

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: P546379

Luminaire Tested: **FMR-12-4-LD4-2STD-50-UNV-82-88-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: P546379  
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-12-4-LD4-2STD-50-UNV-82-88-EDD  
Description: 1X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

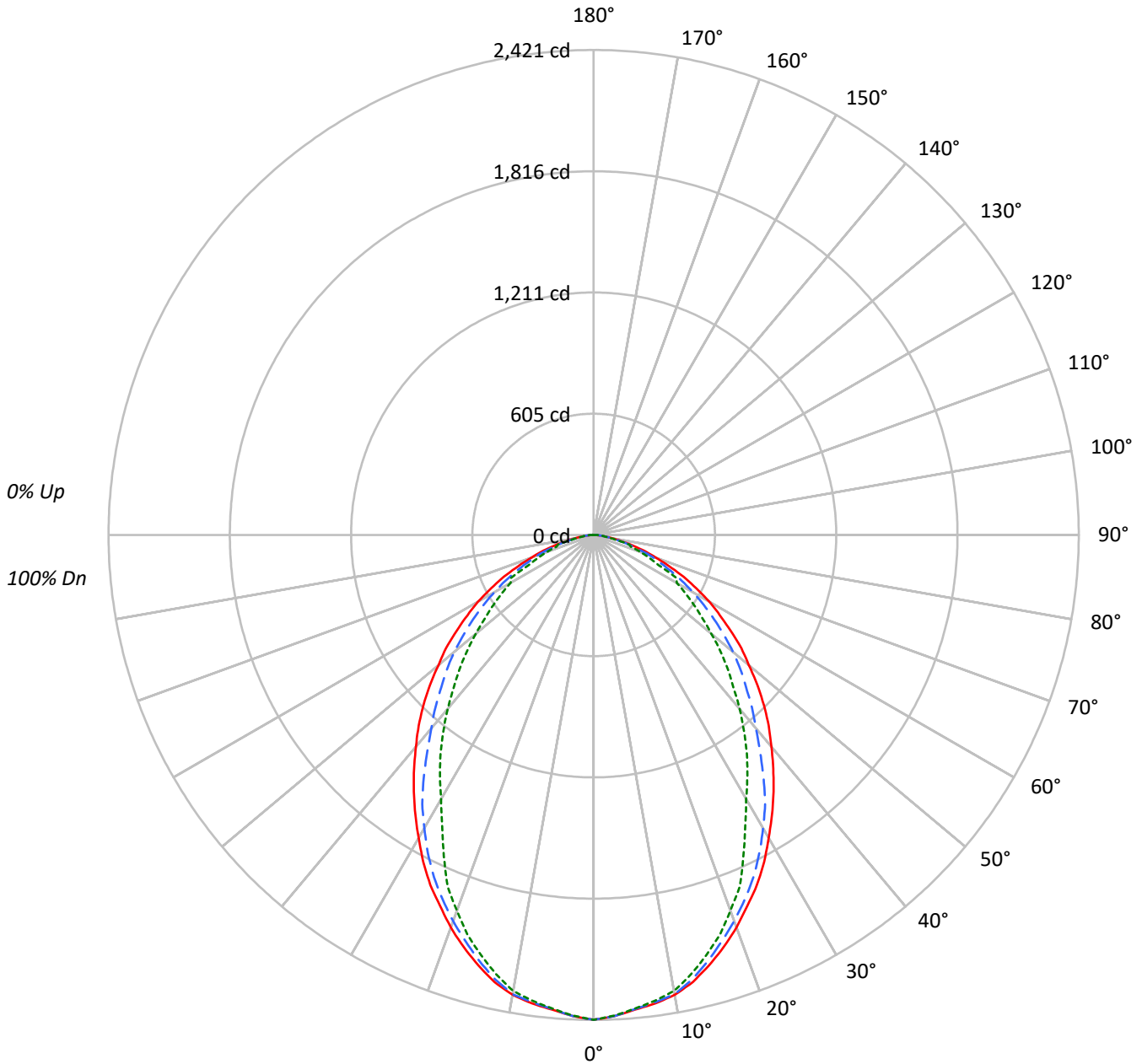
Lumens per Lamp: N/A  
Luminaire Lumens: 4752.0 lumens  
Efficiency: N/A  
Efficacy: 71.4 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 66.6  
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									
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°	6514	6514	6514
5°	6425	6418	6410
10°	6370	6362	6316
15°	6198	6135	6050
20°	5970	5874	5714
25°	5725	5600	5251
30°	5426	5252	4730
35°	5139	4854	4376
40°	4846	4424	3981
45°	4569	4090	3600
50°	4229	3796	3210
55°	3912	3440	2875
60°	3584	3073	2575
65°	3154	2691	2281
70°	2598	2356	1938
75°	2066	1804	1891
80°	1387	1302	1215
85°	865	1037	1210



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	225.3	4.7
10°-20°	618.4	13.0
20°-30°	856.1	18.0
30°-40°	912.9	19.2
40°-50°	832.8	17.5
50°-60°	652.4	13.7
60°-70°	425.2	8.9
70°-80°	188.4	4.0
80°-90°	40.5	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°	1699.8	35.8
0°-40°	2612.7	55.0
0°-60°	4097.9	86.2
0°-90°	4752.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4752.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2421	2421	2421	2421	2421	
5°	2379	2376	2376	2373	2373	226
15°	2225	2225	2202	2180	2172	625
25°	1928	1917	1886	1819	1769	885
35°	1564	1553	1478	1366	1332	978
45°	1200	1175	1075	985	946	925
55°	834	809	733	646	613	748
65°	495	467	423	431	358	488
75°	199	185	174	165	182	213
85°	28	31	34	36	39	39
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2420.6	2420.6	2420.6	2420.6	2420.6
2.5°	2403.8	2403.8	2403.8	2401.0	2401.0
5°	2378.6	2375.8	2375.8	2373.0	2373.0
7.5°	2359.0	2356.2	2353.4	2350.6	2345.0
10°	2331.1	2331.1	2328.3	2314.3	2311.5
12.5°	2286.3	2283.5	2272.3	2252.7	2247.1
15°	2224.7	2224.7	2202.3	2179.9	2171.5
17.5°	2157.6	2154.8	2126.8	2104.4	2093.2
20°	2084.8	2079.2	2051.2	2014.8	1995.3
22.5°	2003.6	2003.6	1970.1	1922.5	1902.9
25°	1928.1	1916.9	1886.1	1819.0	1768.6
27.5°	1841.3	1824.5	1791.0	1695.8	1637.1
30°	1746.2	1737.8	1690.2	1567.1	1522.3
32.5°	1656.6	1642.7	1592.3	1463.6	1427.2
35°	1564.3	1553.1	1477.5	1365.6	1332.0
37.5°	1472.0	1458.0	1362.8	1273.3	1231.3
40°	1379.6	1362.8	1259.3	1178.1	1133.3
42.5°	1292.9	1270.5	1169.7	1083.0	1032.6
45°	1200.5	1175.3	1074.6	985.0	945.9
47.5°	1108.2	1085.8	993.4	901.1	856.3
50°	1010.2	990.6	906.7	814.3	766.8
52.5°	929.1	898.3	817.1	724.8	685.6
55°	833.9	808.7	733.2	646.4	612.8
57.5°	747.2	722.0	652.0	570.9	542.9
60°	666.0	629.6	570.9	500.9	478.5
62.5°	576.5	548.5	498.1	439.3	467.3
65°	495.3	467.3	422.6	431.0	358.2
67.5°	405.8	391.8	352.6	313.4	302.2
70°	330.2	313.4	299.4	257.5	246.3
72.5°	263.0	246.3	226.7	204.3	195.9
75°	198.7	184.7	173.5	165.1	181.9
77.5°	137.1	131.5	123.1	114.7	111.9
80°	89.5	86.8	84.0	81.2	78.4
82.5°	53.2	53.2	53.2	53.2	53.2
85°	28.0	30.8	33.6	36.4	39.2
87.5°	16.8	16.8	19.6	22.4	25.2
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)