

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: P547163

Luminaire Tested: **FMR-24-4-LD4-3STD-35-UNV-80-88-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: P547163  
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-LD4-3STD-35-UNV-80-88-EDD  
Description: 2X4 FMR TROFFER WITH .125 PRISMATIC ACRYLIC 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**

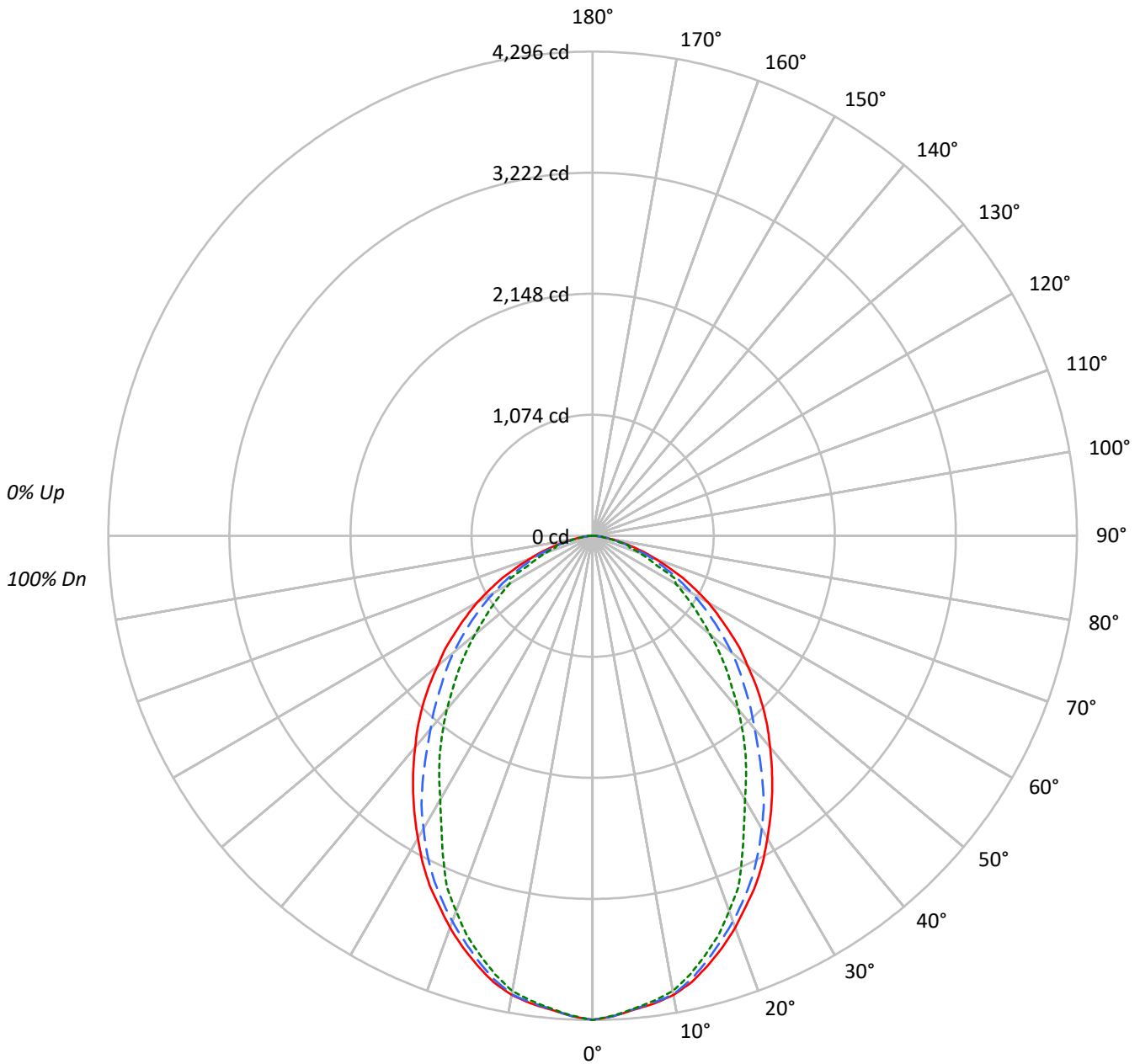
Lumens per Lamp: N/A  
Luminaire Lumens: 8433.0 lumens  
Efficiency: N/A  
Efficacy: 84.4 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 99.9  
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				100															
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87				87															
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75				75															
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65				65															
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56				56															
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50				50															
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44				44															
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40				40															
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36				36															
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33				33															
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30				30															

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

	0°	45°	90°
0°	5780	5780	5780
5°	5701	5695	5688
10°	5652	5645	5604
15°	5499	5444	5368
20°	5297	5212	5070
25°	5080	4969	4660
30°	4814	4660	4197
35°	4560	4307	3883
40°	4300	3925	3533
45°	4054	3629	3194
50°	3753	3368	2848
55°	3472	3052	2551
60°	3180	2726	2285
65°	2798	2387	2024
70°	2305	2090	1719
75°	1833	1601	1678
80°	1231	1155	1078
85°	767	920	1073



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	399.9	4.7
10°-20°	1097.4	13.0
20°-30°	1519.3	18.0
30°-40°	1620.0	19.2
40°-50°	1477.9	17.5
50°-60°	1157.8	13.7
60°-70°	754.6	8.9
70°-80°	334.3	4.0
80°-90°	71.8	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°	3016.6	35.8
0°-40°	4636.6	55.0
0°-60°	7272.3	86.2
0°-90°	8433.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8433.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	4296	4296	4296	4296	4296	
5°	4221	4216	4216	4211	4211	401
15°	3948	3948	3908	3869	3854	1110
25°	3422	3402	3347	3228	3139	1571
35°	2776	2756	2622	2423	2364	1736
45°	2130	2086	1907	1748	1678	1641
55°	1480	1435	1301	1147	1088	1327
65°	879	829	750	765	636	866
75°	353	328	308	293	323	378
85°	50	55	60	65	70	69
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	4295.7	4295.7	4295.7	4295.7	4295.7
2.5°	4265.9	4265.9	4265.9	4260.9	4260.9
5°	4221.2	4216.2	4216.2	4211.2	4211.2
7.5°	4186.4	4181.4	4176.5	4171.5	4161.6
10°	4136.7	4136.7	4131.8	4106.9	4102.0
12.5°	4057.3	4052.3	4032.5	3997.7	3987.8
15°	3948.0	3948.0	3908.3	3868.6	3853.7
17.5°	3828.8	3823.9	3774.2	3734.5	3714.6
20°	3699.7	3689.8	3640.1	3575.6	3540.8
22.5°	3555.7	3555.7	3496.1	3411.7	3376.9
25°	3421.6	3401.8	3347.1	3228.0	3138.6
27.5°	3267.7	3237.9	3178.3	3009.4	2905.2
30°	3098.8	3083.9	2999.5	2781.0	2701.5
32.5°	2939.9	2915.1	2825.7	2597.3	2532.7
35°	2776.0	2756.2	2622.1	2423.4	2363.9
37.5°	2612.2	2587.3	2418.5	2259.6	2185.1
40°	2448.3	2418.5	2234.7	2090.7	2011.3
42.5°	2294.3	2254.6	2075.8	1921.9	1832.5
45°	2130.4	2085.8	1907.0	1748.1	1678.5
47.5°	1966.6	1926.8	1763.0	1599.1	1519.6
50°	1792.8	1758.0	1609.0	1445.1	1360.7
52.5°	1648.7	1594.1	1450.1	1286.2	1216.7
55°	1479.9	1435.2	1301.1	1147.2	1087.6
57.5°	1325.9	1281.2	1157.1	1013.1	963.4
60°	1181.9	1117.4	1013.1	888.9	849.2
62.5°	1023.0	973.4	884.0	779.7	829.3
65°	879.0	829.3	749.9	764.8	635.7
67.5°	720.1	695.3	625.7	556.2	536.3
70°	586.0	556.2	531.4	456.9	437.0
72.5°	466.8	437.0	402.3	362.5	347.6
75°	352.6	327.8	307.9	293.0	322.8
77.5°	243.3	233.4	218.5	203.6	198.6
80°	158.9	153.9	149.0	144.0	139.1
82.5°	94.4	94.4	94.4	94.4	94.4
85°	49.7	54.6	59.6	64.6	69.5
87.5°	29.8	29.8	34.8	39.7	44.7
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)