

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: P589317

Luminaire Tested: **FMR-24-2-LD4-3HI-40-UNV-82-84-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P589317  
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-40-UNV-82-84-EDD  
Description: 2X2 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

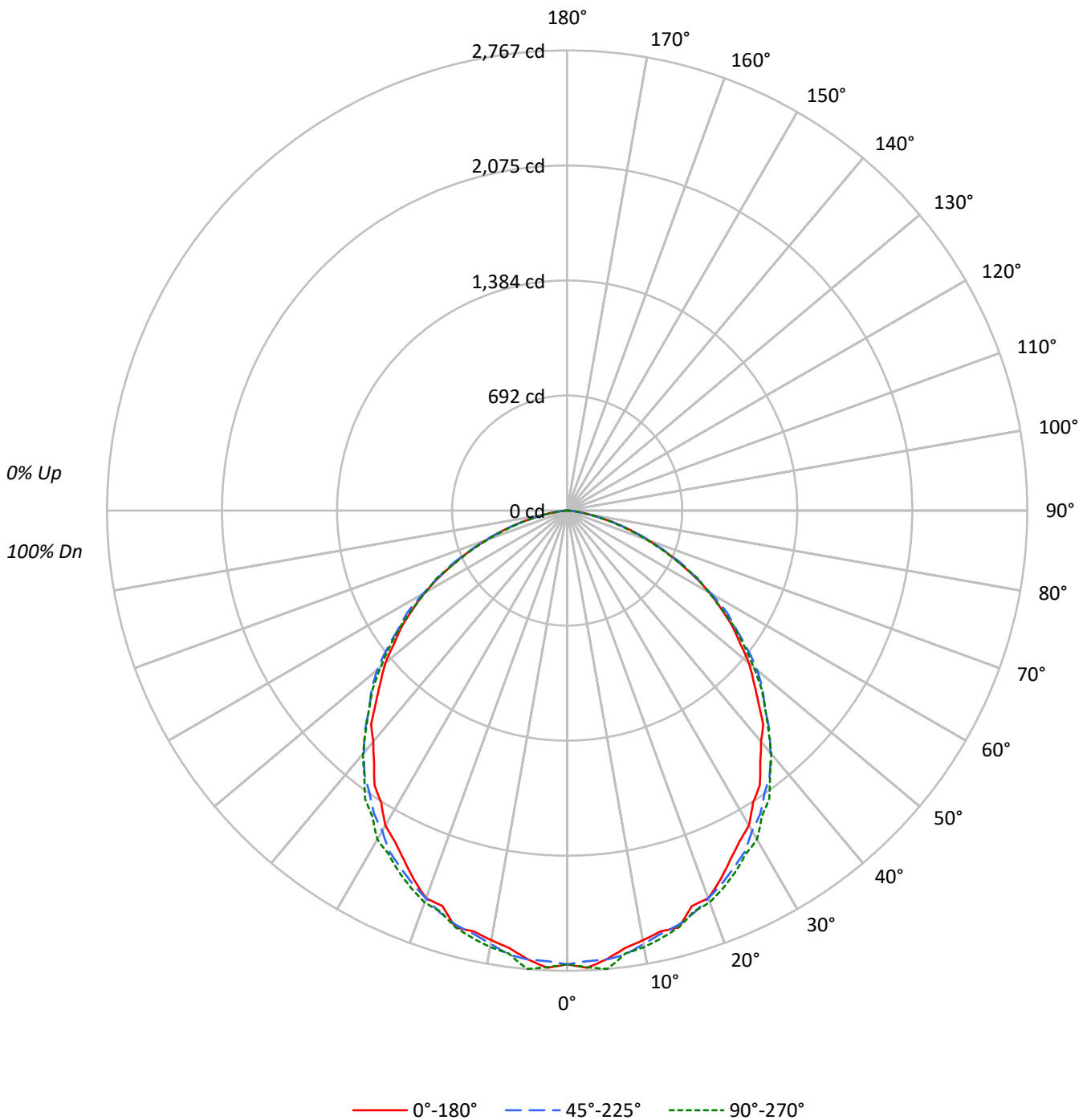
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 6876.0 lumens  
Efficiency: N/A  
Efficacy: 106.1 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	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°	7342	7342	7342
5°	7317	7320	7474
10°	7169	7232	7283
15°	7226	7187	7227
20°	7104	7104	7179
25°	6885	7036	7113
30°	6791	6910	7094
35°	6631	6804	6957
40°	6373	6680	6709
45°	6180	6400	6409
50°	5977	6247	6127
55°	5695	5806	5765
60°	5325	5379	5282
65°	4748	4869	4714
70°	4074	4088	3974
75°	3226	3219	3095
80°	2162	2101	2019
85°	1173	1164	1087



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	256.6	3.7
10°-20°	727.3	10.6
20°-30°	1089.7	15.8
30°-40°	1291.5	18.8
40°-50°	1293.9	18.8
50°-60°	1098.3	16.0
60°-70°	740.5	10.8
70°-80°	325.4	4.7
80°-90°	52.9	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°	2073.6	30.2
0°-40°	3365.1	48.9
0°-60°	5757.3	83.7
0°-90°	6876.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6876.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2728	2728	2728	2728	2728	
5°	2709	2702	2710	2702	2767	255
15°	2594	2564	2580	2593	2594	723
25°	2319	2332	2370	2401	2396	1072
35°	2018	2024	2071	2119	2118	1253
45°	1624	1654	1682	1725	1684	1256
55°	1214	1206	1238	1229	1229	1080
65°	746	736	765	736	740	742
75°	310	304	310	288	298	333
85°	38	37	38	37	35	55
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2728.2	2728.2	2728.2	2728.2	2728.2
2.5°	2751.8	2731.0	2711.7	2734.2	2747.9
5°	2708.8	2702.5	2709.9	2701.8	2767.0
7.5°	2653.2	2677.5	2691.6	2682.8	2686.7
10°	2623.6	2615.1	2646.5	2668.3	2665.2
12.5°	2591.9	2604.6	2606.3	2629.9	2632.1
15°	2593.7	2563.7	2579.6	2593.0	2594.0
17.5°	2492.9	2525.3	2536.2	2566.9	2528.8
20°	2480.6	2457.0	2480.6	2511.9	2507.0
22.5°	2404.9	2378.4	2429.2	2457.0	2455.2
25°	2318.9	2331.6	2369.6	2400.6	2395.7
27.5°	2243.5	2258.3	2312.6	2355.2	2327.7
30°	2185.4	2178.0	2223.8	2261.8	2283.0
32.5°	2081.5	2108.3	2161.8	2199.5	2179.4
35°	2018.4	2024.4	2071.3	2119.2	2117.8
37.5°	1908.2	1936.0	2001.9	2015.3	2002.9
40°	1814.1	1841.9	1901.5	1915.9	1909.9
42.5°	1744.7	1749.7	1800.7	1817.3	1790.9
45°	1623.9	1654.2	1681.7	1725.0	1684.1
47.5°	1521.0	1535.1	1594.3	1605.9	1584.4
50°	1427.7	1432.6	1492.2	1477.7	1463.6
52.5°	1310.4	1331.2	1364.6	1361.8	1345.3
55°	1213.9	1205.8	1237.5	1229.0	1228.7
57.5°	1098.0	1112.1	1138.1	1124.8	1103.3
60°	989.5	989.8	999.4	984.2	981.4
62.5°	868.7	872.9	875.0	856.3	886.6
65°	745.7	735.9	764.7	735.5	740.4
67.5°	632.7	637.6	634.8	616.4	623.5
70°	517.8	524.2	519.6	498.8	505.1
72.5°	412.8	405.1	410.0	384.0	395.9
75°	310.3	304.0	309.6	287.8	297.7
77.5°	211.4	216.3	212.8	201.1	207.8
80°	139.5	135.6	135.6	128.9	130.3
82.5°	81.4	77.5	76.4	74.3	77.5
85°	38.0	37.0	37.7	36.6	35.2
87.5°	13.7	14.1	14.1	13.4	12.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)