

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: P547169

Luminaire Tested: **FMR-24-4-LD4-3STD-35-UNV-81-86-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: P547169  
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-81-86-EDD  
Description: 2X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

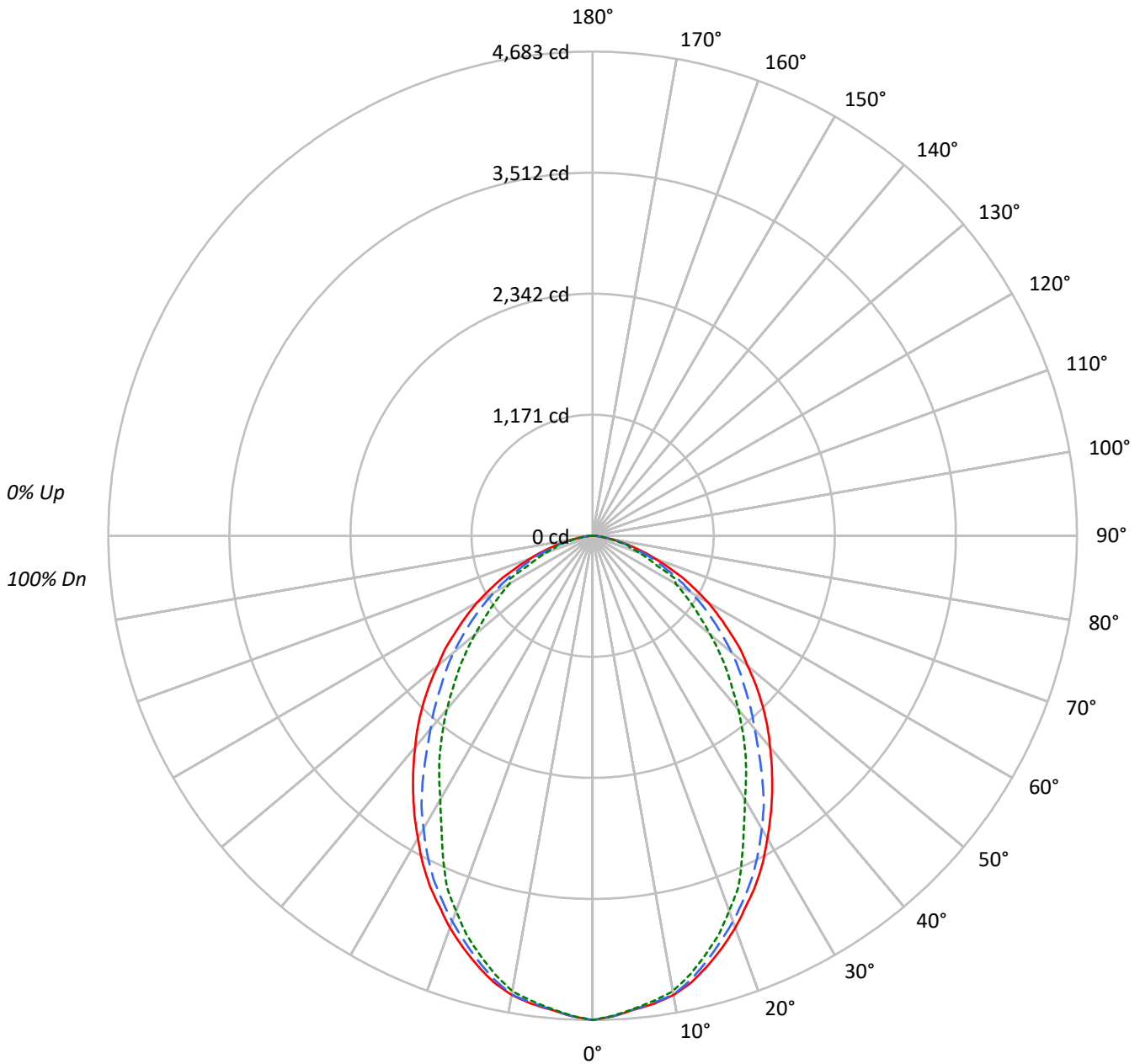
Lumens per Lamp: N/A  
Luminaire Lumens: 9194.0 lumens  
Efficiency: N/A  
Efficacy: 92.0 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

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°	6301	6301	6301
5°	6216	6208	6201
10°	6162	6154	6110
15°	5996	5935	5852
20°	5775	5682	5527
25°	5538	5418	5080
30°	5249	5081	4576
35°	4971	4696	4233
40°	4688	4279	3851
45°	4420	3956	3482
50°	4091	3672	3105
55°	3785	3328	2781
60°	3468	2972	2491
65°	3051	2603	2206
70°	2513	2279	1875
75°	1998	1745	1829
80°	1343	1258	1175
85°	835	1003	1170



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	436.0	4.7
10°-20°	1196.4	13.0
20°-30°	1656.4	18.0
30°-40°	1766.2	19.2
40°-50°	1611.3	17.5
50°-60°	1262.3	13.7
60°-70°	822.7	8.9
70°-80°	364.5	4.0
80°-90°	78.3	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°	3288.8	35.8
0°-40°	5054.9	55.0
0°-60°	7928.5	86.2
0°-90°	9194.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9194.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	4683	4683	4683	4683	4683	
5°	4602	4597	4597	4591	4591	437
15°	4304	4304	4261	4218	4201	1210
25°	3730	3709	3649	3519	3422	1713
35°	3026	3005	2859	2642	2577	1892
45°	2323	2274	2079	1906	1830	1789
55°	1613	1565	1418	1251	1186	1447
65°	958	904	818	834	693	944
75°	384	357	336	319	352	412
85°	54	60	65	70	76	75
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	4683.3	4683.3	4683.3	4683.3	4683.3
2.5°	4650.8	4650.8	4650.8	4645.4	4645.4
5°	4602.1	4596.7	4596.7	4591.3	4591.3
7.5°	4564.2	4558.8	4553.4	4547.9	4537.1
10°	4510.0	4510.0	4504.6	4477.6	4472.1
12.5°	4423.4	4418.0	4396.3	4358.4	4347.6
15°	4304.3	4304.3	4261.0	4217.7	4201.4
17.5°	4174.4	4168.9	4114.8	4071.5	4049.8
20°	4033.6	4022.8	3968.6	3898.2	3860.3
22.5°	3876.6	3876.6	3811.6	3719.6	3681.7
25°	3730.4	3708.7	3649.2	3519.2	3421.8
27.5°	3562.6	3530.1	3465.1	3281.0	3167.3
30°	3378.5	3362.2	3270.2	3032.0	2945.3
32.5°	3205.2	3178.1	3080.7	2831.6	2761.3
35°	3026.5	3004.9	2858.7	2642.1	2577.2
37.5°	2847.9	2820.8	2636.7	2463.5	2382.3
40°	2669.2	2636.7	2436.4	2279.4	2192.8
42.5°	2501.4	2458.1	2263.1	2095.3	1997.8
45°	2322.7	2274.0	2079.1	1905.8	1830.0
47.5°	2144.0	2100.7	1922.0	1743.4	1656.8
50°	1954.5	1916.6	1754.2	1575.5	1483.5
52.5°	1797.5	1738.0	1581.0	1402.3	1326.5
55°	1613.4	1564.7	1418.5	1250.7	1185.7
57.5°	1445.6	1396.9	1261.5	1104.5	1050.4
60°	1288.6	1218.2	1104.5	969.1	925.8
62.5°	1115.3	1061.2	963.7	850.0	904.2
65°	958.3	904.2	817.5	833.8	693.0
67.5°	785.1	758.0	682.2	606.4	584.7
70°	638.9	606.4	579.3	498.1	476.5
72.5°	508.9	476.5	438.6	395.2	379.0
75°	384.4	357.3	335.7	319.4	351.9
77.5°	265.3	254.5	238.2	222.0	216.6
80°	173.3	167.8	162.4	157.0	151.6
82.5°	102.9	102.9	102.9	102.9	102.9
85°	54.1	59.6	65.0	70.4	75.8
87.5°	32.5	32.5	37.9	43.3	48.7
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)