

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: P589264

Luminaire Tested: **FMR-24-2-LD4-2STD-50-UNV-93-87-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P589264  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-1)  
Test Lab: INNOVATION CENTER  
Issue Date: 12/8/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: FMR-24-2-LD4-2STD-50-UNV-93-87-EDD  
Description: 2X2 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

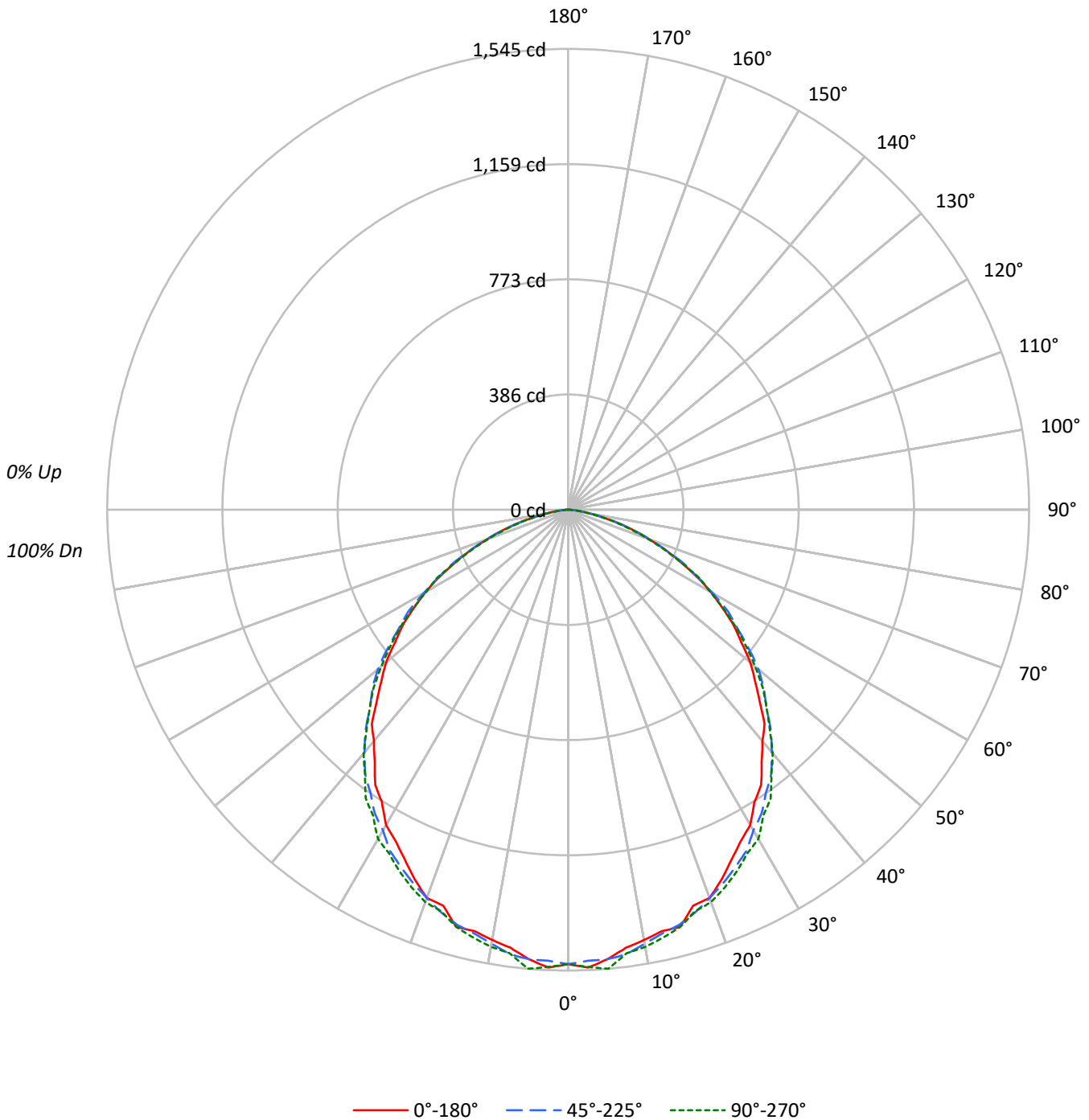
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3839.0 lumens  
Efficiency: N/A  
Efficacy: 115.3 lumens/watt  
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33  
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')  
CIE Type: Direct  
  
Input Watts (W): 33.3  
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				20	
RC	80				70				50				30				10	0
RW	70	50	30	10	70	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	105	101	98	107	103	100	96	99	96	93	95	93	90	91	90	88	86
2	100	93	86	81	98	91	85	80	87	82	78	84	80	76	81	78	75	73
3	92	82	74	68	89	80	73	67	77	71	66	75	69	65	72	68	64	62
4	84	73	64	58	82	71	64	58	69	62	57	67	61	56	65	59	55	53
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48	46
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	53	47	43	41
7	67	53	45	39	65	53	45	39	51	44	39	50	43	38	48	42	38	36
8	62	49	41	35	61	48	40	35	47	40	34	46	39	34	44	39	34	32
9	58	45	37	31	57	44	37	31	43	36	31	42	36	31	41	35	31	29
10	54	41	34	29	53	41	33	28	40	33	28	39	33	28	38	32	28	26

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

	0°	45°	90°
0°	4099	4099	4099
5°	4085	4087	4173
10°	4003	4038	4066
15°	4034	4012	4035
20°	3966	3966	4008
25°	3844	3928	3972
30°	3791	3858	3961
35°	3702	3799	3884
40°	3558	3729	3746
45°	3451	3573	3578
50°	3337	3488	3421
55°	3179	3241	3218
60°	2973	3003	2949
65°	2651	2719	2632
70°	2275	2282	2219
75°	1802	1798	1728
80°	1207	1173	1128
85°	655	648	608



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	143.3	3.7
10°-20°	406.1	10.6
20°-30°	608.4	15.8
30°-40°	721.1	18.8
40°-50°	722.4	18.8
50°-60°	613.2	16.0
60°-70°	413.4	10.8
70°-80°	181.7	4.7
80°-90°	29.5	0.8
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°	1157.7	30.2
0°-40°	1878.8	48.9
0°-60°	3214.4	83.7
0°-90°	3839.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3839.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1523	1523	1523	1523	1523	
5°	1512	1509	1513	1508	1545	143
15°	1448	1431	1440	1448	1448	403
25°	1295	1302	1323	1340	1338	599
35°	1127	1130	1156	1183	1182	700
45°	907	924	939	963	940	701
55°	678	673	691	686	686	603
65°	416	411	427	411	413	414
75°	173	170	173	161	166	186
85°	21	21	21	20	20	31
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1523.2	1523.2	1523.2	1523.2	1523.2
2.5°	1536.4	1524.8	1514.0	1526.6	1534.2
5°	1512.4	1508.9	1513.0	1508.5	1544.9
7.5°	1481.3	1494.9	1502.8	1497.8	1500.0
10°	1464.8	1460.1	1477.6	1489.8	1488.0
12.5°	1447.1	1454.2	1455.2	1468.3	1469.5
15°	1448.1	1431.4	1440.2	1447.7	1448.3
17.5°	1391.8	1409.9	1416.0	1433.1	1411.9
20°	1385.0	1371.8	1385.0	1402.5	1399.7
22.5°	1342.7	1327.9	1356.2	1371.8	1370.8
25°	1294.7	1301.8	1323.0	1340.3	1337.6
27.5°	1252.6	1260.9	1291.1	1314.9	1299.6
30°	1220.1	1216.0	1241.6	1262.8	1274.6
32.5°	1162.1	1177.1	1207.0	1228.0	1216.8
35°	1126.9	1130.3	1156.4	1183.2	1182.4
37.5°	1065.4	1080.9	1117.7	1125.2	1118.3
40°	1012.9	1028.4	1061.6	1069.7	1066.4
42.5°	974.1	976.9	1005.4	1014.6	999.9
45°	906.7	923.6	938.9	963.1	940.3
47.5°	849.2	857.1	890.1	896.6	884.6
50°	797.1	799.9	833.1	825.0	817.2
52.5°	731.6	743.2	761.9	760.3	751.1
55°	677.7	673.2	690.9	686.2	686.0
57.5°	613.0	620.9	635.4	628.0	616.0
60°	552.4	552.6	558.0	549.5	547.9
62.5°	485.0	487.4	488.5	478.1	495.0
65°	416.4	410.8	427.0	410.6	413.4
67.5°	353.2	356.0	354.4	344.2	348.1
70°	289.1	292.6	290.1	278.5	282.0
72.5°	230.5	226.2	228.9	214.4	221.1
75°	173.3	169.7	172.9	160.7	166.2
77.5°	118.0	120.8	118.8	112.3	116.0
80°	77.9	75.7	75.7	72.0	72.8
82.5°	45.4	43.3	42.7	41.5	43.3
85°	21.2	20.7	21.0	20.5	19.7
87.5°	7.7	7.9	7.9	7.5	7.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)