

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: P546922

Luminaire Tested: **FMR-24-4-LD4-2STD-40-UNV-82-87-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: P546922  
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-LD4-2STD-40-UNV-82-87-EDD  
Description: 2X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

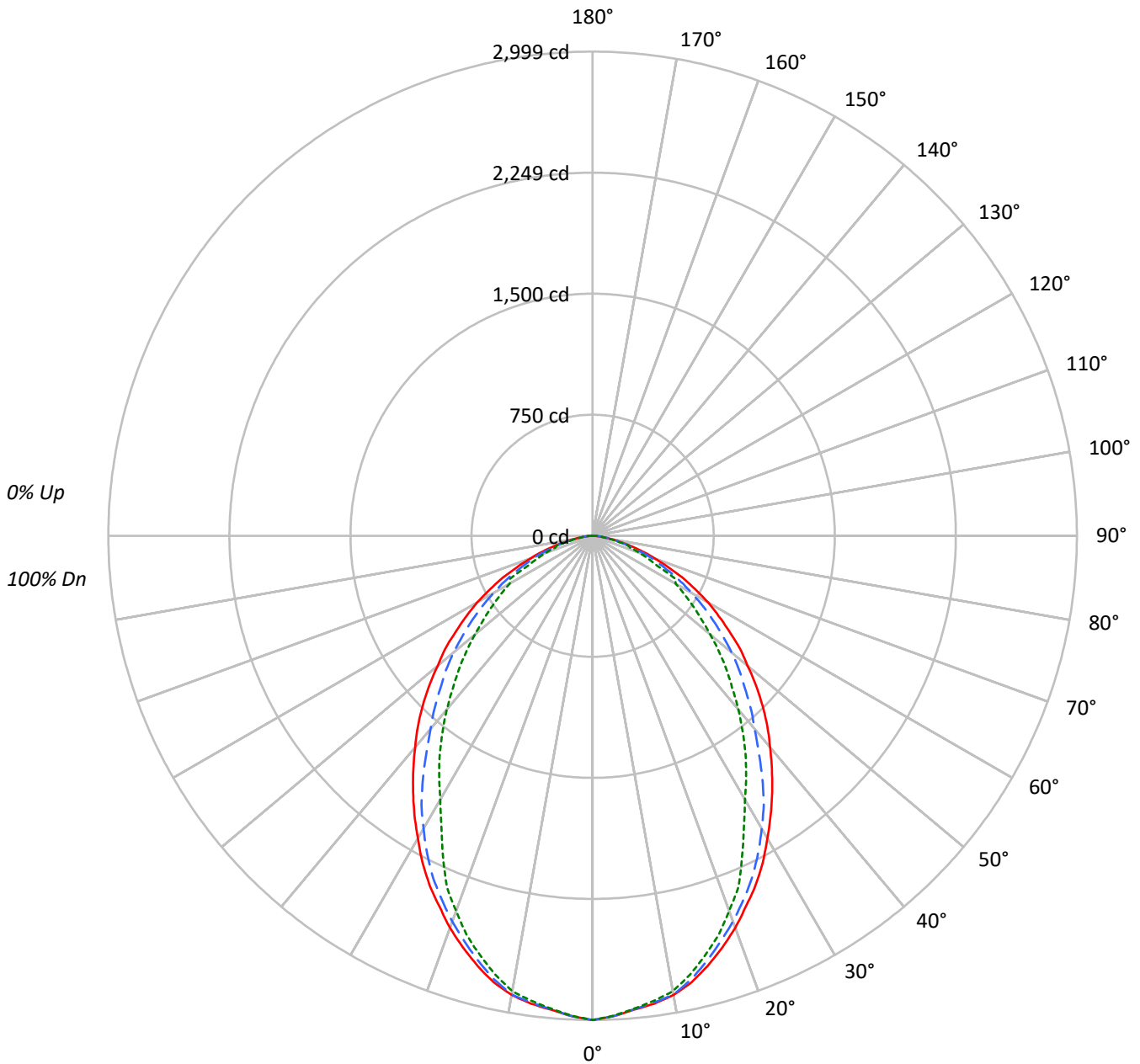
Lumens per Lamp: N/A  
Luminaire Lumens: 5888.0 lumens  
Efficiency: N/A  
Efficacy: 88.4 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 66.6  
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

TEST NUMBER: P546922

CATALOG NUMBER: FMR-24-4-LD4-2STD-40-UNV-82-87-EDD

### Luminous Intensity Polar Plot





TEST NUMBER: P546922

CATALOG NUMBER: FMR-24-4-LD4-2STD-40-UNV-82-87-EDD

**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°	4036	4036	4036
5°	3981	3976	3971
10°	3946	3941	3913
15°	3840	3801	3748
20°	3699	3639	3540
25°	3547	3469	3253
30°	3361	3254	2930
35°	3184	3007	2711
40°	3002	2741	2467
45°	2830	2534	2230
50°	2620	2352	1989
55°	2424	2131	1781
60°	2221	1903	1595
65°	1954	1667	1413
70°	1609	1459	1200
75°	1280	1118	1172
80°	860	806	752
85°	536	642	749



TEST NUMBER: P546922

CATALOG NUMBER: FMR-24-4-LD4-2STD-40-UNV-82-87-EDD

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	279.2	4.7
10°-20°	766.2	13.0
20°-30°	1060.8	18.0
30°-40°	1131.1	19.2
40°-50°	1031.9	17.5
50°-60°	808.4	13.7
60°-70°	526.9	8.9
70°-80°	233.4	4.0
80°-90°	50.1	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°	2106.2	35.8
0°-40°	3237.3	55.0
0°-60°	5077.6	86.2
0°-90°	5888.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5888.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2999	2999	2999	2999	2999	
5°	2947	2944	2944	2940	2940	280
15°	2757	2757	2729	2701	2691	775
25°	2389	2375	2337	2254	2191	1097
35°	1938	1924	1831	1692	1650	1212
45°	1488	1456	1332	1220	1172	1146
55°	1033	1002	908	801	759	927
65°	614	579	524	534	444	605
75°	246	229	215	205	225	264
85°	35	38	42	45	48	48
90°	0	0	0	0	0	



TEST NUMBER: P546922

CATALOG NUMBER: FMR-24-4-LD4-2STD-40-UNV-82-87-EDD

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2999.3	2999.3	2999.3	2999.3	2999.3
2.5°	2978.5	2978.5	2978.5	2975.0	2975.0
5°	2947.3	2943.8	2943.8	2940.3	2940.3
7.5°	2923.0	2919.5	2916.1	2912.6	2905.6
10°	2888.3	2888.3	2884.8	2867.5	2864.0
12.5°	2832.8	2829.4	2815.5	2791.2	2784.3
15°	2756.6	2756.6	2728.8	2701.1	2690.7
17.5°	2673.3	2669.9	2635.2	2607.5	2593.6
20°	2583.2	2576.3	2541.6	2496.5	2472.2
22.5°	2482.6	2482.6	2441.0	2382.1	2357.8
25°	2389.0	2375.1	2337.0	2253.8	2191.4
27.5°	2281.5	2260.7	2219.1	2101.2	2028.4
30°	2163.6	2153.2	2094.3	1941.7	1886.2
32.5°	2052.7	2035.3	1972.9	1813.4	1768.4
35°	1938.3	1924.4	1830.8	1692.1	1650.5
37.5°	1823.8	1806.5	1688.6	1577.6	1525.6
40°	1709.4	1688.6	1560.3	1459.8	1404.3
42.5°	1601.9	1574.2	1449.4	1341.9	1279.5
45°	1487.5	1456.3	1331.5	1220.5	1172.0
47.5°	1373.1	1345.3	1230.9	1116.5	1061.0
50°	1251.7	1227.4	1123.4	1009.0	950.1
52.5°	1151.2	1113.0	1012.5	898.0	849.5
55°	1033.3	1002.1	908.4	801.0	759.4
57.5°	925.8	894.6	807.9	707.3	672.7
60°	825.2	780.2	707.3	620.7	592.9
62.5°	714.3	679.6	617.2	544.4	579.0
65°	613.7	579.0	523.6	534.0	443.8
67.5°	502.8	485.4	436.9	388.3	374.5
70°	409.1	388.3	371.0	319.0	305.1
72.5°	325.9	305.1	280.9	253.1	242.7
75°	246.2	228.8	215.0	204.6	225.4
77.5°	169.9	163.0	152.6	142.2	138.7
80°	111.0	107.5	104.0	100.6	97.1
82.5°	65.9	65.9	65.9	65.9	65.9
85°	34.7	38.1	41.6	45.1	48.5
87.5°	20.8	20.8	24.3	27.7	31.2
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)