

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: P546686

Luminaire Tested: **FMR-24-4-LD4-2HI-35-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: P546686  
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-80-97-EDD  
Description: 2X4 FMR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .375  
CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT  
LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

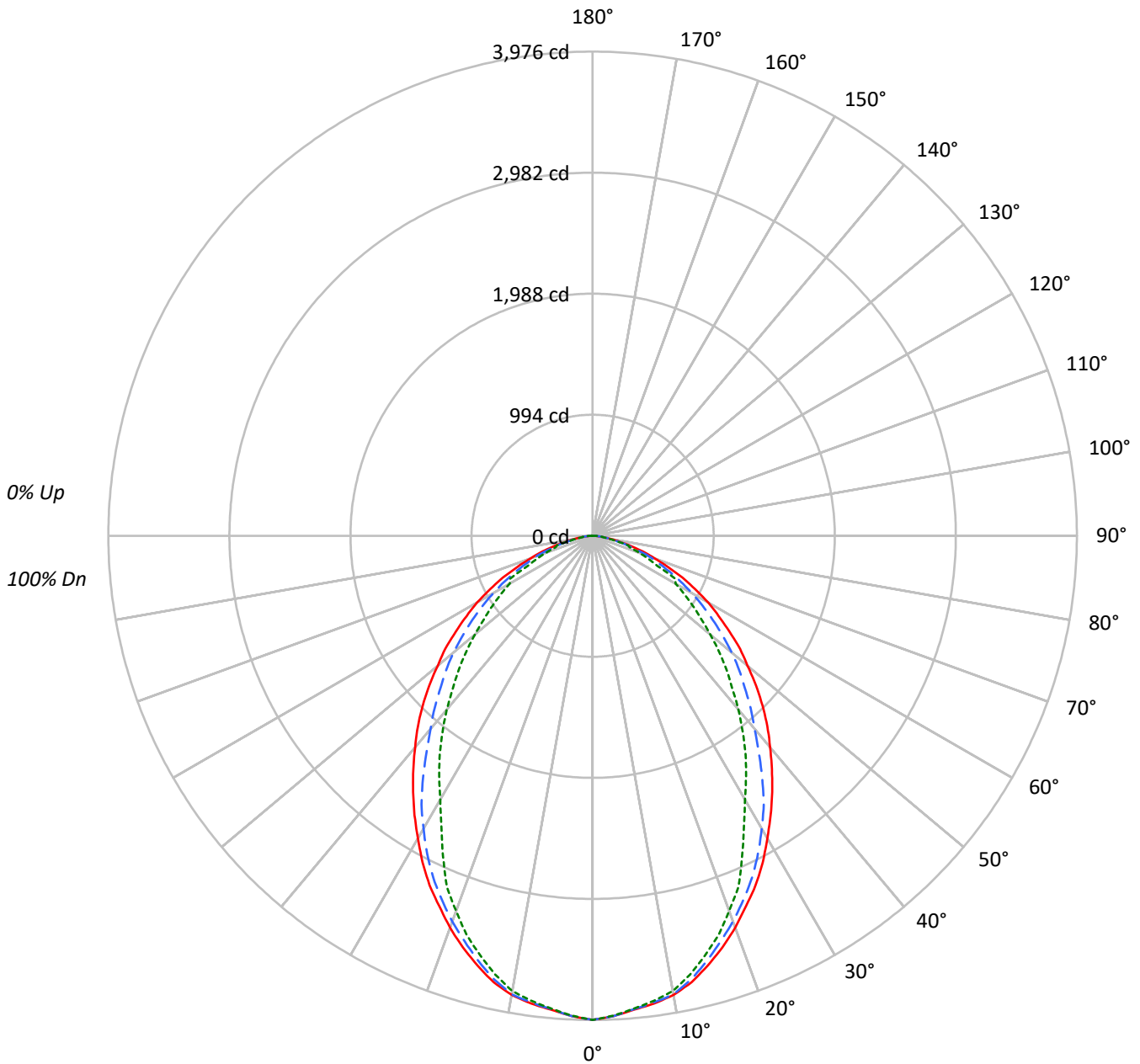
Lumens per Lamp: N/A  
Luminaire Lumens: 7805.0 lumens  
Efficiency: N/A  
Efficacy: 90.3 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 86.4  
Input Voltage (V): NR  
Input Current (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°	5349	5349	5349
5°	5277	5270	5264
10°	5231	5225	5187
15°	5090	5039	4968
20°	4903	4824	4692
25°	4701	4599	4312
30°	4456	4313	3885
35°	4220	3986	3594
40°	3980	3633	3270
45°	3752	3358	2956
50°	3473	3117	2636
55°	3213	2825	2361
60°	2944	2523	2115
65°	2590	2209	1873
70°	2134	1935	1591
75°	1696	1482	1553
80°	1140	1068	997
85°	710	852	993



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	370.1	4.7
10°-20°	1015.7	13.0
20°-30°	1406.1	18.0
30°-40°	1499.4	19.2
40°-50°	1367.9	17.5
50°-60°	1071.6	13.7
60°-70°	698.4	8.9
70°-80°	309.4	4.0
80°-90°	66.4	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°	2791.9	35.8
0°-40°	4291.3	55.0
0°-60°	6730.7	86.2
0°-90°	7805.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7805.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	3976	3976	3976	3976	3976	
5°	3907	3902	3902	3898	3898	371
15°	3654	3654	3617	3580	3567	1027
25°	3167	3148	3098	2988	2905	1454
35°	2569	2551	2427	2243	2188	1606
45°	1972	1930	1765	1618	1554	1519
55°	1370	1328	1204	1062	1007	1229
65°	814	768	694	708	588	802
75°	326	303	285	271	299	350
85°	46	51	55	60	64	64
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	3975.8	3975.8	3975.8	3975.8	3975.8
2.5°	3948.2	3948.2	3948.2	3943.6	3943.6
5°	3906.8	3902.2	3902.2	3897.6	3897.6
7.5°	3874.6	3870.0	3865.5	3860.9	3851.7
10°	3828.7	3828.7	3824.1	3801.1	3796.5
12.5°	3755.1	3750.5	3732.2	3700.0	3690.8
15°	3654.0	3654.0	3617.3	3580.5	3566.7
17.5°	3543.7	3539.1	3493.2	3456.4	3438.0
20°	3424.2	3415.0	3369.1	3309.3	3277.1
22.5°	3290.9	3290.9	3235.8	3157.6	3125.5
25°	3166.8	3148.4	3097.9	2987.6	2904.8
27.5°	3024.3	2996.8	2941.6	2785.3	2688.8
30°	2868.1	2854.3	2776.1	2573.9	2500.4
32.5°	2721.0	2698.0	2615.3	2403.8	2344.1
35°	2569.3	2550.9	2426.8	2243.0	2187.8
37.5°	2417.6	2394.7	2238.4	2091.3	2022.4
40°	2266.0	2238.4	2068.3	1935.0	1861.5
42.5°	2123.5	2086.7	1921.2	1778.8	1696.0
45°	1971.8	1930.4	1765.0	1617.9	1553.5
47.5°	1820.1	1783.3	1631.7	1480.0	1406.5
50°	1659.2	1627.1	1489.2	1337.5	1259.4
52.5°	1526.0	1475.4	1342.1	1190.4	1126.1
55°	1369.7	1328.3	1204.2	1061.7	1006.6
57.5°	1227.2	1185.8	1070.9	937.6	891.7
60°	1093.9	1034.2	937.6	822.7	786.0
62.5°	946.8	900.9	818.1	721.6	767.6
65°	813.5	767.6	694.0	707.8	588.3
67.5°	666.5	643.5	579.1	514.8	496.4
70°	542.4	514.8	491.8	422.9	404.5
72.5°	432.0	404.5	372.3	335.5	321.7
75°	326.3	303.4	285.0	271.2	298.8
77.5°	225.2	216.0	202.2	188.4	183.9
80°	147.1	142.5	137.9	133.3	128.7
82.5°	87.3	87.3	87.3	87.3	87.3
85°	46.0	50.6	55.2	59.8	64.3
87.5°	27.6	27.6	32.2	36.8	41.4
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)