

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: P546890

Luminaire Tested: **FMR-24-4-LD4-2STD-35-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: P546890  
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-35-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 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

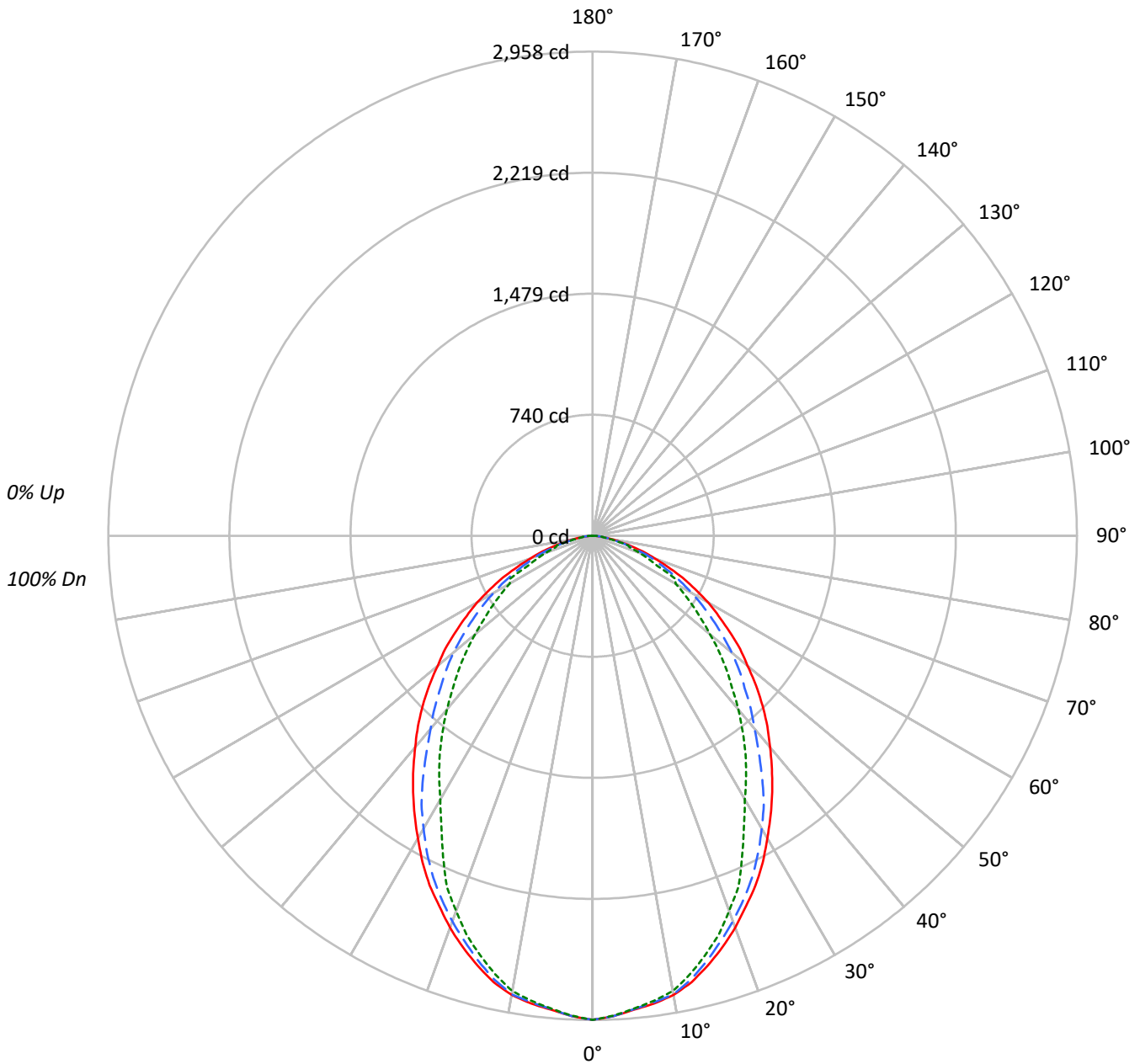
Lumens per Lamp: N/A  
Luminaire Lumens: 5806.0 lumens  
Efficiency: N/A  
Efficacy: 87.2 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 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

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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								
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°	3979	3979	3979
5°	3925	3921	3916
10°	3891	3887	3859
15°	3786	3748	3696
20°	3647	3588	3491
25°	3497	3421	3208
30°	3315	3208	2890
35°	3139	2965	2673
40°	2961	2702	2432
45°	2791	2498	2199
50°	2584	2319	1961
55°	2390	2101	1757
60°	2190	1877	1573
65°	1927	1644	1393
70°	1587	1439	1184
75°	1262	1102	1155
80°	848	795	742
85°	528	633	739



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	275.3	4.7
10°-20°	755.5	13.0
20°-30°	1046.0	18.0
30°-40°	1115.3	19.2
40°-50°	1017.5	17.5
50°-60°	797.1	13.7
60°-70°	519.5	8.9
70°-80°	230.2	4.0
80°-90°	49.4	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°	2076.9	35.8
0°-40°	3192.2	55.0
0°-60°	5006.9	86.2
0°-90°	5806.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5806.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2958	2958	2958	2958	2958	
5°	2906	2903	2903	2899	2899	276
15°	2718	2718	2691	2664	2653	764
25°	2356	2342	2304	2222	2161	1082
35°	1911	1898	1805	1668	1628	1195
45°	1467	1436	1313	1204	1156	1130
55°	1019	988	896	790	749	914
65°	605	571	516	526	438	596
75°	243	226	212	202	222	260
85°	34	38	41	44	48	47
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2957.5	2957.5	2957.5	2957.5	2957.5
2.5°	2937.0	2937.0	2937.0	2933.6	2933.6
5°	2906.2	2902.8	2902.8	2899.4	2899.4
7.5°	2882.3	2878.9	2875.4	2872.0	2865.2
10°	2848.1	2848.1	2844.7	2827.6	2824.2
12.5°	2793.4	2790.0	2776.3	2752.4	2745.5
15°	2718.2	2718.2	2690.8	2663.5	2653.2
17.5°	2636.1	2632.7	2598.5	2571.1	2557.5
20°	2547.2	2540.4	2506.2	2461.7	2437.8
22.5°	2448.1	2448.1	2407.0	2348.9	2325.0
25°	2355.7	2342.1	2304.5	2222.4	2160.9
27.5°	2249.8	2229.2	2188.2	2072.0	2000.2
30°	2133.5	2123.2	2065.1	1914.7	1860.0
32.5°	2024.1	2007.0	1945.5	1788.2	1743.7
35°	1911.3	1897.6	1805.3	1668.5	1627.5
37.5°	1798.4	1781.3	1665.1	1555.7	1504.4
40°	1685.6	1665.1	1538.6	1439.4	1384.7
42.5°	1579.6	1552.3	1429.2	1323.2	1261.6
45°	1466.8	1436.0	1312.9	1203.5	1155.6
47.5°	1354.0	1326.6	1213.8	1100.9	1046.2
50°	1234.3	1210.4	1107.8	995.0	936.8
52.5°	1135.1	1097.5	998.4	885.5	837.7
55°	1018.9	988.1	895.8	789.8	748.8
57.5°	912.9	882.1	796.6	697.5	663.3
60°	813.7	769.3	697.5	612.0	584.7
62.5°	704.3	670.1	608.6	536.8	571.0
65°	605.2	571.0	516.3	526.5	437.6
67.5°	495.8	478.7	430.8	382.9	369.3
70°	403.5	382.9	365.8	314.6	300.9
72.5°	321.4	300.9	276.9	249.6	239.3
75°	242.8	225.7	212.0	201.7	222.2
77.5°	167.5	160.7	150.4	140.2	136.8
80°	109.4	106.0	102.6	99.2	95.7
82.5°	65.0	65.0	65.0	65.0	65.0
85°	34.2	37.6	41.0	44.4	47.9
87.5°	20.5	20.5	23.9	27.4	30.8
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)