

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: P589064

Luminaire Tested: **FMR-24-2-LD4-2HI-50-UNV-82-87-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P589064  
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-82-87-EDD  
Description: 2X2 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

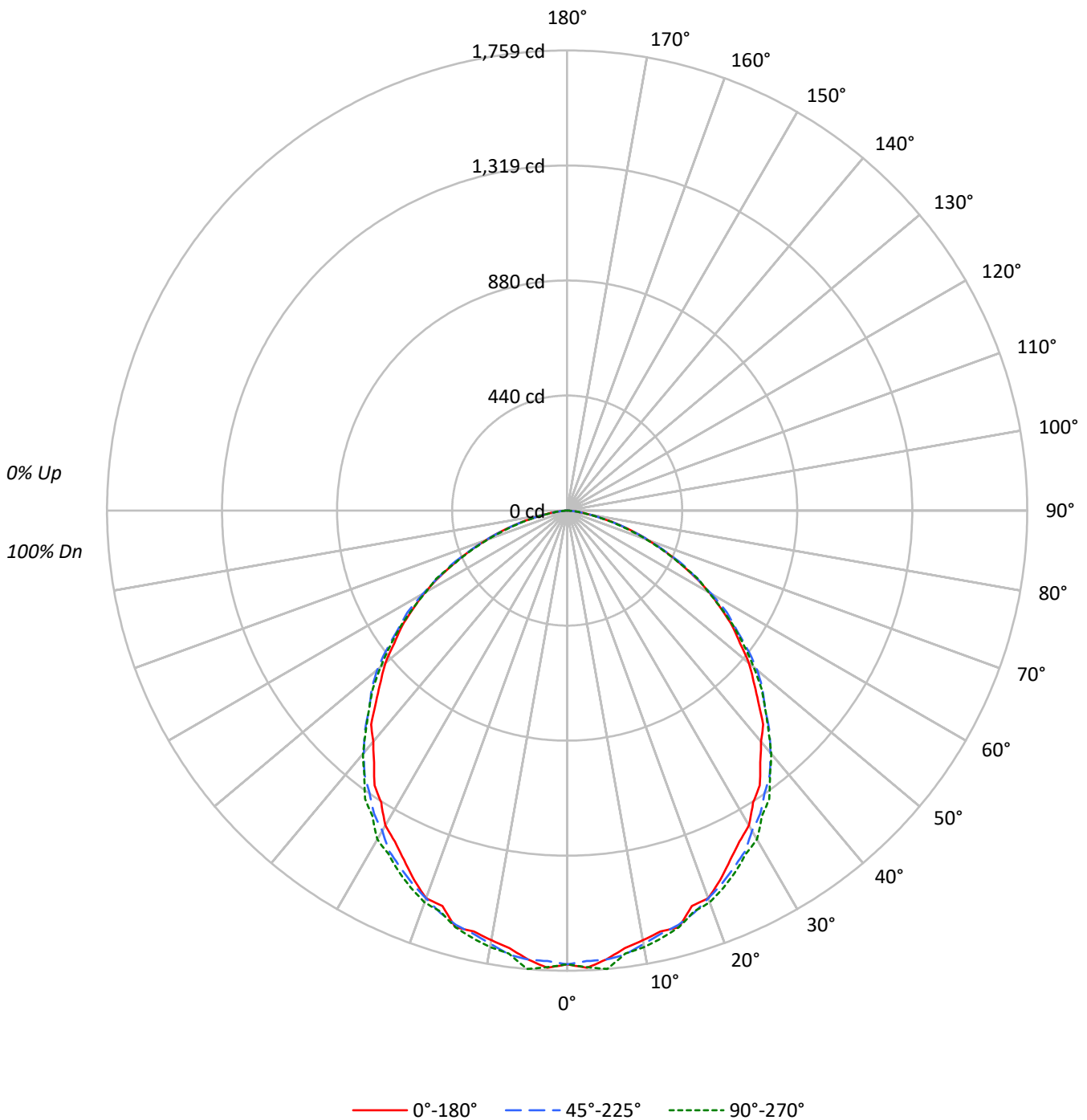
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4371.0 lumens  
Efficiency: N/A  
Efficacy: 101.2 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°	4667	4667	4667
5°	4652	4653	4751
10°	4557	4597	4629
15°	4593	4568	4594
20°	4516	4516	4564
25°	4377	4472	4522
30°	4317	4392	4510
35°	4215	4325	4422
40°	4051	4246	4265
45°	3929	4068	4074
50°	3800	3971	3895
55°	3620	3691	3665
60°	3385	3419	3358
65°	3019	3095	2997
70°	2590	2599	2526
75°	2051	2046	1967
80°	1375	1336	1285
85°	747	741	692



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	163.1	3.7
10°-20°	462.3	10.6
20°-30°	692.7	15.8
30°-40°	821.0	18.8
40°-50°	822.5	18.8
50°-60°	698.2	16.0
60°-70°	470.7	10.8
70°-80°	206.8	4.7
80°-90°	33.6	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°	1318.2	30.2
0°-40°	2139.2	48.9
0°-60°	3659.8	83.7
0°-90°	4371.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4371.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1734	1734	1734	1734	1734	
5°	1722	1718	1723	1718	1759	162
15°	1649	1630	1640	1648	1649	459
25°	1474	1482	1506	1526	1523	681
35°	1283	1287	1317	1347	1346	797
45°	1032	1052	1069	1097	1071	799
55°	772	766	787	781	781	686
65°	474	468	486	468	471	471
75°	197	193	197	183	189	211
85°	24	24	24	23	22	35
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1734.3	1734.3	1734.3	1734.3	1734.3
2.5°	1749.3	1736.1	1723.8	1738.1	1746.8
5°	1722.0	1718.0	1722.7	1717.5	1758.9
7.5°	1686.6	1702.1	1711.0	1705.4	1707.9
10°	1667.8	1662.4	1682.4	1696.2	1694.2
12.5°	1647.6	1655.7	1656.8	1671.8	1673.2
15°	1648.8	1629.7	1639.8	1648.3	1649.0
17.5°	1584.7	1605.3	1612.3	1631.7	1607.6
20°	1576.9	1561.9	1576.9	1596.8	1593.7
22.5°	1528.7	1511.9	1544.2	1561.9	1560.8
25°	1474.1	1482.2	1506.3	1526.1	1522.9
27.5°	1426.2	1435.6	1470.1	1497.2	1479.7
30°	1389.2	1384.5	1413.6	1437.8	1451.3
32.5°	1323.2	1340.2	1374.2	1398.2	1385.4
35°	1283.1	1286.9	1316.7	1347.1	1346.2
37.5°	1213.0	1230.7	1272.6	1281.1	1273.2
40°	1153.2	1170.9	1208.7	1217.9	1214.1
42.5°	1109.1	1112.2	1144.7	1155.2	1138.4
45°	1032.3	1051.6	1069.0	1096.6	1070.6
47.5°	966.9	975.9	1013.5	1020.9	1007.2
50°	907.6	910.7	948.5	939.4	930.4
52.5°	833.0	846.2	867.5	865.7	855.2
55°	771.6	766.5	786.7	781.3	781.1
57.5°	698.0	706.9	723.5	715.0	701.3
60°	629.0	629.2	635.3	625.6	623.9
62.5°	552.2	554.9	556.2	544.4	563.6
65°	474.1	467.8	486.1	467.6	470.7
67.5°	402.2	405.3	403.5	391.9	396.3
70°	329.2	333.2	330.3	317.1	321.1
72.5°	262.4	257.5	260.6	244.1	251.7
75°	197.3	193.2	196.8	182.9	189.2
77.5°	134.4	137.5	135.3	127.9	132.1
80°	88.7	86.2	86.2	82.0	82.9
82.5°	51.7	49.3	48.6	47.2	49.3
85°	24.2	23.5	24.0	23.3	22.4
87.5°	8.7	9.0	9.0	8.5	8.1
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)