

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: P546808

Luminaire Tested: **FMR-24-4-LD4-2LO-40-UNV-80-85-EDD**

Issue Date: 6/15/2021

This test was performed under the Supervised Manufacturer's Testing Program. The results of this test have not been influenced by sources from within Cooper Lighting Solutions or from external interests.



**Test Information**

Test Method: LM-79-08  
Report Number: P546808  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-5)  
Test Lab: INNOVATION CENTER  
Issue Date: 6/15/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: FMR-24-4-LD4-2LO-40-UNV-80-85-EDD  
Description: 2X4 FMR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

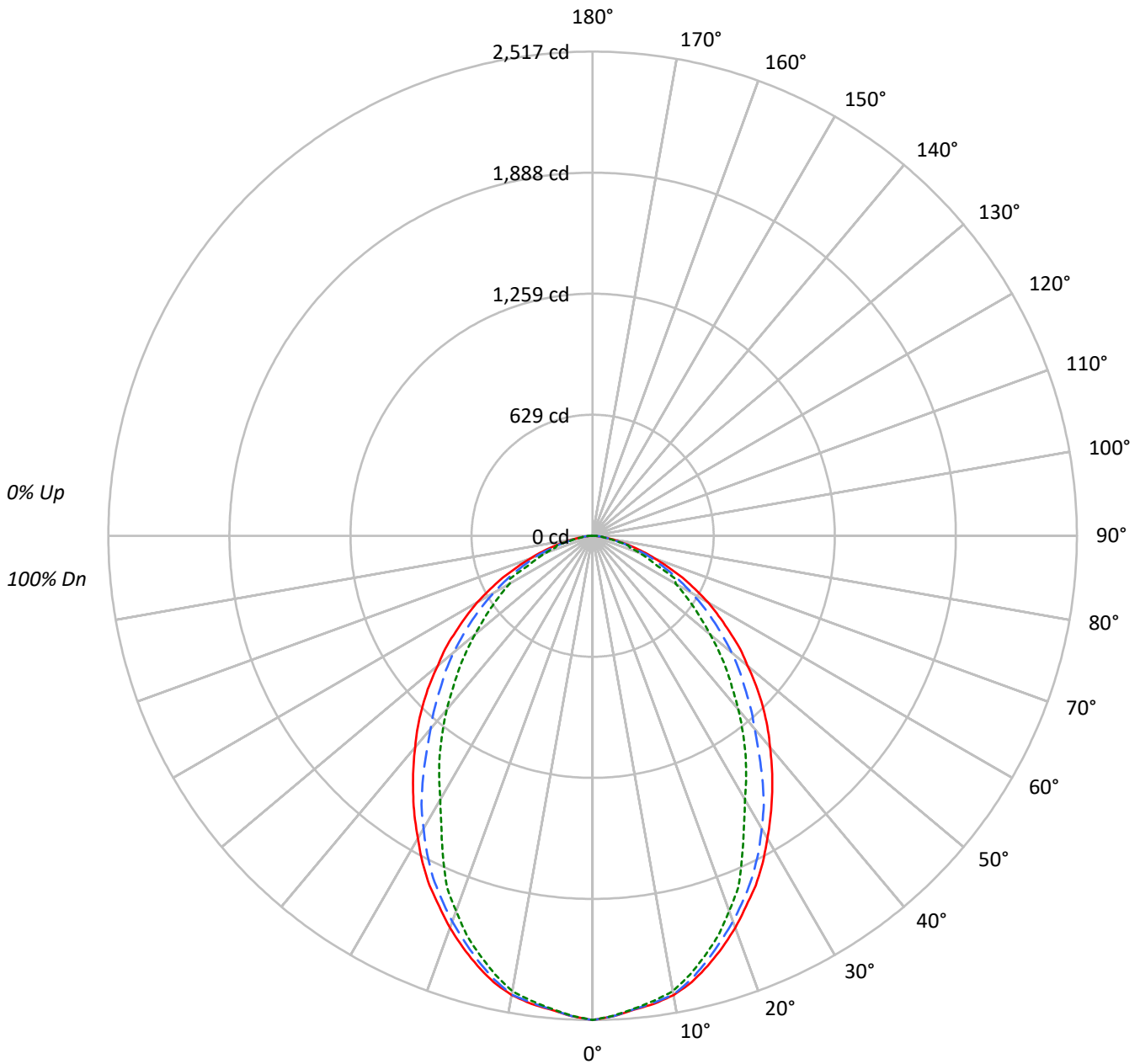
Lumens per Lamp: N/A  
Luminaire Lumens: 4942.0 lumens  
Efficiency: N/A  
Efficacy: 105.6 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 46.8  
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									
RC	80									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	0																
RCR																																					
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100																			
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87																			
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75																			
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65																			
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56																			
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50																			
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44																			
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40																			
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36																			
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33																			
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30																			

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

	0°	45°	90°
0°	3387	3387	3387
5°	3341	3337	3333
10°	3312	3308	3284
15°	3223	3190	3146
20°	3105	3054	2971
25°	2977	2912	2731
30°	2821	2731	2460
35°	2672	2524	2275
40°	2520	2300	2070
45°	2376	2126	1872
50°	2199	1974	1669
55°	2035	1789	1495
60°	1864	1598	1339
65°	1640	1399	1186
70°	1351	1225	1007
75°	1074	938	984
80°	721	676	631
85°	449	539	628



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	234.3	4.7
10°-20°	643.1	13.0
20°-30°	890.3	18.0
30°-40°	949.4	19.2
40°-50°	866.1	17.5
50°-60°	678.5	13.7
60°-70°	442.2	8.9
70°-80°	195.9	4.0
80°-90°	42.1	0.9
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°	1767.8	35.8
0°-40°	2717.2	55.0
0°-60°	4261.8	86.2
0°-90°	4942.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4942.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2517	2517	2517	2517	2517	
5°	2474	2471	2471	2468	2468	235
15°	2314	2314	2290	2267	2258	650
25°	2005	1994	1962	1892	1839	921
35°	1627	1615	1537	1420	1385	1017
45°	1248	1222	1118	1024	984	962
55°	867	841	762	672	637	778
65°	515	486	440	448	372	508
75°	207	192	180	172	189	221
85°	29	32	35	38	41	40
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2517.4	2517.4	2517.4	2517.4	2517.4
2.5°	2499.9	2499.9	2499.9	2497.0	2497.0
5°	2473.7	2470.8	2470.8	2467.9	2467.9
7.5°	2453.4	2450.5	2447.5	2444.6	2438.8
10°	2424.3	2424.3	2421.3	2406.8	2403.9
12.5°	2377.7	2374.8	2363.1	2342.8	2337.0
15°	2313.7	2313.7	2290.4	2267.1	2258.4
17.5°	2243.8	2240.9	2211.8	2188.5	2176.9
20°	2168.2	2162.3	2133.2	2095.4	2075.0
22.5°	2083.8	2083.8	2048.8	1999.4	1979.0
25°	2005.2	1993.5	1961.5	1891.7	1839.3
27.5°	1915.0	1897.5	1862.6	1763.6	1702.5
30°	1816.0	1807.3	1757.8	1629.8	1583.2
32.5°	1722.9	1708.3	1655.9	1522.1	1484.2
35°	1626.8	1615.2	1536.6	1420.2	1385.3
37.5°	1530.8	1516.3	1417.3	1324.2	1280.5
40°	1434.8	1417.3	1309.6	1225.2	1178.7
42.5°	1344.5	1321.3	1216.5	1126.3	1073.9
45°	1248.5	1222.3	1117.5	1024.4	983.7
47.5°	1152.5	1129.2	1033.1	937.1	890.5
50°	1050.6	1030.2	942.9	846.9	797.4
52.5°	966.2	934.2	849.8	753.8	713.0
55°	867.3	841.1	762.5	672.3	637.4
57.5°	777.0	750.9	678.1	593.7	564.6
60°	692.6	654.8	593.7	520.9	497.7
62.5°	599.5	570.4	518.0	456.9	486.0
65°	515.1	486.0	439.5	448.2	372.5
67.5°	422.0	407.4	366.7	326.0	314.3
70°	343.4	326.0	311.4	267.7	256.1
72.5°	273.6	256.1	235.7	212.5	203.7
75°	206.6	192.1	180.4	171.7	189.2
77.5°	142.6	136.8	128.1	119.3	116.4
80°	93.1	90.2	87.3	84.4	81.5
82.5°	55.3	55.3	55.3	55.3	55.3
85°	29.1	32.0	34.9	37.8	40.7
87.5°	17.5	17.5	20.4	23.3	26.2
90°	0.0	0.0	0.0	0.0	0.0



Report Generated By 670246072 / DESKTOP-MV3F9LC







— 0°-180°    - - 45°-225°    - - - - 90°-270°







(END OF REPORT)