

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: P547384

Luminaire Tested: **FMR-24-4-LD4-4LO-40-UNV-80-85-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: P547384  
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-80-85-EDD  
Description: 2X4 FMR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

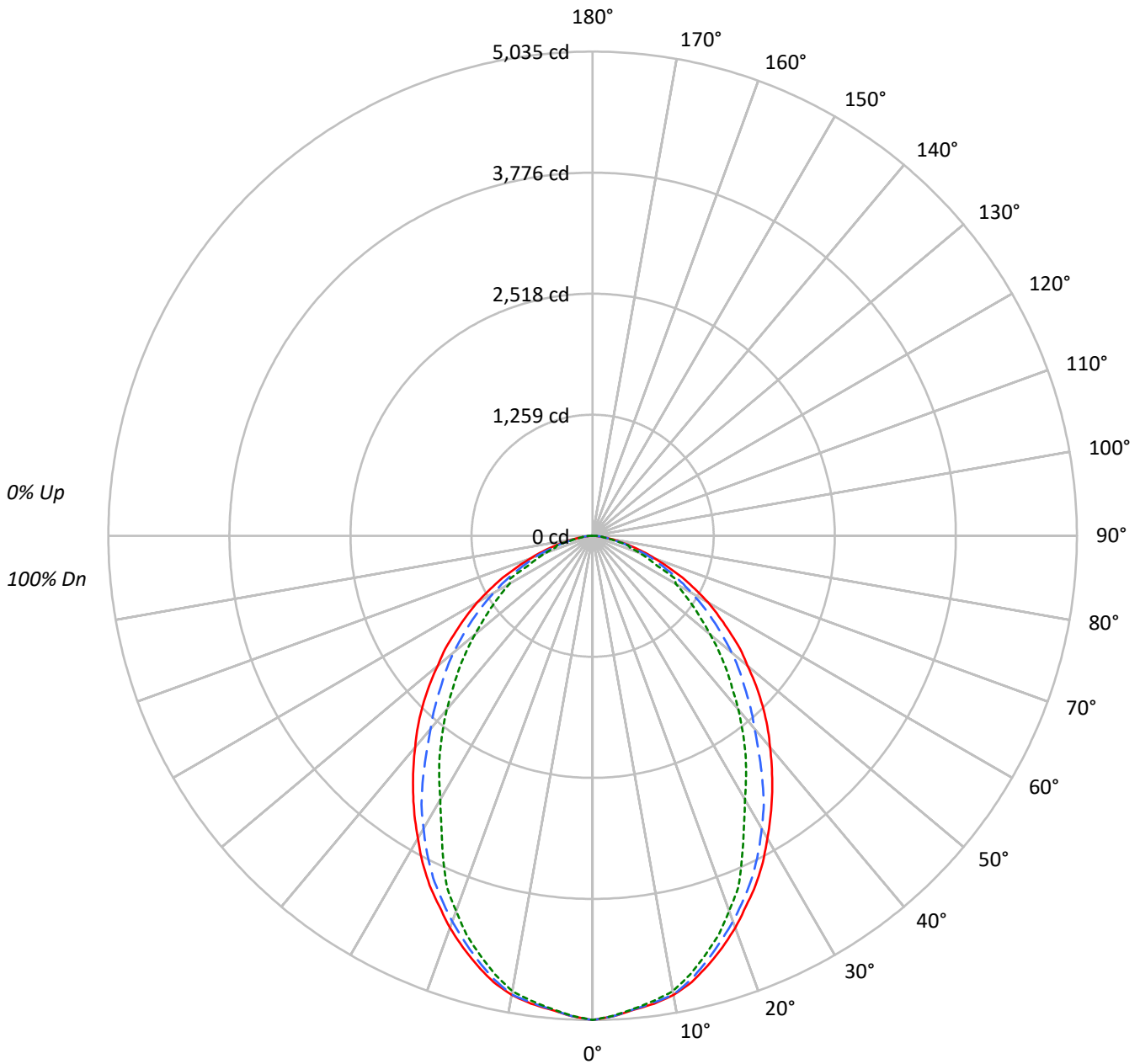
Lumens per Lamp: N/A  
Luminaire Lumens: 9885.0 lumens  
Efficiency: N/A  
Efficacy: 105.6 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

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									
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°	6775	6775	6775
5°	6683	6675	6667
10°	6625	6617	6569
15°	6446	6381	6292
20°	6210	6110	5943
25°	5954	5825	5462
30°	5643	5463	4920
35°	5345	5049	4551
40°	5041	4601	4141
45°	4752	4253	3744
50°	4399	3948	3339
55°	4069	3578	2990
60°	3728	3196	2679
65°	3280	2798	2372
70°	2702	2450	2015
75°	2149	1876	1967
80°	1444	1353	1263
85°	898	1079	1258



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	468.7	4.7
10°-20°	1286.4	13.0
20°-30°	1780.9	18.0
30°-40°	1898.9	19.2
40°-50°	1732.4	17.5
50°-60°	1357.2	13.7
60°-70°	884.6	8.9
70°-80°	391.9	4.0
80°-90°	84.1	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°	3535.9	35.8
0°-40°	5434.9	55.0
0°-60°	8524.4	86.2
0°-90°	9885.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9885.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	5035	5035	5035	5035	5035	
5°	4948	4942	4942	4936	4936	470
15°	4628	4628	4581	4535	4517	1301
25°	4011	3988	3923	3784	3679	1841
35°	3254	3231	3074	2841	2771	2034
45°	2497	2445	2235	2049	1968	1924
55°	1735	1682	1525	1345	1275	1556
65°	1030	972	879	896	745	1015
75°	413	384	361	343	378	443
85°	58	64	70	76	82	81
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	5035.3	5035.3	5035.3	5035.3	5035.3
2.5°	5000.4	5000.4	5000.4	4994.5	4994.5
5°	4948.0	4942.1	4942.1	4936.3	4936.3
7.5°	4907.2	4901.4	4895.6	4889.8	4878.1
10°	4849.0	4849.0	4843.2	4814.1	4808.3
12.5°	4755.9	4750.1	4726.8	4686.0	4674.4
15°	4627.8	4627.8	4581.2	4534.7	4517.2
17.5°	4488.1	4482.3	4424.1	4377.5	4354.2
20°	4336.8	4325.1	4266.9	4191.2	4150.5
22.5°	4167.9	4167.9	4098.1	3999.1	3958.4
25°	4010.8	3987.5	3923.4	3783.7	3679.0
27.5°	3830.3	3795.4	3725.5	3527.6	3405.4
30°	3632.4	3614.9	3516.0	3259.8	3166.7
32.5°	3446.1	3417.0	3312.2	3044.5	2968.8
35°	3254.0	3230.7	3073.6	2840.7	2770.9
37.5°	3061.9	3032.8	2834.9	2648.6	2561.3
40°	2869.8	2834.9	2619.5	2450.7	2357.6
42.5°	2689.4	2642.8	2433.2	2252.8	2148.0
45°	2497.3	2444.9	2235.3	2049.0	1967.5
47.5°	2305.2	2258.6	2066.5	1874.4	1781.3
50°	2101.4	2060.7	1886.0	1694.0	1595.0
52.5°	1932.6	1868.6	1699.8	1507.7	1426.2
55°	1734.7	1682.3	1525.1	1344.7	1274.8
57.5°	1554.2	1501.9	1356.3	1187.5	1129.3
60°	1385.4	1309.8	1187.5	1042.0	995.4
62.5°	1199.2	1140.9	1036.2	913.9	972.1
65°	1030.3	972.1	879.0	896.5	745.1
67.5°	844.1	815.0	733.5	652.0	628.7
70°	686.9	652.0	622.9	535.5	512.3
72.5°	547.2	512.3	471.5	424.9	407.5
75°	413.3	384.2	360.9	343.4	378.4
77.5°	285.2	273.6	256.1	238.7	232.8
80°	186.3	180.5	174.6	168.8	163.0
82.5°	110.6	110.6	110.6	110.6	110.6
85°	58.2	64.0	69.9	75.7	81.5
87.5°	34.9	34.9	40.7	46.6	52.4
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)