

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: P547363

Luminaire Tested: **FMR-24-4-LD4-4LO-35-UNV-81-88-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: P547363  
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-35-UNV-81-88-EDD  
Description: 2X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

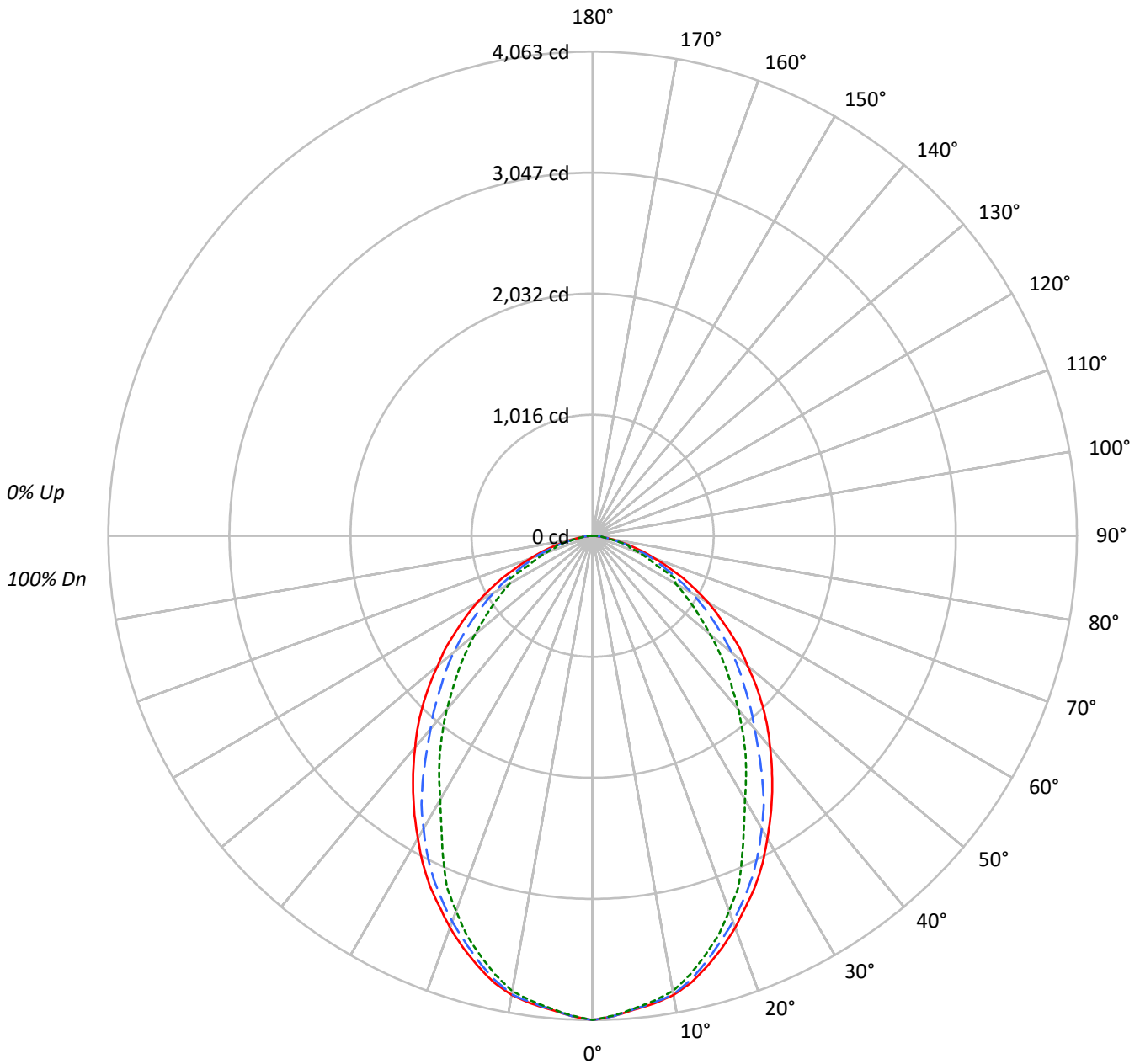
Lumens per Lamp: N/A  
Luminaire Lumens: 7976.0 lumens  
Efficiency: N/A  
Efficacy: 85.2 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 93.6  
Input Voltage (V): NR  
Input Current (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	100	100	100
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87	87	87	87
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75	75	75	75
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65	65	65	65
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56	56	56	56
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50	50	50	50
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44	44	44	44
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40	40	40	40
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36	36	36	36
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33	33	33	33
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30	30	30	30

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

	0°	45°	90°
0°	5467	5467	5467
5°	5392	5386	5380
10°	5346	5339	5301
15°	5201	5149	5077
20°	5010	4930	4795
25°	4804	4700	4407
30°	4554	4408	3970
35°	4313	4073	3672
40°	4067	3712	3341
45°	3834	3432	3021
50°	3549	3185	2694
55°	3283	2887	2413
60°	3008	2578	2161
65°	2647	2258	1914
70°	2180	1977	1626
75°	1734	1514	1587
80°	1165	1092	1019
85°	726	871	1016



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	378.2	4.7
10°-20°	1037.9	13.0
20°-30°	1436.9	18.0
30°-40°	1532.2	19.2
40°-50°	1397.8	17.5
50°-60°	1095.1	13.7
60°-70°	713.7	8.9
70°-80°	316.2	4.0
80°-90°	67.9	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°	2853.1	35.8
0°-40°	4385.3	55.0
0°-60°	6878.2	86.2
0°-90°	7976.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7976.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	4063	4063	4063	4063	4063	
5°	3992	3988	3988	3983	3983	379
15°	3734	3734	3696	3659	3645	1050
25°	3236	3217	3166	3053	2968	1486
35°	2626	2607	2480	2292	2236	1641
45°	2015	1973	1804	1653	1588	1552
55°	1400	1357	1231	1085	1029	1255
65°	831	784	709	723	601	819
75°	334	310	291	277	305	357
85°	47	52	56	61	66	65
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	4062.9	4062.9	4062.9	4062.9	4062.9
2.5°	4034.7	4034.7	4034.7	4030.0	4030.0
5°	3992.4	3987.7	3987.7	3983.0	3983.0
7.5°	3959.5	3954.8	3950.1	3945.4	3936.0
10°	3912.6	3912.6	3907.9	3884.4	3879.7
12.5°	3837.4	3832.7	3813.9	3781.1	3771.7
15°	3734.1	3734.1	3696.5	3658.9	3644.8
17.5°	3621.4	3616.7	3569.7	3532.1	3513.3
20°	3499.2	3489.8	3442.9	3381.8	3348.9
22.5°	3363.0	3363.0	3306.7	3226.8	3193.9
25°	3236.2	3217.4	3165.7	3053.0	2968.5
27.5°	3090.6	3062.4	3006.1	2846.4	2747.7
30°	2930.9	2916.8	2837.0	2630.3	2555.1
32.5°	2780.6	2757.1	2672.6	2456.5	2395.4
35°	2625.6	2606.8	2480.0	2292.1	2235.8
37.5°	2470.6	2447.1	2287.4	2137.1	2066.7
40°	2315.6	2287.4	2113.6	1977.4	1902.3
42.5°	2170.0	2132.4	1963.3	1817.7	1733.2
45°	2015.0	1972.7	1803.6	1653.3	1587.6
47.5°	1860.0	1822.4	1667.4	1512.4	1437.3
50°	1695.6	1662.7	1521.8	1366.8	1287.0
52.5°	1559.4	1507.7	1371.5	1216.5	1150.8
55°	1399.7	1357.4	1230.6	1085.0	1028.6
57.5°	1254.1	1211.8	1094.4	958.2	911.2
60°	1117.9	1056.8	958.2	840.8	803.2
62.5°	967.6	920.6	836.1	737.4	784.4
65°	831.4	784.4	709.2	723.3	601.2
67.5°	681.1	657.6	591.8	526.1	507.3
70°	554.2	526.1	502.6	432.1	413.3
72.5°	441.5	413.3	380.5	342.9	328.8
75°	333.5	310.0	291.2	277.1	305.3
77.5°	230.2	220.8	206.7	192.6	187.9
80°	150.3	145.6	140.9	136.2	131.5
82.5°	89.2	89.2	89.2	89.2	89.2
85°	47.0	51.7	56.4	61.1	65.8
87.5°	28.2	28.2	32.9	37.6	42.3
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)