

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: P588746

Luminaire Tested: **FMR-24-2-LD4-1HI-40-UNV-82-94-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P588746  
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-82-94-EDD  
Description: 2X2 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR  
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

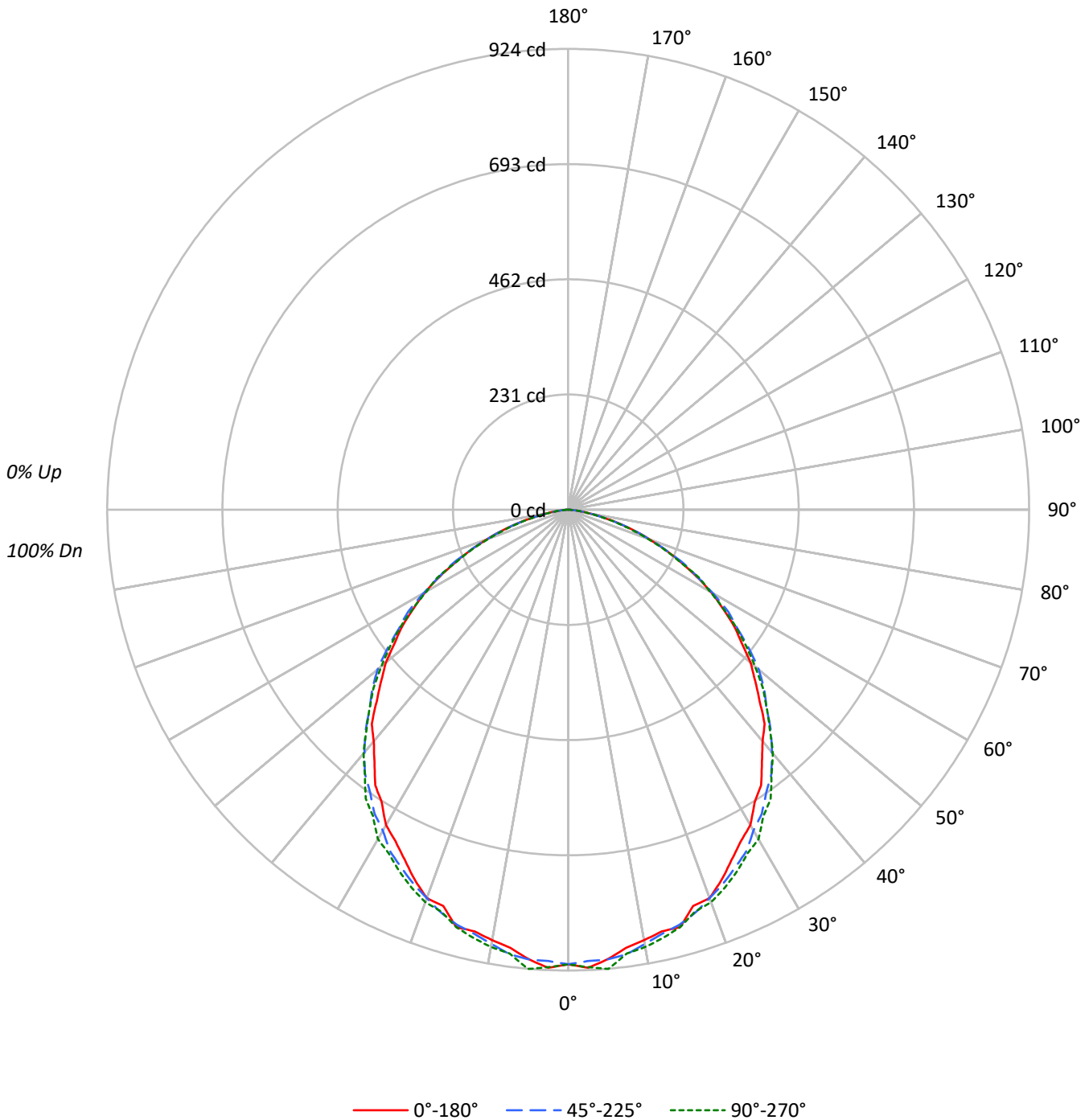
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2297.0 lumens  
Efficiency: N/A  
Efficacy: 106.3 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): 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	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°	2453	2453	2453
5°	2444	2445	2497
10°	2395	2416	2433
15°	2414	2401	2414
20°	2373	2373	2398
25°	2300	2350	2376
30°	2269	2308	2370
35°	2215	2273	2324
40°	2129	2231	2241
45°	2065	2138	2141
50°	1997	2087	2047
55°	1902	1939	1925
60°	1779	1796	1764
65°	1586	1627	1575
70°	1361	1366	1327
75°	1078	1075	1033
80°	722	702	674
85°	392	389	364



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	85.7	3.7
10°-20°	243.0	10.6
20°-30°	364.0	15.8
30°-40°	431.4	18.8
40°-50°	432.2	18.8
50°-60°	366.9	16.0
60°-70°	247.4	10.8
70°-80°	108.7	4.7
80°-90°	17.7	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°	692.7	30.2
0°-40°	1124.2	48.9
0°-60°	1923.3	83.7
0°-90°	2297.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2297.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	911	911	911	911	911	
5°	905	903	905	903	924	85
15°	866	856	862	866	867	241
25°	775	779	792	802	800	358
35°	674	676	692	708	708	419
45°	542	553	562	576	563	420
55°	406	403	413	411	410	361
65°	249	246	256	246	247	248
75°	104	102	103	96	99	111
85°	13	12	13	12	12	18
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	911.4	911.4	911.4	911.4	911.4
2.5°	919.3	912.3	905.9	913.4	918.0
5°	904.9	902.8	905.3	902.6	924.3
7.5°	886.3	894.4	899.2	896.2	897.5
10°	876.4	873.6	884.1	891.4	890.3
12.5°	865.9	870.1	870.7	878.6	879.3
15°	866.4	856.4	861.7	866.2	866.6
17.5°	832.8	843.6	847.3	857.5	844.8
20°	828.7	820.8	828.7	839.1	837.5
22.5°	803.4	794.5	811.5	820.8	820.2
25°	774.7	778.9	791.6	802.0	800.3
27.5°	749.5	754.4	772.5	786.8	777.6
30°	730.1	727.6	742.9	755.6	762.7
32.5°	695.3	704.3	722.2	734.8	728.1
35°	674.3	676.3	691.9	707.9	707.5
37.5°	637.4	646.7	668.7	673.2	669.1
40°	606.0	615.3	635.2	640.0	638.0
42.5°	582.8	584.5	601.6	607.1	598.3
45°	542.5	552.6	561.8	576.3	562.6
47.5°	508.1	512.8	532.6	536.5	529.3
50°	476.9	478.6	498.5	493.6	488.9
52.5°	437.8	444.7	455.9	454.9	449.4
55°	405.5	402.8	413.4	410.6	410.4
57.5°	366.8	371.5	380.2	375.7	368.6
60°	330.5	330.7	333.8	328.8	327.8
62.5°	290.2	291.6	292.3	286.1	296.2
65°	249.1	245.8	255.5	245.7	247.4
67.5°	211.3	213.0	212.1	205.9	208.3
70°	173.0	175.1	173.6	166.6	168.7
72.5°	137.9	135.3	137.0	128.3	132.3
75°	103.7	101.6	103.4	96.1	99.4
77.5°	70.6	72.3	71.1	67.2	69.4
80°	46.6	45.3	45.3	43.1	43.5
82.5°	27.2	25.9	25.5	24.8	25.9
85°	12.7	12.4	12.6	12.2	11.8
87.5°	4.6	4.7	4.7	4.5	4.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)