

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: P589446

Luminaire Tested: **FMR-24-2-LD4-3LO-50-UNV-82-85-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P589446  
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-LD4-3LO-50-UNV-82-85-EDD  
Description: 2X2 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

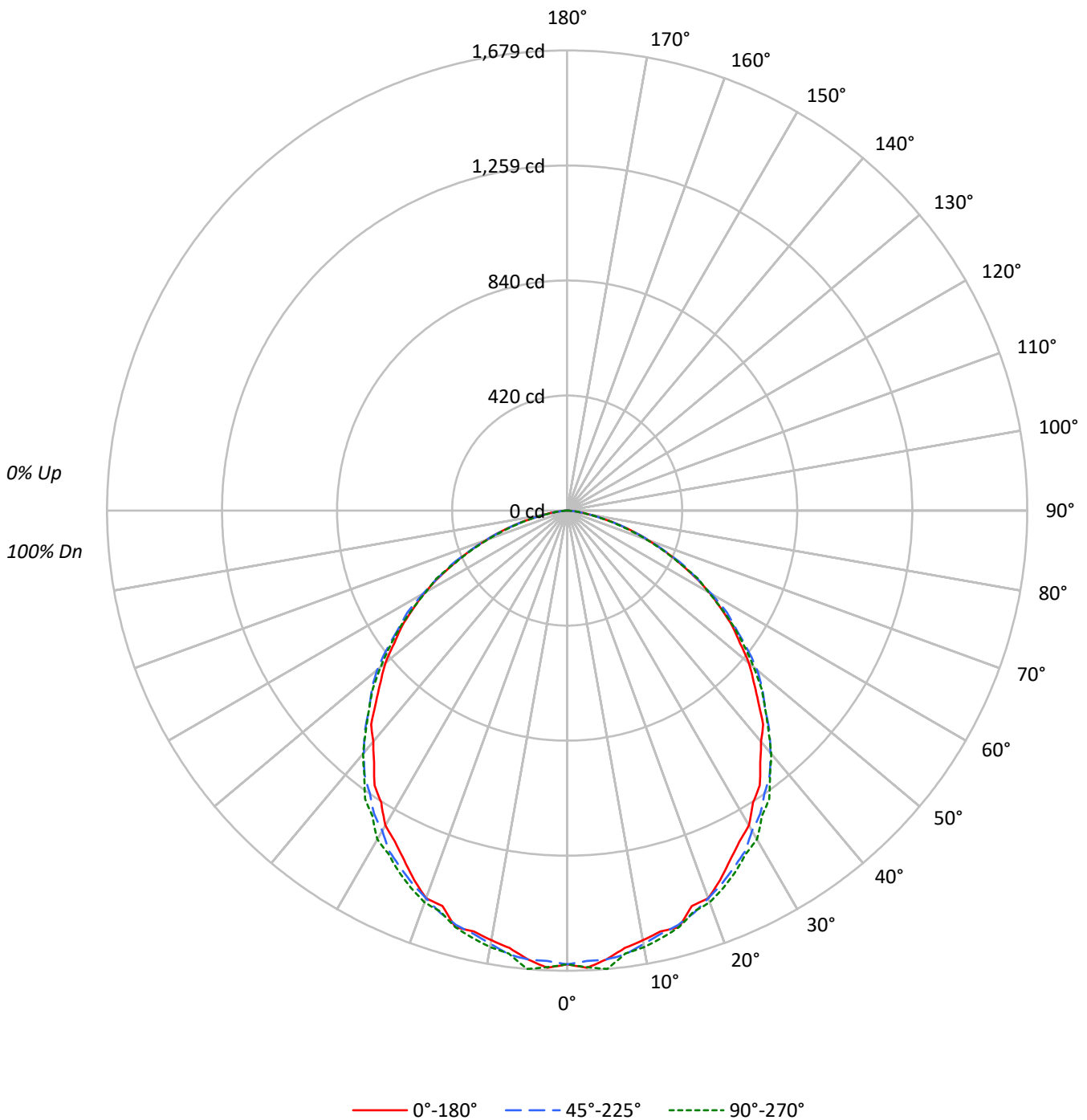
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4172.0 lumens  
Efficiency: N/A  
Efficacy: 118.9 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): 35.1  
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°	4454	4454	4454
5°	4440	4441	4535
10°	4350	4388	4419
15°	4384	4360	4385
20°	4310	4310	4356
25°	4178	4269	4316
30°	4120	4193	4304
35°	4023	4128	4221
40°	3867	4053	4071
45°	3750	3883	3889
50°	3627	3790	3718
55°	3455	3522	3498
60°	3231	3264	3205
65°	2881	2954	2861
70°	2472	2481	2412
75°	1958	1954	1878
80°	1311	1275	1226
85°	713	707	661



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	155.7	3.7
10°-20°	441.3	10.6
20°-30°	661.2	15.8
30°-40°	783.6	18.8
40°-50°	785.1	18.8
50°-60°	666.4	16.0
60°-70°	449.3	10.8
70°-80°	197.4	4.7
80°-90°	32.1	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°	1258.2	30.2
0°-40°	2041.8	48.9
0°-60°	3493.2	83.7
0°-90°	4172.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4172.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1655	1655	1655	1655	1655	
5°	1644	1640	1644	1639	1679	155
15°	1574	1556	1565	1573	1574	438
25°	1407	1415	1438	1457	1454	650
35°	1225	1228	1257	1286	1285	760
45°	985	1004	1020	1047	1022	762
55°	736	732	751	746	746	655
65°	452	446	464	446	449	450
75°	188	184	188	175	181	202
85°	23	22	23	22	21	33
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1655.3	1655.3	1655.3	1655.3	1655.3
2.5°	1669.7	1657.1	1645.3	1659.0	1667.3
5°	1643.6	1639.7	1644.2	1639.3	1678.9
7.5°	1609.8	1624.6	1633.1	1627.8	1630.1
10°	1591.9	1586.7	1605.8	1619.0	1617.1
12.5°	1572.6	1580.3	1581.4	1595.7	1597.0
15°	1573.7	1555.5	1565.1	1573.3	1573.9
17.5°	1512.6	1532.2	1538.9	1557.5	1534.4
20°	1505.1	1490.8	1505.1	1524.1	1521.1
22.5°	1459.1	1443.1	1473.9	1490.8	1489.7
25°	1407.0	1414.7	1437.8	1456.6	1453.6
27.5°	1361.3	1370.2	1403.1	1429.0	1412.3
30°	1326.0	1321.5	1349.3	1372.4	1385.2
32.5°	1262.9	1279.2	1311.7	1334.5	1322.4
35°	1224.7	1228.3	1256.7	1285.8	1284.9
37.5°	1157.8	1174.7	1214.6	1222.8	1215.3
40°	1100.7	1117.6	1153.7	1162.5	1158.8
42.5°	1058.6	1061.6	1092.6	1102.6	1086.6
45°	985.3	1003.7	1020.4	1046.6	1021.8
47.5°	922.9	931.4	967.3	974.4	961.4
50°	866.3	869.2	905.4	896.6	888.1
52.5°	795.1	807.7	828.0	826.3	816.2
55°	736.5	731.6	750.8	745.7	745.5
57.5°	666.2	674.7	690.6	682.4	669.4
60°	600.4	600.6	606.4	597.2	595.5
62.5°	527.1	529.6	530.9	519.6	538.0
65°	452.5	446.5	464.0	446.3	449.3
67.5°	383.9	386.9	385.1	374.0	378.3
70°	314.2	318.0	315.3	302.6	306.5
72.5°	250.5	245.8	248.8	233.0	240.2
75°	188.3	184.4	187.9	174.6	180.6
77.5°	128.2	131.2	129.1	122.0	126.1
80°	84.6	82.3	82.3	78.2	79.1
82.5°	49.4	47.0	46.4	45.1	47.0
85°	23.1	22.4	22.9	22.2	21.4
87.5°	8.3	8.5	8.5	8.1	7.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)