

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: P546795

Luminaire Tested: **FMR-24-4-LD4-2LO-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: P546795  
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-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**

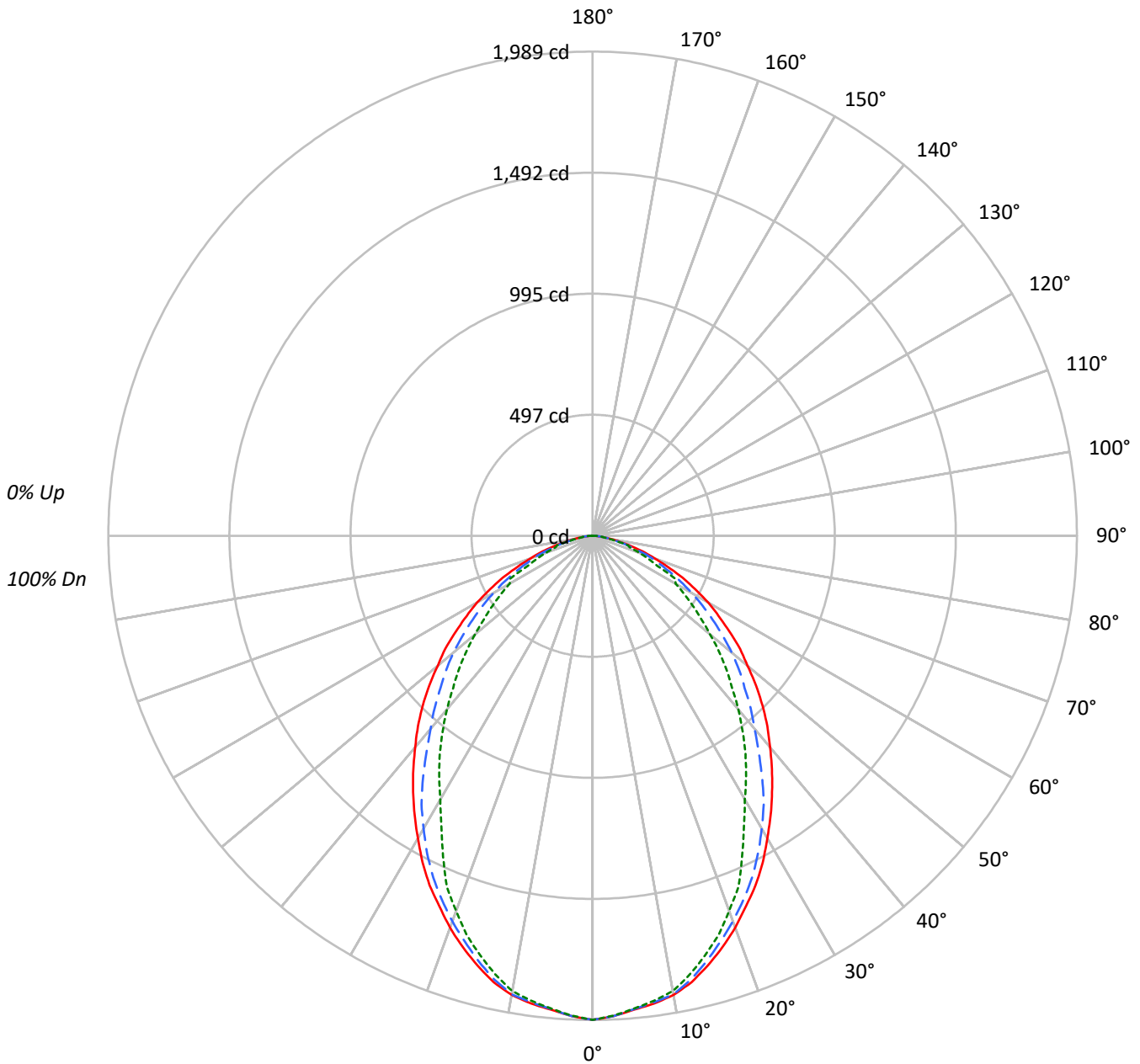
Lumens per Lamp: N/A  
Luminaire Lumens: 3904.0 lumens  
Efficiency: N/A  
Efficacy: 83.4 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 46.8  
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																			
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°	2676	2676	2676
5°	2639	2636	2633
10°	2616	2613	2595
15°	2546	2520	2485
20°	2452	2413	2347
25°	2352	2300	2157
30°	2229	2157	1943
35°	2111	1994	1797
40°	1991	1817	1635
45°	1877	1680	1479
50°	1737	1559	1319
55°	1607	1413	1181
60°	1473	1262	1058
65°	1295	1105	937
70°	1067	968	796
75°	848	741	777
80°	570	535	499
85°	355	426	497



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	185.1	4.7
10°-20°	508.0	13.0
20°-30°	703.3	18.0
30°-40°	750.0	19.2
40°-50°	684.2	17.5
50°-60°	536.0	13.7
60°-70°	349.3	8.9
70°-80°	154.8	4.0
80°-90°	33.2	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°	1396.5	35.8
0°-40°	2146.5	55.0
0°-60°	3366.7	86.2
0°-90°	3904.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3904.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1989	1989	1989	1989	1989	
5°	1954	1952	1952	1950	1950	185
15°	1828	1828	1809	1791	1784	514
25°	1584	1575	1550	1494	1453	727
35°	1285	1276	1214	1122	1094	803
45°	986	966	883	809	777	760
55°	685	664	602	531	504	614
65°	407	384	347	354	294	401
75°	163	152	142	136	149	175
85°	23	25	28	30	32	32
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1988.6	1988.6	1988.6	1988.6	1988.6
2.5°	1974.9	1974.9	1974.9	1972.6	1972.6
5°	1954.2	1951.9	1951.9	1949.6	1949.6
7.5°	1938.1	1935.8	1933.5	1931.2	1926.6
10°	1915.1	1915.1	1912.8	1901.3	1899.0
12.5°	1878.3	1876.0	1866.8	1850.7	1846.1
15°	1827.7	1827.7	1809.3	1790.9	1784.0
17.5°	1772.5	1770.2	1747.2	1728.9	1719.7
20°	1712.8	1708.2	1685.2	1655.3	1639.2
22.5°	1646.1	1646.1	1618.5	1579.4	1563.3
25°	1584.0	1574.8	1549.5	1494.4	1453.0
27.5°	1512.7	1499.0	1471.4	1393.2	1344.9
30°	1434.6	1427.7	1388.6	1287.4	1250.7
32.5°	1361.0	1349.5	1308.1	1202.4	1172.5
35°	1285.1	1276.0	1213.9	1121.9	1094.3
37.5°	1209.3	1197.8	1119.6	1046.1	1011.6
40°	1133.4	1119.6	1034.6	967.9	931.1
42.5°	1062.1	1043.8	961.0	889.7	848.3
45°	986.3	965.6	882.8	809.3	777.1
47.5°	910.4	892.0	816.1	740.3	703.5
50°	829.9	813.9	744.9	669.0	629.9
52.5°	763.3	738.0	671.3	595.4	563.3
55°	685.1	664.4	602.3	531.1	503.5
57.5°	613.8	593.1	535.7	469.0	446.0
60°	547.2	517.3	469.0	411.5	393.1
62.5°	473.6	450.6	409.2	360.9	383.9
65°	406.9	383.9	347.2	354.0	294.3
67.5°	333.4	321.9	289.7	257.5	248.3
70°	271.3	257.5	246.0	211.5	202.3
72.5°	216.1	202.3	186.2	167.8	160.9
75°	163.2	151.7	142.5	135.6	149.4
77.5°	112.7	108.1	101.2	94.3	92.0
80°	73.6	71.3	69.0	66.7	64.4
82.5°	43.7	43.7	43.7	43.7	43.7
85°	23.0	25.3	27.6	29.9	32.2
87.5°	13.8	13.8	16.1	18.4	20.7
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)