

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: P547390

Luminaire Tested: **FMR-24-4-LD4-4LO-40-UNV-80-97-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: P547390  
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-LD4-4LO-40-UNV-80-97-EDD  
Description: 2X4 FMR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .375 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

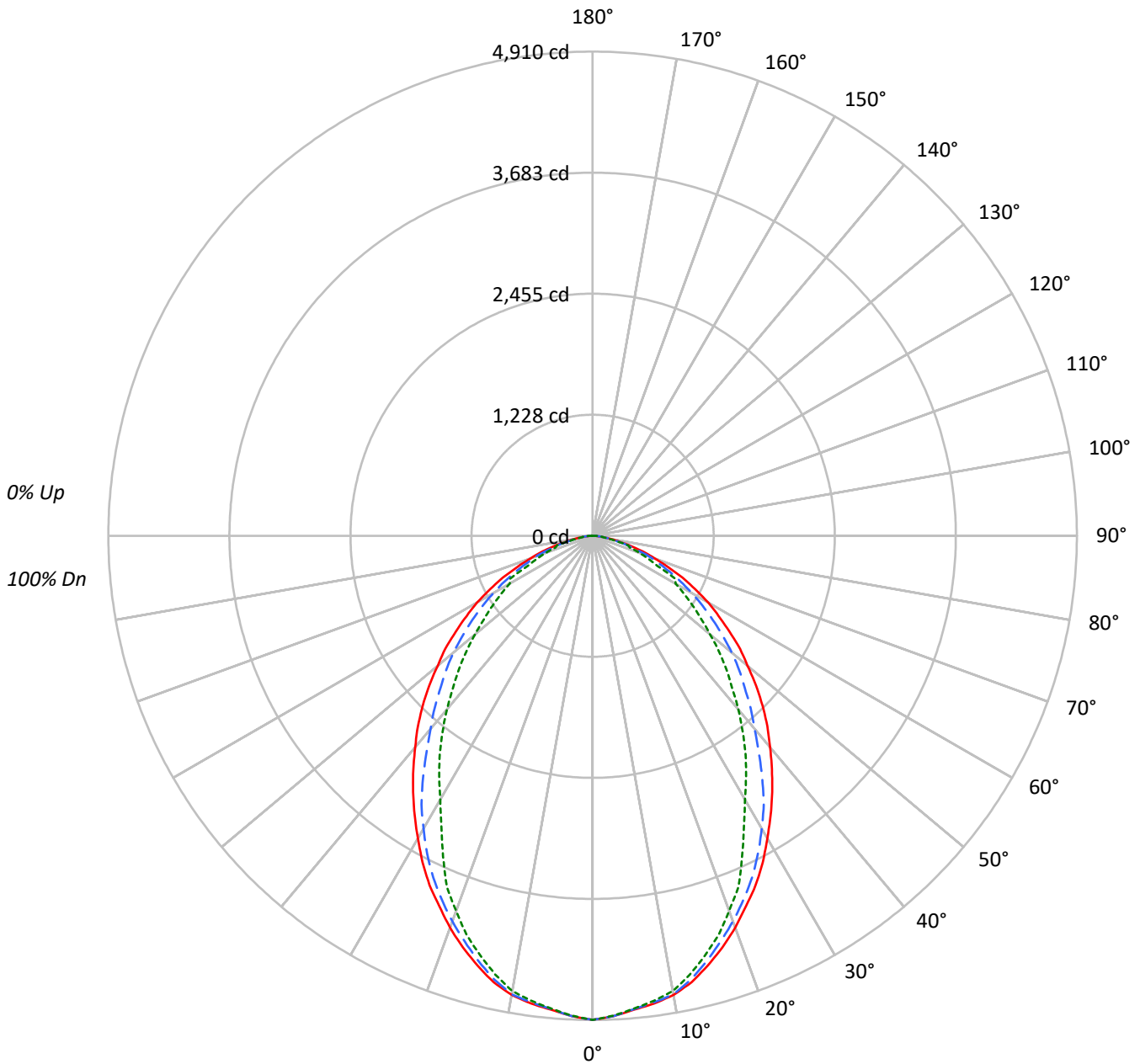
Lumens per Lamp: N/A  
Luminaire Lumens: 9638.0 lumens  
Efficiency: N/A  
Efficacy: 103.0 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 93.6  
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									
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°	6606	6606	6606
5°	6516	6508	6501
10°	6459	6452	6405
15°	6285	6222	6135
20°	6054	5957	5794
25°	5805	5679	5325
30°	5502	5326	4797
35°	5211	4922	4437
40°	4915	4486	4037
45°	4633	4147	3650
50°	4289	3849	3255
55°	3968	3488	2916
60°	3635	3116	2612
65°	3198	2728	2313
70°	2635	2389	1965
75°	2095	1829	1918
80°	1407	1320	1231
85°	877	1051	1227



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	457.0	4.7
10°-20°	1254.2	13.0
20°-30°	1736.4	18.0
30°-40°	1851.5	19.2
40°-50°	1689.1	17.5
50°-60°	1323.3	13.7
60°-70°	862.4	8.9
70°-80°	382.1	4.0
80°-90°	82.0	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°	3447.6	35.8
0°-40°	5299.1	55.0
0°-60°	8311.4	86.2
0°-90°	9638.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9638.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	4910	4910	4910	4910	4910	
5°	4824	4819	4819	4813	4813	458
15°	4512	4512	4467	4421	4404	1268
25°	3910	3888	3825	3689	3587	1795
35°	3173	3150	2997	2770	2702	1984
45°	2435	2384	2180	1998	1918	1876
55°	1691	1640	1487	1311	1243	1517
65°	1005	948	857	874	726	990
75°	403	375	352	335	369	432
85°	57	62	68	74	80	79
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	4909.5	4909.5	4909.5	4909.5	4909.5
2.5°	4875.4	4875.4	4875.4	4869.7	4869.7
5°	4824.3	4818.7	4818.7	4813.0	4813.0
7.5°	4784.6	4778.9	4773.3	4767.6	4756.2
10°	4727.8	4727.8	4722.2	4693.8	4688.1
12.5°	4637.0	4631.4	4608.7	4568.9	4557.6
15°	4512.2	4512.2	4466.8	4421.4	4404.3
17.5°	4376.0	4370.3	4313.5	4268.1	4245.4
20°	4228.4	4217.0	4160.3	4086.5	4046.8
22.5°	4063.8	4063.8	3995.7	3899.2	3859.5
25°	3910.5	3887.8	3825.4	3689.2	3587.0
27.5°	3734.6	3700.5	3632.4	3439.5	3320.3
30°	3541.6	3524.6	3428.1	3178.4	3087.6
32.5°	3360.0	3331.6	3229.5	2968.4	2894.6
35°	3172.7	3150.0	2996.8	2769.7	2701.6
37.5°	2985.4	2957.0	2764.1	2582.4	2497.3
40°	2798.1	2764.1	2554.1	2389.5	2298.7
42.5°	2622.2	2576.8	2372.4	2196.5	2094.3
45°	2434.9	2383.8	2179.5	1997.8	1918.4
47.5°	2247.6	2202.2	2014.9	1827.6	1736.8
50°	2048.9	2009.2	1838.9	1651.6	1555.1
52.5°	1884.3	1821.9	1657.3	1470.0	1390.5
55°	1691.4	1640.3	1487.0	1311.1	1243.0
57.5°	1515.4	1464.3	1322.4	1157.8	1101.1
60°	1350.8	1277.0	1157.8	1015.9	970.5
62.5°	1169.2	1112.4	1010.3	891.1	947.8
65°	1004.6	947.8	857.0	874.1	726.5
67.5°	823.0	794.6	715.1	635.7	613.0
70°	669.7	635.7	607.3	522.2	499.5
72.5°	533.5	499.5	459.7	414.3	397.3
75°	403.0	374.6	351.9	334.9	368.9
77.5°	278.1	266.8	249.7	232.7	227.0
80°	181.6	175.9	170.3	164.6	158.9
82.5°	107.8	107.8	107.8	107.8	107.8
85°	56.8	62.4	68.1	73.8	79.5
87.5°	34.1	34.1	39.7	45.4	51.1
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)