

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: P546679

Luminaire Tested: **FMR-24-4-LD4-2HI-35-UNV-80-84-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: P546679  
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-80-84-EDD  
Description: 2X4 FMR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

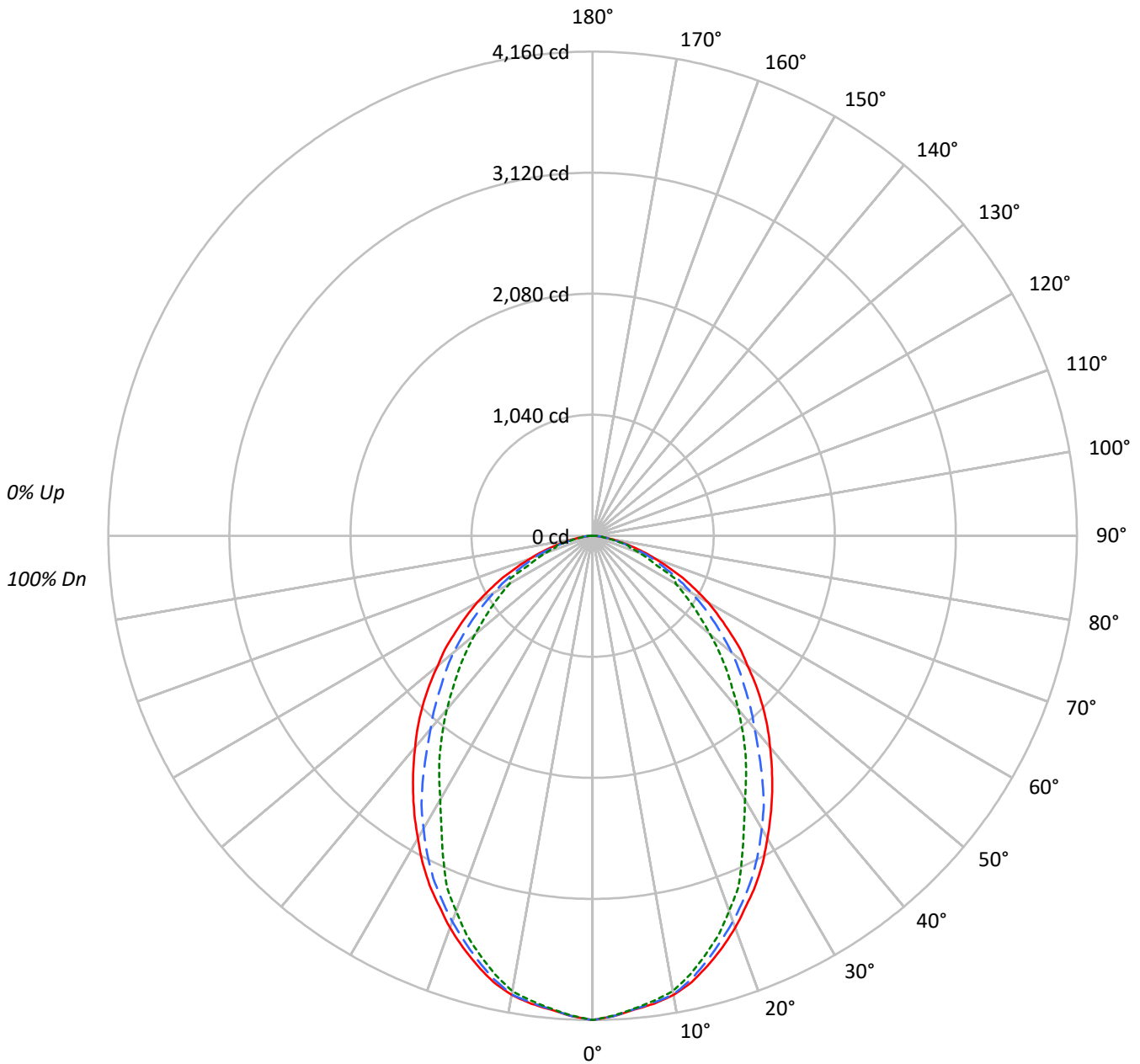
Lumens per Lamp: N/A  
Luminaire Lumens: 8167.0 lumens  
Efficiency: N/A  
Efficacy: 94.5 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

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									
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°	5598	5598	5598
5°	5521	5515	5508
10°	5474	5467	5428
15°	5326	5272	5199
20°	5130	5048	4910
25°	4919	4812	4513
30°	4663	4513	4065
35°	4416	4171	3760
40°	4165	3801	3421
45°	3926	3514	3093
50°	3634	3262	2758
55°	3362	2956	2471
60°	3080	2640	2213
65°	2710	2312	1960
70°	2233	2024	1665
75°	1775	1550	1625
80°	1192	1118	1044
85°	743	891	1039



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	387.3	4.7
10°-20°	1062.8	13.0
20°-30°	1471.4	18.0
30°-40°	1568.9	19.2
40°-50°	1431.3	17.5
50°-60°	1121.3	13.7
60°-70°	730.8	8.9
70°-80°	323.8	4.0
80°-90°	69.5	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°	2921.4	35.8
0°-40°	4490.3	55.0
0°-60°	7042.9	86.2
0°-90°	8167.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8167.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	4160	4160	4160	4160	4160	
5°	4088	4083	4083	4078	4078	388
15°	3824	3824	3785	3746	3732	1075
25°	3314	3294	3242	3126	3040	1521
35°	2688	2669	2539	2347	2289	1681
45°	2063	2020	1847	1693	1626	1589
55°	1433	1390	1260	1111	1053	1285
65°	851	803	726	741	616	839
75°	342	317	298	284	313	366
85°	48	53	58	62	67	67
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	4160.2	4160.2	4160.2	4160.2	4160.2
2.5°	4131.3	4131.3	4131.3	4126.5	4126.5
5°	4088.0	4083.2	4083.2	4078.4	4078.4
7.5°	4054.4	4049.5	4044.7	4039.9	4030.3
10°	4006.3	4006.3	4001.4	3977.4	3972.6
12.5°	3929.3	3924.5	3905.3	3871.6	3862.0
15°	3823.5	3823.5	3785.0	3746.5	3732.1
17.5°	3708.1	3703.3	3655.2	3616.7	3597.5
20°	3583.0	3573.4	3525.3	3462.8	3429.1
22.5°	3443.6	3443.6	3385.8	3304.1	3270.4
25°	3313.7	3294.5	3241.6	3126.1	3039.6
27.5°	3164.6	3135.8	3078.0	2914.5	2813.5
30°	3001.1	2986.7	2904.9	2693.3	2616.3
32.5°	2847.2	2823.1	2736.6	2515.3	2452.8
35°	2688.5	2669.2	2539.4	2347.0	2289.3
37.5°	2529.8	2505.7	2342.2	2188.3	2116.2
40°	2371.1	2342.2	2164.2	2024.8	1947.8
42.5°	2222.0	2183.5	2010.3	1861.3	1774.7
45°	2063.2	2020.0	1846.8	1692.9	1625.6
47.5°	1904.5	1866.1	1707.3	1548.6	1471.7
50°	1736.2	1702.5	1558.3	1399.5	1317.8
52.5°	1596.7	1543.8	1404.4	1245.6	1178.3
55°	1433.2	1389.9	1260.1	1111.0	1053.3
57.5°	1284.1	1240.8	1120.6	981.1	933.0
60°	1144.6	1082.1	981.1	860.9	822.4
62.5°	990.7	942.6	856.1	755.1	803.2
65°	851.3	803.2	726.2	740.7	615.6
67.5°	697.4	673.3	606.0	538.7	519.4
70°	567.5	538.7	514.6	442.5	423.2
72.5°	452.1	423.2	389.6	351.1	336.7
75°	341.5	317.4	298.2	283.8	312.6
77.5°	235.7	226.0	211.6	197.2	192.4
80°	153.9	149.1	144.3	139.5	134.7
82.5°	91.4	91.4	91.4	91.4	91.4
85°	48.1	52.9	57.7	62.5	67.3
87.5°	28.9	28.9	33.7	38.5	43.3
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)