

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: P589056

Luminaire Tested: **FMR-24-2-LD4-2HI-50-UNV-81-87-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P589056  
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-LD4-2HI-50-UNV-81-87-EDD  
Description: 2X2 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

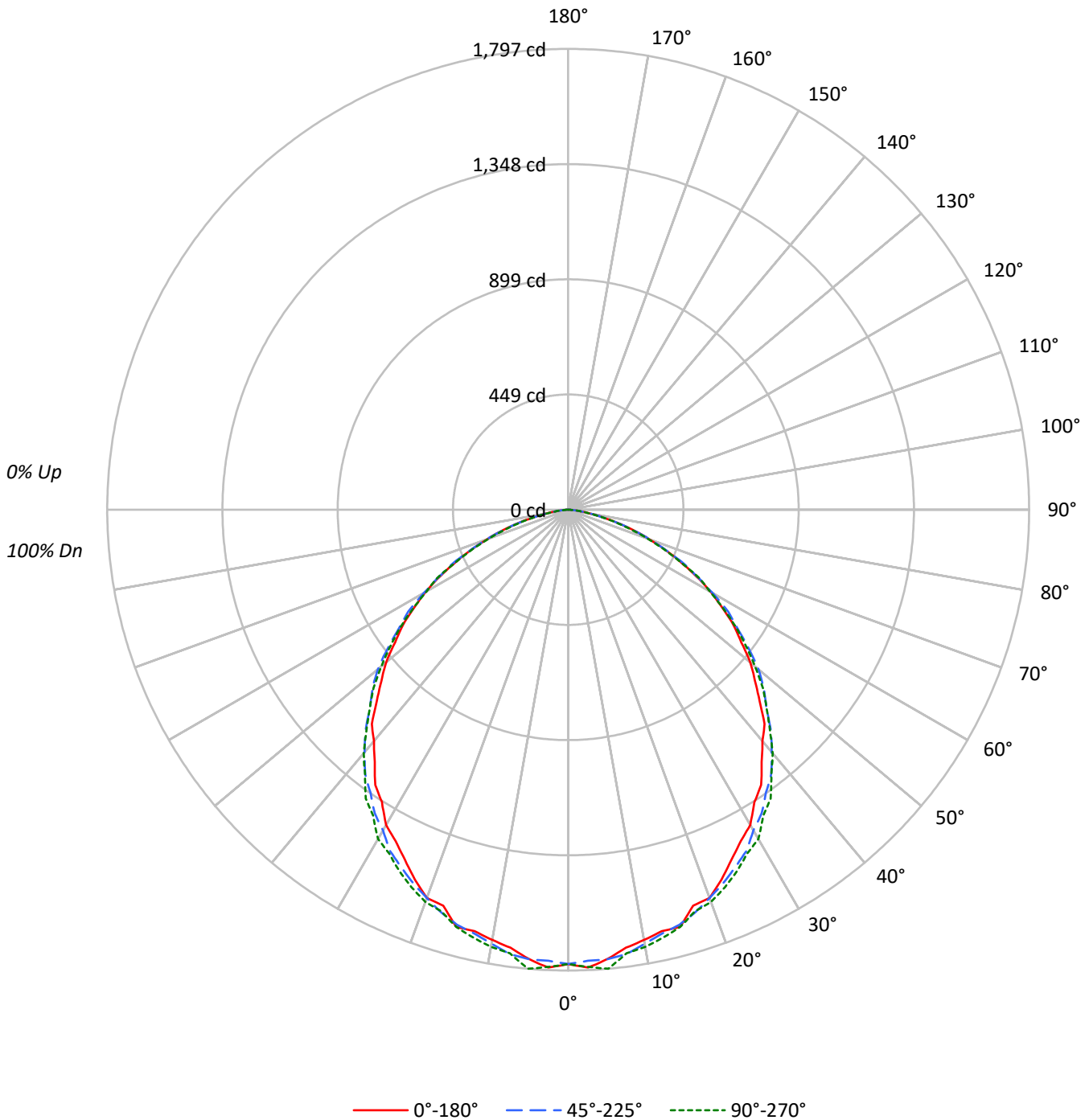
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4465.0 lumens  
Efficiency: N/A  
Efficacy: 103.4 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): 43.2  
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°	4767	4767	4767
5°	4752	4753	4854
10°	4655	4696	4729
15°	4692	4667	4693
20°	4613	4613	4662
25°	4471	4569	4619
30°	4410	4487	4607
35°	4306	4418	4518
40°	4138	4337	4357
45°	4013	4156	4162
50°	3881	4056	3979
55°	3698	3770	3743
60°	3458	3492	3430
65°	3083	3162	3061
70°	2645	2655	2581
75°	2095	2091	2010
80°	1404	1365	1311
85°	763	756	707



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	166.6	3.7
10°-20°	472.3	10.6
20°-30°	707.6	15.8
30°-40°	838.6	18.8
40°-50°	840.2	18.8
50°-60°	713.2	16.0
60°-70°	480.8	10.8
70°-80°	211.3	4.7
80°-90°	34.3	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°	1346.5	30.2
0°-40°	2185.2	48.9
0°-60°	3738.6	83.7
0°-90°	4465.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4465.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1772	1772	1772	1772	1772	
5°	1759	1755	1760	1754	1797	166
15°	1684	1665	1675	1684	1684	469
25°	1506	1514	1539	1559	1556	696
35°	1311	1315	1345	1376	1375	814
45°	1054	1074	1092	1120	1094	816
55°	788	783	804	798	798	701
65°	484	478	497	478	481	482
75°	202	197	201	187	193	216
85°	25	24	24	24	23	36
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1771.6	1771.6	1771.6	1771.6	1771.6
2.5°	1786.9	1773.4	1760.8	1775.5	1784.4
5°	1759.0	1754.9	1759.7	1754.4	1796.8
7.5°	1722.9	1738.7	1747.8	1742.1	1744.6
10°	1703.7	1698.2	1718.5	1732.7	1730.7
12.5°	1683.1	1691.3	1692.5	1707.8	1709.2
15°	1684.2	1664.8	1675.1	1683.8	1684.4
17.5°	1618.8	1639.8	1646.9	1666.8	1642.1
20°	1610.8	1595.5	1610.8	1631.2	1627.9
22.5°	1561.6	1544.5	1577.4	1595.5	1594.3
25°	1505.8	1514.0	1538.7	1558.9	1555.7
27.5°	1456.9	1466.5	1501.7	1529.4	1511.5
30°	1419.1	1414.3	1444.0	1468.7	1482.5
32.5°	1351.6	1369.0	1403.8	1428.3	1415.2
35°	1310.7	1314.6	1345.0	1376.1	1375.2
37.5°	1239.1	1257.2	1299.9	1308.6	1300.6
40°	1178.0	1196.1	1234.7	1244.1	1240.2
42.5°	1133.0	1136.2	1169.3	1180.1	1162.9
45°	1054.5	1074.2	1092.0	1120.1	1093.6
47.5°	987.7	996.9	1035.3	1042.8	1028.9
50°	927.1	930.3	968.9	959.6	950.4
52.5°	850.9	864.4	886.1	884.3	873.6
55°	788.2	783.0	803.6	798.1	797.8
57.5°	713.0	722.1	739.1	730.4	716.4
60°	642.5	642.8	648.9	639.1	637.3
62.5°	564.1	566.8	568.2	556.1	575.7
65°	484.2	477.8	496.6	477.6	480.8
67.5°	410.8	414.0	412.2	400.3	404.9
70°	336.2	340.4	337.4	323.9	328.0
72.5°	268.1	263.1	266.3	249.3	257.1
75°	201.5	197.4	201.1	186.9	193.3
77.5°	137.2	140.4	138.2	130.6	135.0
80°	90.6	88.1	88.1	83.7	84.6
82.5°	52.8	50.3	49.6	48.3	50.3
85°	24.7	24.0	24.5	23.8	22.9
87.5°	8.9	9.1	9.1	8.7	8.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)