

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: P547083

Luminaire Tested: **FMR-24-4-LD4-3LO-35-UNV-82-88-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: P547083  
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-LD4-3LO-35-UNV-82-88-EDD  
Description: 2X4 FMR TROFFER WITH .187 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**

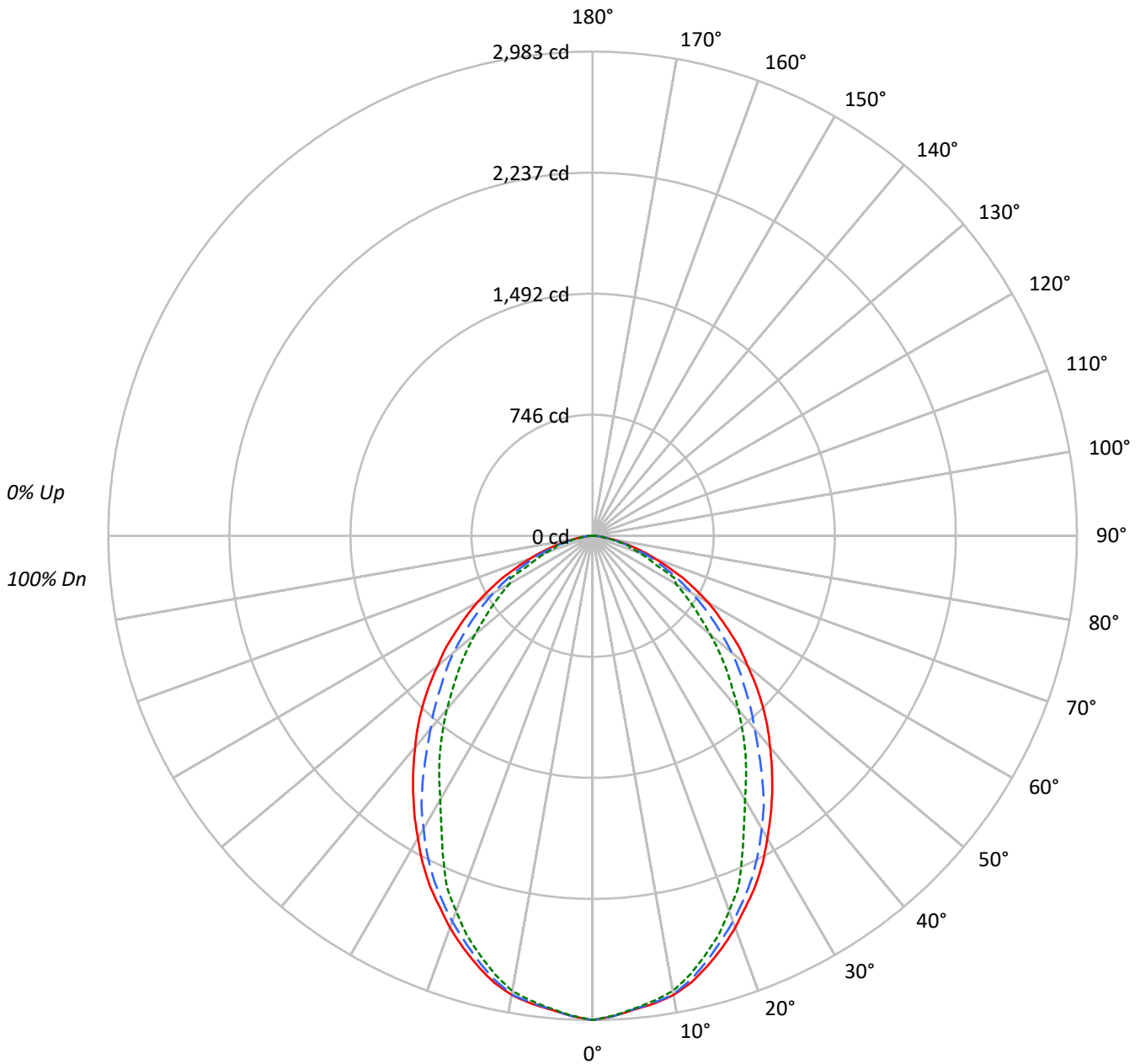
Lumens per Lamp: N/A  
Luminaire Lumens: 5856.0 lumens  
Efficiency: N/A  
Efficacy: 83.4 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 70.2  
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°	4014	4014	4014
5°	3959	3954	3950
10°	3925	3920	3892
15°	3819	3780	3728
20°	3679	3619	3521
25°	3527	3451	3236
30°	3343	3236	2915
35°	3166	2991	2696
40°	2986	2726	2453
45°	2815	2520	2218
50°	2606	2339	1978
55°	2411	2119	1772
60°	2208	1893	1587
65°	1943	1658	1405
70°	1601	1452	1194
75°	1273	1111	1166
80°	855	802	748
85°	533	639	746



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	277.7	4.7
10°-20°	762.1	13.0
20°-30°	1055.0	18.0
30°-40°	1124.9	19.2
40°-50°	1026.3	17.5
50°-60°	804.0	13.7
60°-70°	524.0	8.9
70°-80°	232.2	4.0
80°-90°	49.8	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°	2094.7	35.8
0°-40°	3219.7	55.0
0°-60°	5050.0	86.2
0°-90°	5856.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5856.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2983	2983	2983	2983	2983	
5°	2931	2928	2928	2924	2924	278
15°	2742	2742	2714	2686	2676	771
25°	2376	2362	2324	2242	2180	1091
35°	1928	1914	1821	1683	1642	1205
45°	1479	1448	1324	1214	1166	1140
55°	1028	997	904	797	755	922
65°	610	576	521	531	441	602
75°	245	228	214	204	224	262
85°	34	38	41	45	48	48
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2983.0	2983.0	2983.0	2983.0	2983.0
2.5°	2962.3	2962.3	2962.3	2958.8	2958.8
5°	2931.2	2927.8	2927.8	2924.3	2924.3
7.5°	2907.1	2903.7	2900.2	2896.8	2889.9
10°	2872.6	2872.6	2869.2	2851.9	2848.5
12.5°	2817.4	2814.0	2800.2	2776.1	2769.2
15°	2741.6	2741.6	2714.0	2686.4	2676.1
17.5°	2658.8	2655.4	2620.9	2593.3	2579.5
20°	2569.1	2562.2	2527.8	2482.9	2458.8
22.5°	2469.1	2469.1	2427.8	2369.1	2345.0
25°	2376.0	2362.2	2324.3	2241.5	2179.5
27.5°	2269.1	2248.4	2207.1	2089.8	2017.4
30°	2151.9	2141.5	2082.9	1931.2	1876.0
32.5°	2041.5	2024.3	1962.2	1803.6	1758.7
35°	1927.7	1913.9	1820.8	1682.9	1641.5
37.5°	1813.9	1796.7	1679.4	1569.1	1517.3
40°	1700.1	1679.4	1551.8	1451.8	1396.6
42.5°	1593.2	1565.6	1441.5	1334.6	1272.5
45°	1479.4	1448.4	1324.2	1213.9	1165.6
47.5°	1365.6	1338.0	1224.2	1110.4	1055.2
50°	1244.9	1220.8	1117.3	1003.5	944.9
52.5°	1144.9	1107.0	1007.0	893.2	844.9
55°	1027.7	996.6	903.5	796.6	755.2
57.5°	920.8	889.7	803.5	703.5	669.0
60°	820.7	775.9	703.5	617.3	589.7
62.5°	710.4	675.9	613.8	541.4	575.9
65°	610.4	575.9	520.7	531.1	441.4
67.5°	500.0	482.8	434.5	386.2	372.4
70°	406.9	386.2	369.0	317.3	303.5
72.5°	324.2	303.5	279.3	251.7	241.4
75°	244.8	227.6	213.8	203.5	224.2
77.5°	169.0	162.1	151.7	141.4	137.9
80°	110.4	106.9	103.5	100.0	96.6
82.5°	65.5	65.5	65.5	65.5	65.5
85°	34.5	37.9	41.4	44.8	48.3
87.5°	20.7	20.7	24.1	27.6	31.0
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)