

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: P546269

Luminaire Tested: **FMR-12-4-LD4-2LO-50-UNV-80-96-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: P546269  
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-LD4-2LO-50-UNV-80-96-EDD  
Description: 1X4 FMR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

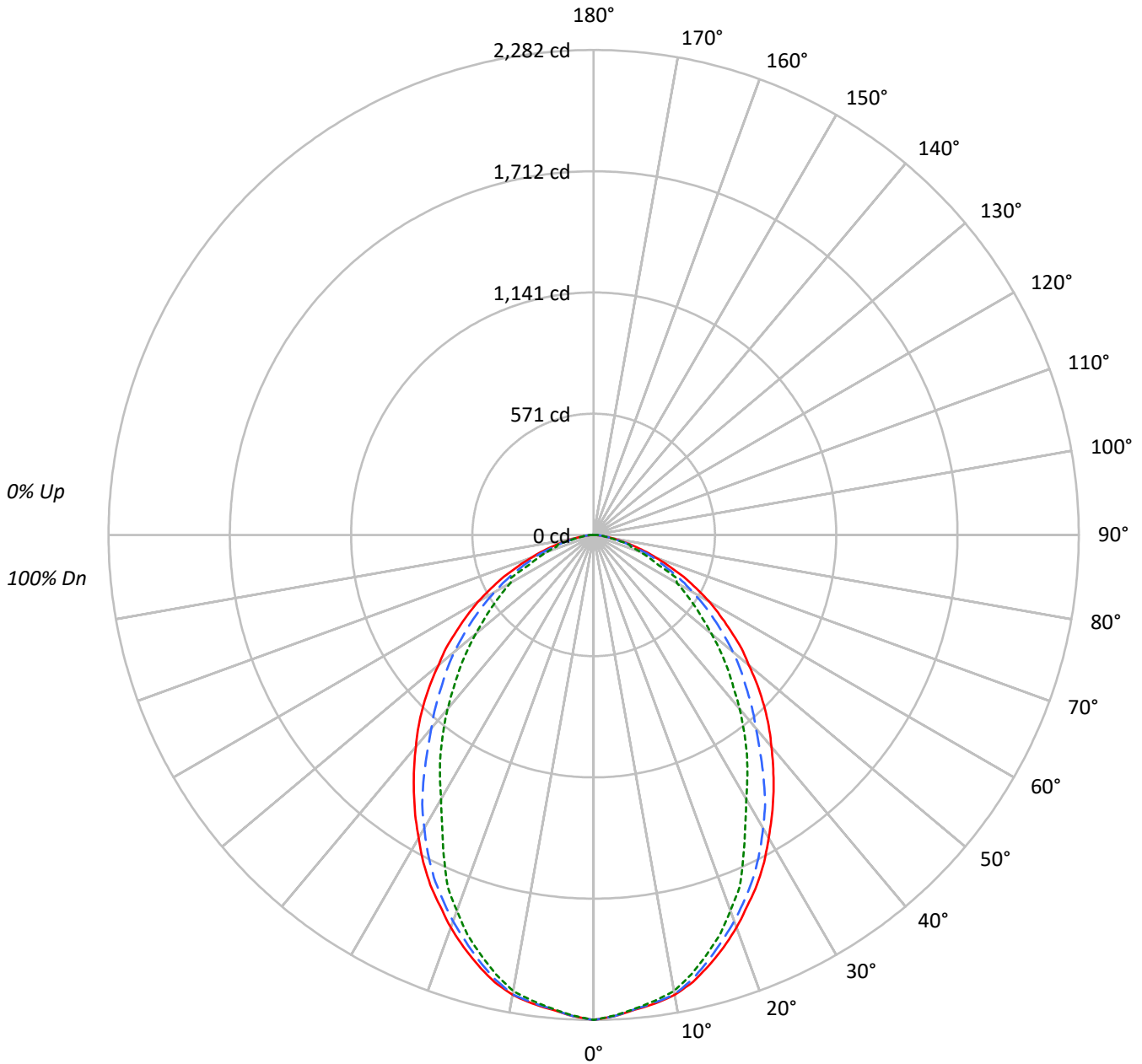
Lumens per Lamp: N/A  
Luminaire Lumens: 4480.0 lumens  
Efficiency: N/A  
Efficacy: 95.7 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

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

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

	0°	45°	90°
0°	6141	6141	6141
5°	6058	6050	6043
10°	6005	5998	5955
15°	5843	5784	5704
20°	5629	5538	5387
25°	5397	5280	4950
30°	5115	4951	4460
35°	4845	4576	4125
40°	4569	4170	3753
45°	4307	3855	3393
50°	3987	3579	3026
55°	3689	3243	2711
60°	3379	2897	2428
65°	2974	2537	2150
70°	2449	2221	1827
75°	1947	1701	1783
80°	1308	1226	1145
85°	815	979	1139



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	212.4	4.7
10°-20°	583.0	13.0
20°-30°	807.1	18.0
30°-40°	860.6	19.2
40°-50°	785.1	17.5
50°-60°	615.1	13.7
60°-70°	400.9	8.9
70°-80°	177.6	4.0
80°-90°	38.1	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°	1602.5	35.8
0°-40°	2463.2	55.0
0°-60°	3863.4	86.2
0°-90°	4480.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4480.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2282	2282	2282	2282	2282	
5°	2242	2240	2240	2237	2237	213
15°	2097	2097	2076	2055	2047	590
25°	1818	1807	1778	1715	1667	835
35°	1475	1464	1393	1287	1256	922
45°	1132	1108	1013	929	892	872
55°	786	762	691	609	578	705
65°	467	441	398	406	338	460
75°	187	174	164	156	172	201
85°	26	29	32	34	37	37
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2282.1	2282.1	2282.1	2282.1	2282.1
2.5°	2266.2	2266.2	2266.2	2263.6	2263.6
5°	2242.5	2239.8	2239.8	2237.2	2237.2
7.5°	2224.0	2221.4	2218.7	2216.1	2210.8
10°	2197.6	2197.6	2195.0	2181.8	2179.2
12.5°	2155.4	2152.8	2142.2	2123.8	2118.5
15°	2097.4	2097.4	2076.3	2055.2	2047.3
17.5°	2034.1	2031.4	2005.0	1983.9	1973.4
20°	1965.5	1960.2	1933.8	1899.5	1881.0
22.5°	1889.0	1889.0	1857.3	1812.5	1794.0
25°	1817.7	1807.2	1778.2	1714.8	1667.3
27.5°	1735.9	1720.1	1688.5	1598.8	1543.4
30°	1646.2	1638.3	1593.5	1477.4	1435.2
32.5°	1561.8	1548.6	1501.1	1379.8	1345.5
35°	1474.8	1464.2	1393.0	1287.4	1255.8
37.5°	1387.7	1374.5	1284.8	1200.4	1160.8
40°	1300.6	1284.8	1187.2	1110.7	1068.5
42.5°	1218.9	1197.7	1102.8	1021.0	973.5
45°	1131.8	1108.0	1013.1	928.7	891.7
47.5°	1044.7	1023.6	936.6	849.5	807.3
50°	952.4	933.9	854.8	767.7	722.9
52.5°	875.9	846.9	770.4	683.3	646.4
55°	786.2	762.4	691.2	609.4	577.8
57.5°	704.4	680.7	614.7	538.2	511.8
60°	627.9	593.6	538.2	472.2	451.1
62.5°	543.5	517.1	469.6	414.2	440.6
65°	467.0	440.6	398.4	406.3	337.7
67.5°	382.5	369.3	332.4	295.5	284.9
70°	311.3	295.5	282.3	242.7	232.2
72.5°	248.0	232.2	213.7	192.6	184.7
75°	187.3	174.1	163.6	155.7	171.5
77.5°	129.3	124.0	116.1	108.2	105.5
80°	84.4	81.8	79.1	76.5	73.9
82.5°	50.1	50.1	50.1	50.1	50.1
85°	26.4	29.0	31.7	34.3	36.9
87.5°	15.8	15.8	18.5	21.1	23.7
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)