

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: P546684

Luminaire Tested: **FMR-24-4-LD4-2HI-35-UNV-80-94-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: P546684  
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-LD4-2HI-35-UNV-80-94-EDD  
Description: 2X4 FMR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .187 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

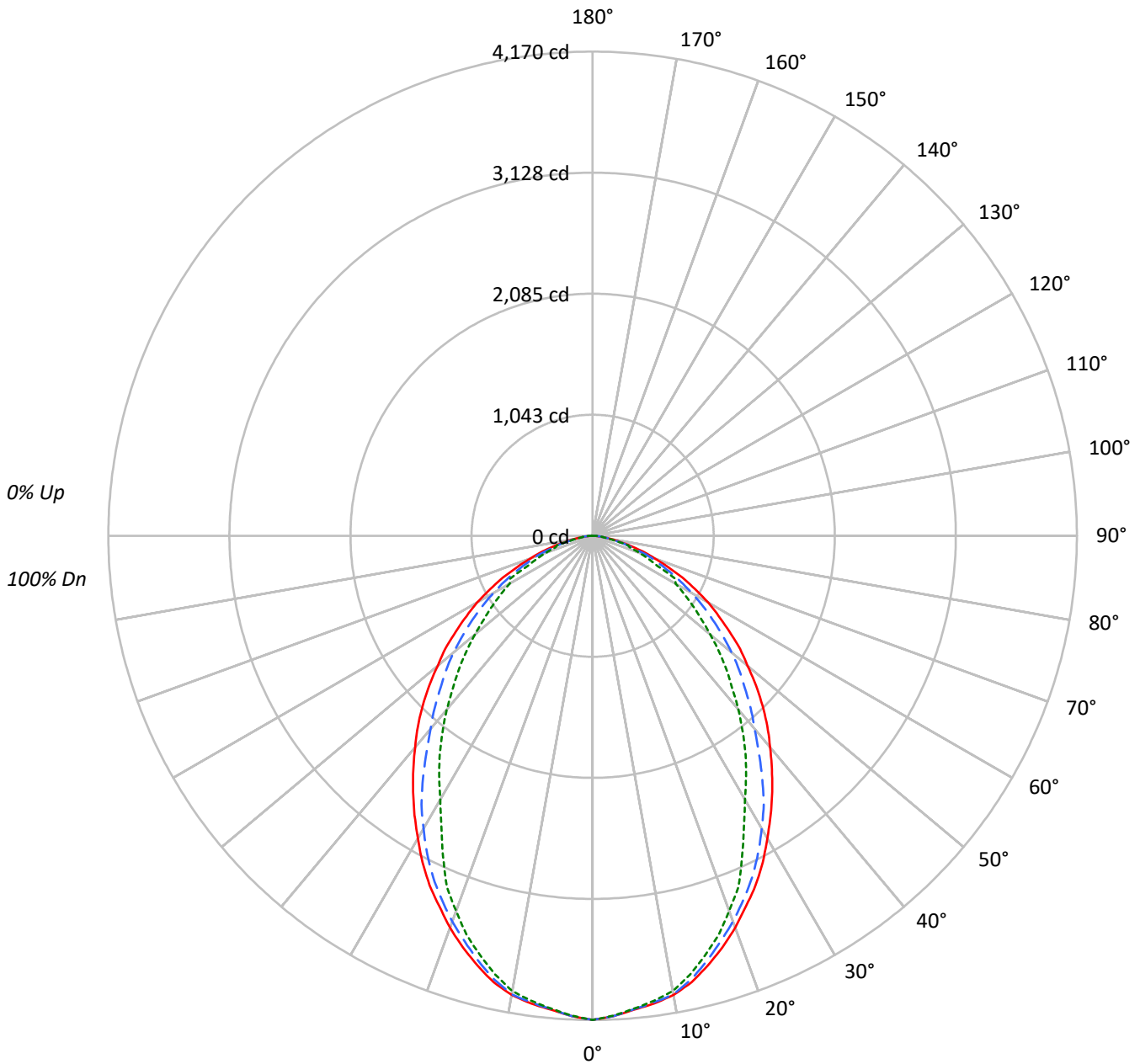
Lumens per Lamp: N/A  
Luminaire Lumens: 8186.0 lumens  
Efficiency: N/A  
Efficacy: 94.7 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 86.4  
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	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°	5610	5610	5610
5°	5534	5528	5521
10°	5486	5480	5440
15°	5338	5285	5211
20°	5142	5059	4921
25°	4931	4824	4523
30°	4673	4524	4074
35°	4426	4181	3769
40°	4174	3810	3429
45°	3935	3522	3100
50°	3643	3269	2765
55°	3370	2963	2476
60°	3087	2646	2218
65°	2717	2317	1964
70°	2238	2029	1669
75°	1779	1554	1629
80°	1196	1120	1046
85°	744	892	1042



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	388.2	4.7
10°-20°	1065.3	13.0
20°-30°	1474.8	18.0
30°-40°	1572.5	19.2
40°-50°	1434.6	17.5
50°-60°	1123.9	13.7
60°-70°	732.5	8.9
70°-80°	324.5	4.0
80°-90°	69.7	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°	2928.2	35.8
0°-40°	4500.7	55.0
0°-60°	7059.3	86.2
0°-90°	8186.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8186.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	4170	4170	4170	4170	4170	
5°	4098	4093	4093	4088	4088	389
15°	3832	3832	3794	3755	3741	1077
25°	3321	3302	3249	3133	3047	1525
35°	2695	2675	2545	2352	2295	1685
45°	2068	2025	1851	1697	1629	1593
55°	1436	1393	1263	1114	1056	1288
65°	853	805	728	742	617	841
75°	342	318	299	284	313	367
85°	48	53	58	63	68	67
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	4169.8	4169.8	4169.8	4169.8	4169.8
2.5°	4140.9	4140.9	4140.9	4136.1	4136.1
5°	4097.5	4092.7	4092.7	4087.9	4087.9
7.5°	4063.8	4059.0	4054.1	4049.3	4039.7
10°	4015.6	4015.6	4010.8	3986.7	3981.8
12.5°	3938.4	3933.6	3914.3	3880.6	3871.0
15°	3832.4	3832.4	3793.8	3755.3	3740.8
17.5°	3716.7	3711.9	3663.7	3625.1	3605.8
20°	3591.4	3581.7	3533.5	3470.8	3437.1
22.5°	3451.6	3451.6	3393.7	3311.8	3278.0
25°	3321.4	3302.1	3249.1	3133.4	3046.6
27.5°	3172.0	3143.0	3085.2	2921.3	2820.1
30°	3008.1	2993.6	2911.7	2699.5	2622.4
32.5°	2853.8	2829.7	2742.9	2521.2	2458.5
35°	2694.7	2675.4	2545.3	2352.5	2294.6
37.5°	2535.6	2511.5	2347.6	2193.4	2121.1
40°	2376.6	2347.6	2169.3	2029.5	1952.4
42.5°	2227.1	2188.6	2015.0	1865.6	1778.8
45°	2068.0	2024.7	1851.1	1696.9	1629.4
47.5°	1909.0	1870.4	1711.3	1552.2	1475.1
50°	1740.2	1706.5	1561.9	1402.8	1320.9
52.5°	1600.4	1547.4	1407.6	1248.5	1181.1
55°	1436.5	1393.2	1263.0	1113.6	1055.7
57.5°	1287.1	1243.7	1123.2	983.4	935.2
60°	1147.3	1084.6	983.4	862.9	824.3
62.5°	993.0	944.8	858.1	756.8	805.0
65°	853.3	805.0	727.9	742.4	617.0
67.5°	699.0	674.9	607.4	539.9	520.6
70°	568.8	539.9	515.8	443.5	424.2
72.5°	453.1	424.2	390.5	351.9	337.4
75°	342.3	318.2	298.9	284.4	313.3
77.5°	236.2	226.6	212.1	197.6	192.8
80°	154.3	149.4	144.6	139.8	135.0
82.5°	91.6	91.6	91.6	91.6	91.6
85°	48.2	53.0	57.8	62.7	67.5
87.5°	28.9	28.9	33.7	38.6	43.4
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)