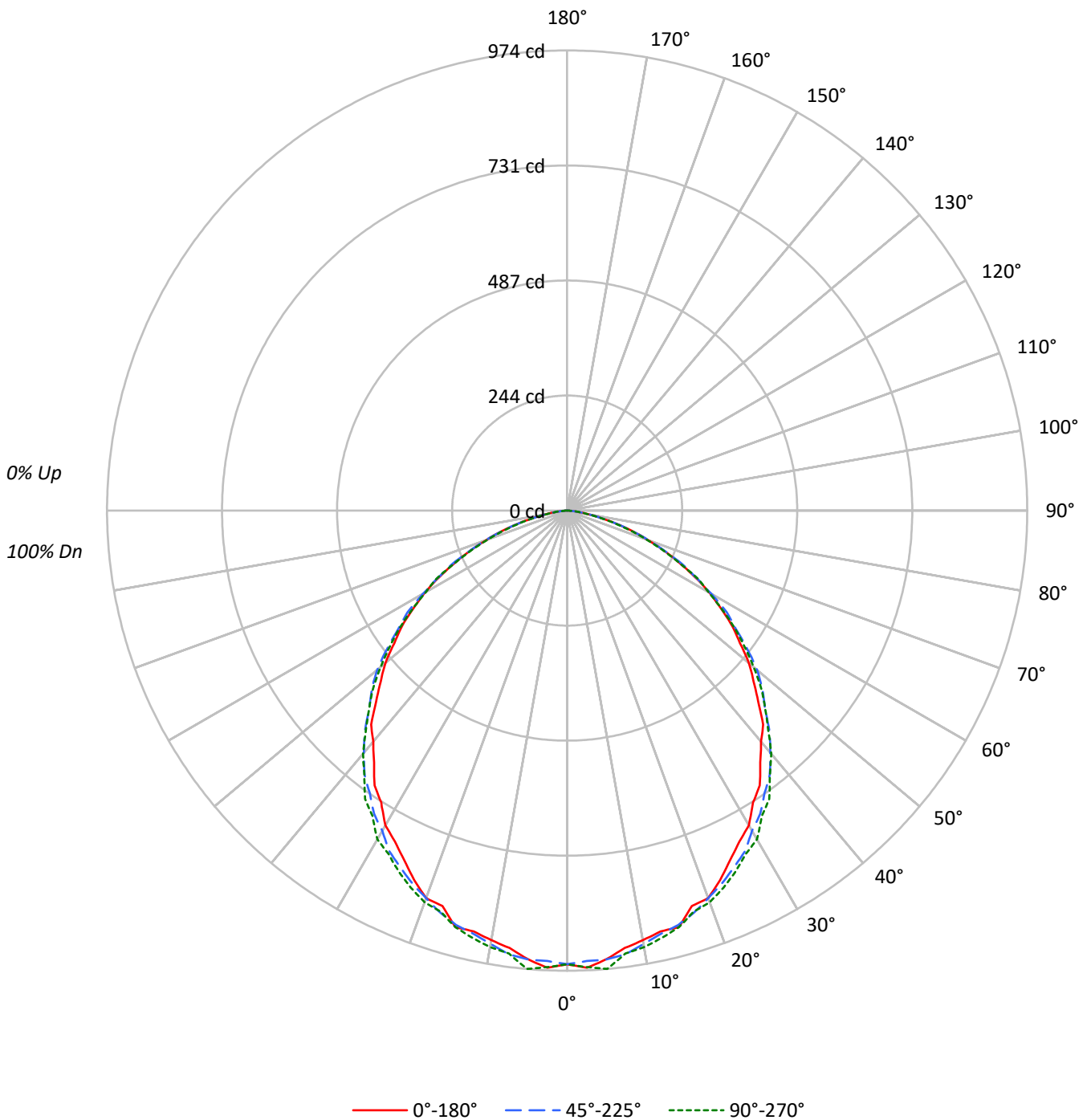
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2420.0 lumens  
Efficiency: N/A  
Efficacy: 112.0 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): 21.6  
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°	2584	2584	2584
5°	2575	2576	2630
10°	2523	2545	2563
15°	2543	2529	2544
20°	2500	2500	2527
25°	2423	2476	2504
30°	2390	2432	2497
35°	2334	2395	2448
40°	2243	2351	2361
45°	2175	2253	2256
50°	2104	2199	2156
55°	2004	2043	2029
60°	1874	1893	1859
65°	1671	1714	1659
70°	1434	1439	1399
75°	1135	1133	1090
80°	761	739	711
85°	414	411	383



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	90.3	3.7
10°-20°	256.0	10.6
20°-30°	383.5	15.8
30°-40°	454.5	18.8
40°-50°	455.4	18.8
50°-60°	386.6	16.0
60°-70°	260.6	10.8
70°-80°	114.5	4.7
80°-90°	18.6	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°	729.8	30.2
0°-40°	1184.3	48.9
0°-60°	2026.3	83.7
0°-90°	2420.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2420.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	960	960	960	960	960	
5°	953	951	954	951	974	90
15°	913	902	908	913	913	254
25°	816	821	834	845	843	377
35°	710	712	729	746	745	441
45°	572	582	592	607	593	442
55°	427	424	436	433	432	380
65°	262	259	269	259	261	261
75°	109	107	109	101	105	117
85°	13	13	13	13	12	19
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	960.2	960.2	960.2	960.2	960.2
2.5°	968.5	961.2	954.4	962.3	967.1
5°	953.4	951.1	953.7	950.9	973.8
7.5°	933.8	942.3	947.3	944.2	945.6
10°	923.4	920.4	931.4	939.1	938.0
12.5°	912.2	916.7	917.3	925.6	926.3
15°	912.8	902.3	907.9	912.6	913.0
17.5°	877.4	888.8	892.6	903.4	890.0
20°	873.0	864.7	873.0	884.1	882.3
22.5°	846.4	837.1	854.9	864.7	864.1
25°	816.1	820.6	834.0	844.9	843.2
27.5°	789.6	794.8	813.9	828.9	819.2
30°	769.1	766.5	782.7	796.1	803.5
32.5°	732.6	742.0	760.8	774.1	767.0
35°	710.4	712.5	729.0	745.8	745.3
37.5°	671.6	681.4	704.6	709.3	704.9
40°	638.5	648.3	669.2	674.3	672.2
42.5°	614.1	615.8	633.8	639.6	630.3
45°	571.5	582.2	591.9	607.1	592.7
47.5°	535.3	540.3	561.1	565.2	557.6
50°	502.5	504.2	525.2	520.1	515.1
52.5°	461.2	468.5	480.3	479.3	473.5
55°	427.2	424.4	435.5	432.6	432.4
57.5°	386.4	391.4	400.6	395.9	388.3
60°	348.2	348.4	351.7	346.4	345.4
62.5°	305.7	307.2	308.0	301.4	312.0
65°	262.5	259.0	269.2	258.9	260.6
67.5°	222.7	224.4	223.4	217.0	219.4
70°	182.2	184.5	182.9	175.6	177.8
72.5°	145.3	142.6	144.3	135.1	139.3
75°	109.2	107.0	109.0	101.3	104.8
77.5°	74.4	76.1	74.9	70.8	73.1
80°	49.1	47.7	47.7	45.4	45.9
82.5°	28.6	27.3	26.9	26.2	27.3
85°	13.4	13.0	13.3	12.9	12.4
87.5°	4.8	5.0	5.0	4.7	4.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)