

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: P589261

Luminaire Tested: **FMR-24-2-LD4-2STD-50-UNV-93-84-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P589261  
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-93-84-EDD  
Description: 2X2 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

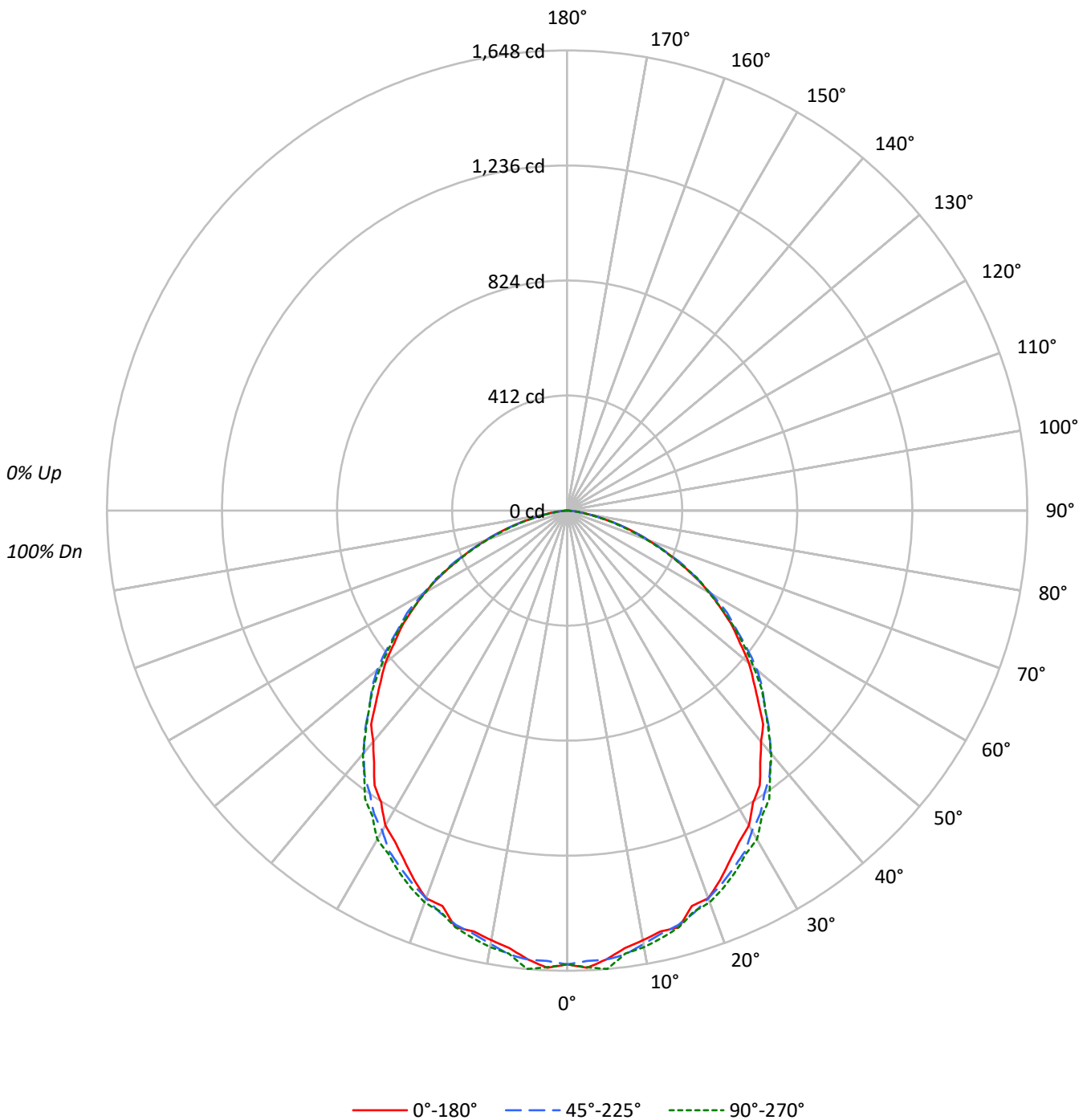
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4095.0 lumens  
Efficiency: N/A  
Efficacy: 123.0 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°	4372	4372	4372
5°	4358	4360	4451
10°	4270	4307	4337
15°	4303	4280	4304
20°	4231	4231	4275
25°	4100	4190	4236
30°	4044	4115	4225
35°	3949	4052	4143
40°	3795	3978	3996
45°	3680	3811	3817
50°	3560	3720	3649
55°	3392	3458	3433
60°	3172	3203	3146
65°	2828	2900	2808
70°	2426	2434	2367
75°	1921	1917	1843
80°	1288	1252	1203
85°	701	692	648



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	152.8	3.7
10°-20°	433.2	10.6
20°-30°	649.0	15.8
30°-40°	769.1	18.8
40°-50°	770.6	18.8
50°-60°	654.1	16.0
60°-70°	441.0	10.8
70°-80°	193.8	4.7
80°-90°	31.5	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°	1235.0	30.2
0°-40°	2004.1	48.9
0°-60°	3428.8	83.7
0°-90°	4095.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4095.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1625	1625	1625	1625	1625	
5°	1613	1610	1614	1609	1648	152
15°	1545	1527	1536	1544	1545	430
25°	1381	1389	1411	1430	1427	638
35°	1202	1206	1234	1262	1261	746
45°	967	985	1002	1027	1003	748
55°	723	718	737	732	732	643
65°	444	438	455	438	441	442
75°	185	181	184	171	177	198
85°	23	22	22	22	21	33
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1624.8	1624.8	1624.8	1624.8	1624.8
2.5°	1638.8	1626.5	1614.9	1628.4	1636.5
5°	1613.3	1609.5	1613.9	1609.1	1647.9
7.5°	1580.1	1594.6	1603.0	1597.7	1600.0
10°	1562.5	1557.5	1576.1	1589.1	1587.2
12.5°	1543.6	1551.2	1552.2	1566.3	1567.5
15°	1544.7	1526.8	1536.3	1544.2	1544.9
17.5°	1484.7	1504.0	1510.5	1528.7	1506.1
20°	1477.3	1463.3	1477.3	1496.0	1493.0
22.5°	1432.2	1416.5	1446.7	1463.3	1462.2
25°	1381.0	1388.6	1411.2	1429.7	1426.8
27.5°	1336.1	1344.9	1377.2	1402.6	1386.3
30°	1301.5	1297.1	1324.4	1347.0	1359.6
32.5°	1239.6	1255.6	1287.5	1309.9	1297.9
35°	1202.1	1205.6	1233.5	1262.1	1261.2
37.5°	1136.4	1153.0	1192.2	1200.2	1192.8
40°	1080.4	1097.0	1132.4	1141.0	1137.5
42.5°	1039.1	1042.0	1072.4	1082.3	1066.6
45°	967.1	985.2	1001.5	1027.3	1003.0
47.5°	905.9	914.2	949.5	956.4	943.6
50°	850.3	853.2	888.7	880.1	871.7
52.5°	780.4	792.8	812.7	811.0	801.2
55°	722.9	718.1	737.0	731.9	731.7
57.5°	653.9	662.3	677.8	669.8	657.0
60°	589.3	589.5	595.2	586.1	584.5
62.5°	517.3	519.8	521.1	510.0	528.0
65°	444.1	438.2	455.4	438.0	441.0
67.5°	376.8	379.7	378.0	367.1	371.3
70°	308.4	312.2	309.4	297.1	300.8
72.5°	245.9	241.3	244.2	228.7	235.8
75°	184.8	181.0	184.4	171.4	177.3
77.5°	125.9	128.8	126.7	119.8	123.8
80°	83.1	80.8	80.8	76.8	77.6
82.5°	48.5	46.2	45.5	44.3	46.2
85°	22.7	22.0	22.4	21.8	21.0
87.5°	8.2	8.4	8.4	8.0	7.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)