

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: P546780

Luminaire Tested: **FMR-24-4-LD4-2LO-35-UNV-80-94-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: P546780  
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-LD4-2LO-35-UNV-80-94-EDD  
Description: 2X4 FMR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .187 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

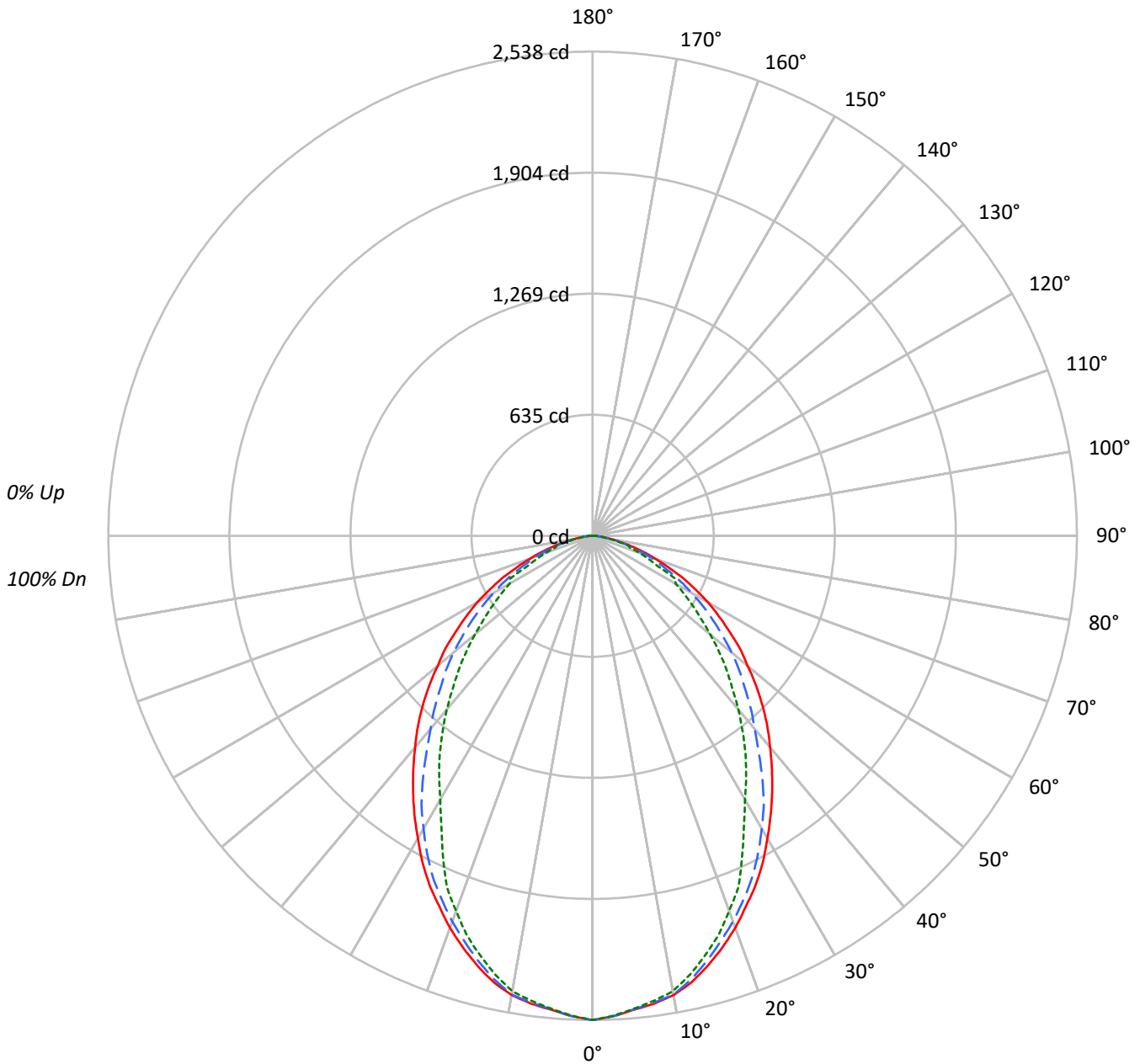
Lumens per Lamp: N/A  
Luminaire Lumens: 4983.0 lumens  
Efficiency: N/A  
Efficacy: 106.5 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 46.8  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): 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°	3415	3415	3415
5°	3369	3365	3361
10°	3340	3336	3312
15°	3250	3217	3172
20°	3130	3080	2996
25°	3002	2936	2753
30°	2845	2754	2480
35°	2694	2545	2294
40°	2541	2319	2087
45°	2395	2144	1887
50°	2217	1990	1683
55°	2051	1803	1507
60°	1879	1611	1350
65°	1654	1411	1196
70°	1362	1235	1016
75°	1083	946	991
80°	728	682	637
85°	452	543	634



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	236.3	4.7
10°-20°	648.4	13.0
20°-30°	897.7	18.0
30°-40°	957.2	19.2
40°-50°	873.3	17.5
50°-60°	684.1	13.7
60°-70°	445.9	8.9
70°-80°	197.5	4.0
80°-90°	42.4	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°	1782.5	35.8
0°-40°	2739.7	55.0
0°-60°	4297.1	86.2
0°-90°	4983.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4983.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2538	2538	2538	2538	2538	
5°	2494	2491	2491	2488	2488	237
15°	2333	2333	2309	2286	2277	656
25°	2022	2010	1978	1907	1855	928
35°	1640	1629	1549	1432	1397	1026
45°	1259	1232	1127	1033	992	970
55°	874	848	769	678	643	784
65°	519	490	443	452	376	512
75°	208	194	182	173	191	223
85°	29	32	35	38	41	41
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2538.3	2538.3	2538.3	2538.3	2538.3
2.5°	2520.7	2520.7	2520.7	2517.7	2517.7
5°	2494.3	2491.3	2491.3	2488.4	2488.4
7.5°	2473.7	2470.8	2467.8	2464.9	2459.0
10°	2444.4	2444.4	2441.4	2426.8	2423.8
12.5°	2397.4	2394.5	2382.7	2362.2	2356.3
15°	2332.9	2332.9	2309.4	2285.9	2277.1
17.5°	2262.4	2259.5	2230.2	2206.7	2194.9
20°	2186.1	2180.3	2150.9	2112.8	2092.2
22.5°	2101.0	2101.0	2065.8	2015.9	1995.4
25°	2021.8	2010.1	1977.8	1907.4	1854.6
27.5°	1930.8	1913.2	1878.0	1778.3	1716.6
30°	1831.1	1822.3	1772.4	1643.3	1596.3
32.5°	1737.2	1722.5	1669.7	1534.7	1496.6
35°	1640.3	1628.6	1549.4	1432.0	1396.8
37.5°	1543.5	1528.8	1429.1	1335.2	1291.1
40°	1446.7	1429.1	1320.5	1235.4	1188.4
42.5°	1355.7	1332.2	1226.6	1135.6	1082.8
45°	1258.9	1232.5	1126.8	1032.9	991.8
47.5°	1162.0	1138.6	1041.7	944.9	897.9
50°	1059.3	1038.8	950.8	853.9	804.0
52.5°	974.2	941.9	856.9	760.0	718.9
55°	874.5	848.0	768.8	677.9	642.6
57.5°	783.5	757.1	683.7	598.6	569.3
60°	698.4	660.2	598.6	525.3	501.8
62.5°	604.5	575.1	522.3	460.7	490.0
65°	519.4	490.0	443.1	451.9	375.6
67.5°	425.5	410.8	369.7	328.7	316.9
70°	346.3	328.7	314.0	270.0	258.2
72.5°	275.8	258.2	237.7	214.2	205.4
75°	208.3	193.7	181.9	173.1	190.7
77.5°	143.8	137.9	129.1	120.3	117.4
80°	93.9	91.0	88.0	85.1	82.2
82.5°	55.8	55.8	55.8	55.8	55.8
85°	29.3	32.3	35.2	38.1	41.1
87.5°	17.6	17.6	20.5	23.5	26.4
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)