

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: P547160

Luminaire Tested: **FMR-24-4-LD4-3STD-35-UNV-80-85-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: P547160  
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-80-85-EDD  
Description: 2X4 FMR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

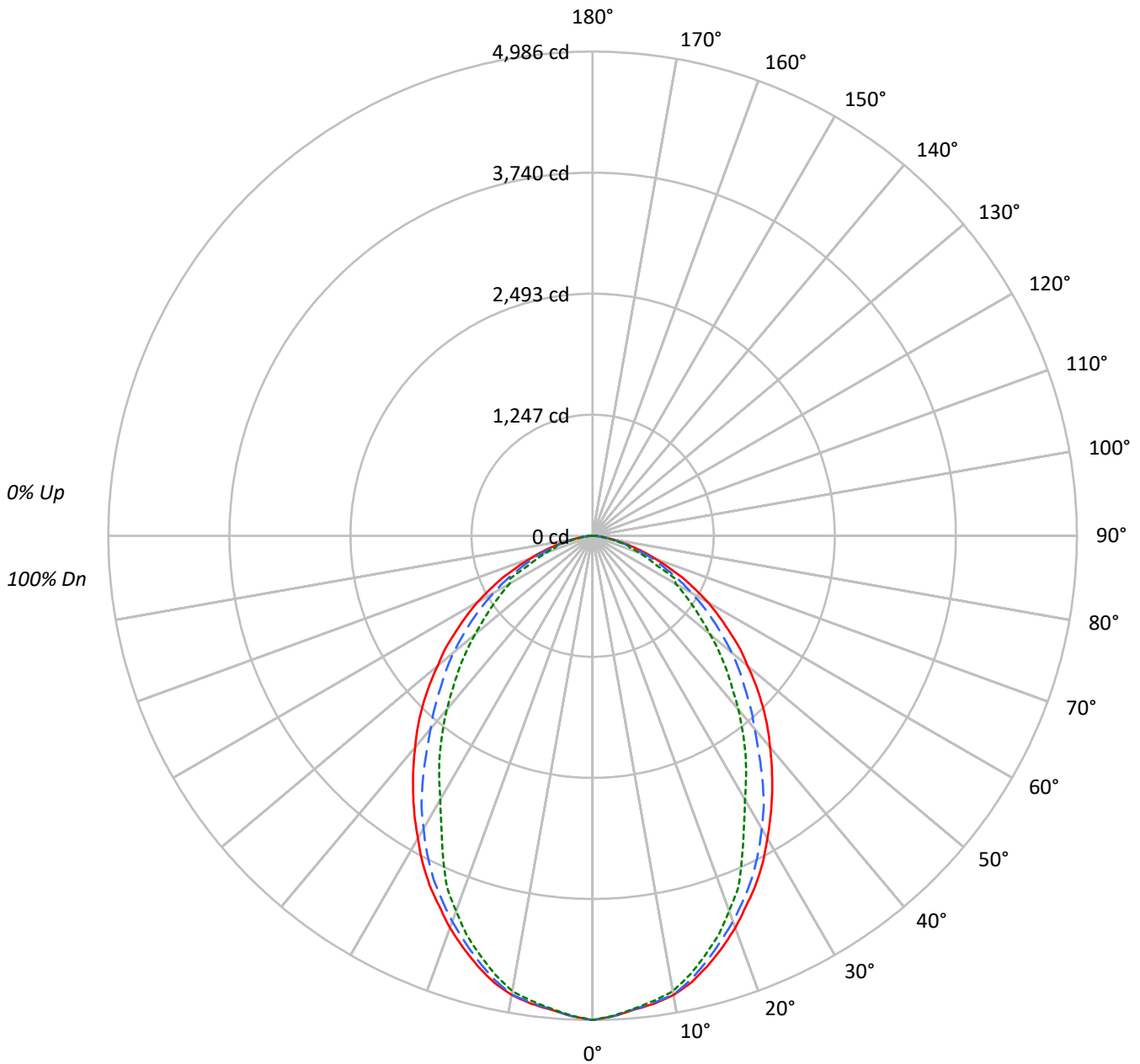
Lumens per Lamp: N/A  
Luminaire Lumens: 9789.0 lumens  
Efficiency: N/A  
Efficacy: 98.0 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

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																			
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°	6709	6709	6709
5°	6618	6610	6602
10°	6561	6553	6506
15°	6384	6319	6231
20°	6149	6050	5885
25°	5896	5768	5409
30°	5589	5409	4872
35°	5293	4999	4507
40°	4992	4556	4101
45°	4706	4212	3707
50°	4356	3909	3306
55°	4030	3543	2961
60°	3692	3165	2652
65°	3248	2771	2349
70°	2676	2426	1996
75°	2128	1858	1948
80°	1430	1340	1251
85°	889	1068	1246



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	464.2	4.7
10°-20°	1273.9	13.0
20°-30°	1763.6	18.0
30°-40°	1880.5	19.2
40°-50°	1715.5	17.5
50°-60°	1344.0	13.7
60°-70°	875.9	8.9
70°-80°	388.1	4.0
80°-90°	83.3	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°	3501.6	35.8
0°-40°	5382.1	55.0
0°-60°	8441.6	86.2
0°-90°	9789.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9789.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	4986	4986	4986	4986	4986	
5°	4900	4894	4894	4888	4888	465
15°	4583	4583	4537	4491	4473	1288
25°	3972	3949	3885	3747	3643	1823
35°	3222	3199	3044	2813	2744	2015
45°	2473	2421	2214	2029	1948	1905
55°	1718	1666	1510	1332	1262	1541
65°	1020	963	870	888	738	1006
75°	409	380	357	340	375	439
85°	58	63	69	75	81	80
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	4986.4	4986.4	4986.4	4986.4	4986.4
2.5°	4951.8	4951.8	4951.8	4946.0	4946.0
5°	4899.9	4894.2	4894.2	4888.4	4888.4
7.5°	4859.6	4853.8	4848.0	4842.3	4830.7
10°	4801.9	4801.9	4796.2	4767.3	4761.6
12.5°	4709.7	4703.9	4680.9	4640.5	4629.0
15°	4582.9	4582.9	4536.7	4490.6	4473.3
17.5°	4444.5	4438.7	4381.1	4335.0	4311.9
20°	4294.6	4283.1	4225.5	4150.5	4110.2
22.5°	4127.5	4127.5	4058.3	3960.3	3919.9
25°	3971.8	3948.8	3885.3	3747.0	3643.2
27.5°	3793.1	3758.5	3689.3	3493.4	3372.3
30°	3597.1	3579.8	3481.8	3228.2	3135.9
32.5°	3412.6	3383.8	3280.1	3014.9	2940.0
35°	3222.4	3199.4	3043.7	2813.1	2744.0
37.5°	3032.2	3003.4	2807.4	2622.9	2536.4
40°	2842.0	2807.4	2594.1	2426.9	2334.7
42.5°	2663.2	2617.1	2409.6	2230.9	2127.1
45°	2473.0	2421.1	2213.6	2029.1	1948.4
47.5°	2282.8	2236.7	2046.4	1856.2	1764.0
50°	2081.0	2040.7	1867.7	1677.5	1579.5
52.5°	1913.8	1850.4	1683.3	1493.0	1412.3
55°	1717.9	1666.0	1510.3	1331.6	1262.4
57.5°	1539.2	1487.3	1343.2	1176.0	1118.3
60°	1372.0	1297.0	1176.0	1031.9	985.7
62.5°	1187.5	1129.9	1026.1	905.0	962.7
65°	1020.3	962.7	870.5	887.7	737.9
67.5°	835.9	807.0	726.3	645.6	622.6
70°	680.2	645.6	616.8	530.3	507.3
72.5°	541.9	507.3	466.9	420.8	403.5
75°	409.3	380.5	357.4	340.1	374.7
77.5°	282.5	270.9	253.6	236.3	230.6
80°	184.5	178.7	172.9	167.2	161.4
82.5°	109.5	109.5	109.5	109.5	109.5
85°	57.6	63.4	69.2	74.9	80.7
87.5°	34.6	34.6	40.4	46.1	51.9
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)