

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: P589213

Luminaire Tested: **FMR-24-2-LD4-2STD-40-UNV-81-84-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P589213  
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-40-UNV-81-84-EDD  
Description: 2X2 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

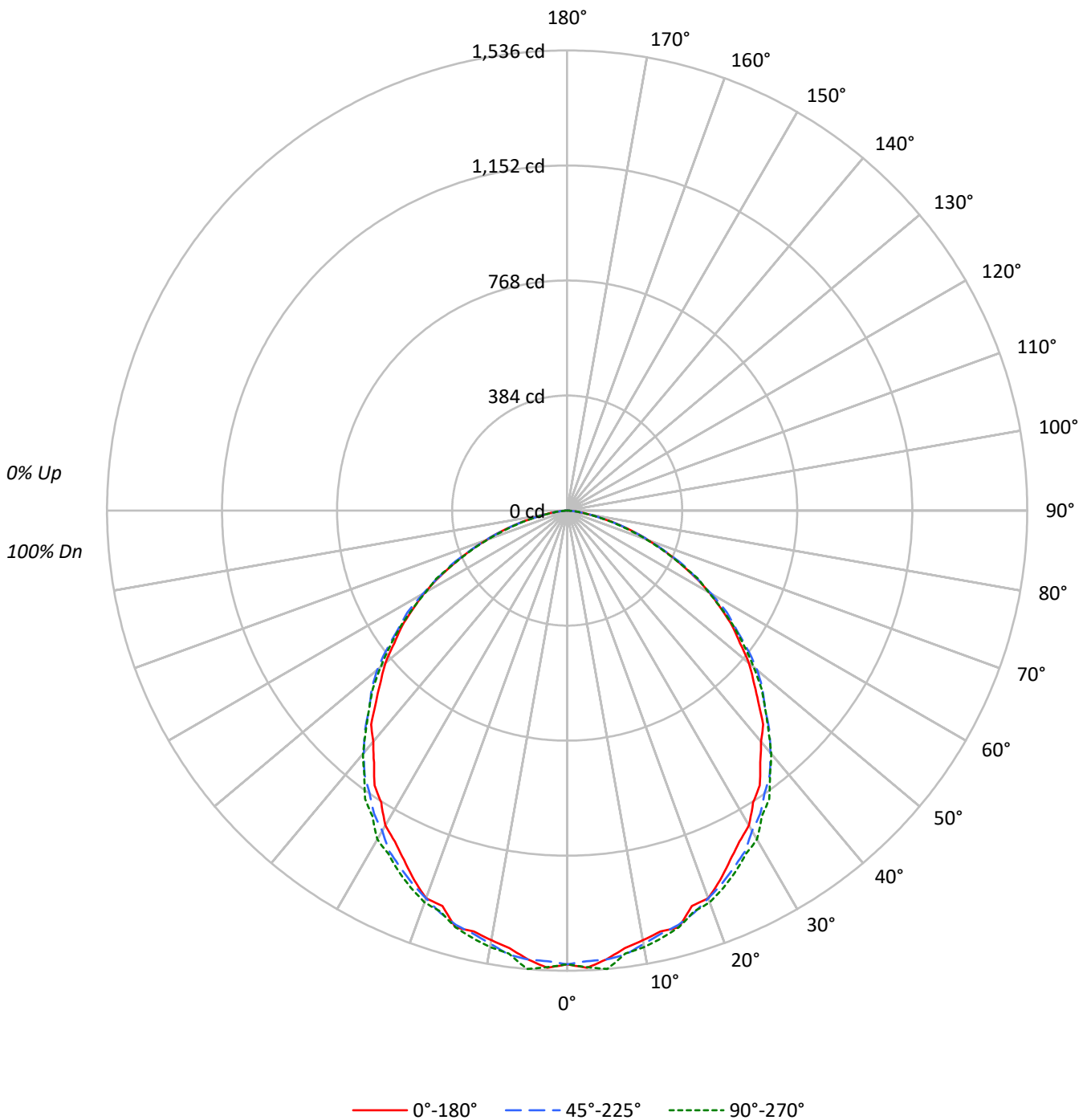
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3817.0 lumens  
Efficiency: N/A  
Efficacy: 114.6 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°	4075	4075	4075
5°	4062	4064	4149
10°	3980	4014	4043
15°	4011	3989	4012
20°	3943	3943	3985
25°	3822	3906	3949
30°	3770	3836	3938
35°	3681	3777	3862
40°	3538	3708	3724
45°	3431	3553	3558
50°	3318	3468	3401
55°	3161	3223	3200
60°	2956	2986	2932
65°	2636	2703	2617
70°	2261	2269	2206
75°	1791	1787	1718
80°	1199	1167	1122
85°	651	645	605



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	142.5	3.7
10°-20°	403.8	10.6
20°-30°	604.9	15.8
30°-40°	716.9	18.8
40°-50°	718.3	18.8
50°-60°	609.7	16.0
60°-70°	411.1	10.8
70°-80°	180.6	4.7
80°-90°	29.3	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°	1151.1	30.2
0°-40°	1868.0	48.9
0°-60°	3196.0	83.7
0°-90°	3817.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3817.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1514	1514	1514	1514	1514	
5°	1504	1500	1504	1500	1536	142
15°	1440	1423	1432	1439	1440	401
25°	1287	1294	1315	1333	1330	595
35°	1120	1124	1150	1176	1176	696
45°	902	918	934	958	935	697
55°	674	669	687	682	682	599
65°	414	408	424	408	411	412
75°	172	169	172	160	165	185
85°	21	20	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°	1514.5	1514.5	1514.5	1514.5	1514.5
2.5°	1527.6	1516.1	1505.3	1517.8	1525.4
5°	1503.7	1500.2	1504.3	1499.8	1536.0
7.5°	1472.8	1486.3	1494.2	1489.3	1491.4
10°	1456.4	1451.7	1469.1	1481.2	1479.5
12.5°	1438.8	1445.9	1446.8	1459.9	1461.1
15°	1439.8	1423.2	1432.0	1439.4	1440.0
17.5°	1383.9	1401.9	1407.9	1424.9	1403.8
20°	1377.0	1363.9	1377.0	1394.4	1391.7
22.5°	1335.0	1320.3	1348.5	1363.9	1362.9
25°	1287.3	1294.3	1315.4	1332.6	1329.9
27.5°	1245.4	1253.6	1283.7	1307.4	1292.2
30°	1213.2	1209.0	1234.5	1255.6	1267.3
32.5°	1155.5	1170.3	1200.1	1221.0	1209.8
35°	1120.5	1123.8	1149.8	1176.4	1175.6
37.5°	1059.3	1074.7	1111.3	1118.7	1111.9
40°	1007.1	1022.5	1055.5	1063.6	1060.2
42.5°	968.5	971.3	999.6	1008.8	994.1
45°	901.5	918.3	933.5	957.6	934.9
47.5°	844.4	852.2	885.0	891.5	879.6
50°	792.5	795.3	828.3	820.3	812.5
52.5°	727.4	739.0	757.5	756.0	746.8
55°	673.8	669.3	686.9	682.3	682.1
57.5°	609.5	617.3	631.8	624.4	612.4
60°	549.3	549.5	554.8	546.4	544.8
62.5°	482.2	484.6	485.7	475.4	492.2
65°	414.0	408.5	424.5	408.3	411.0
67.5°	351.2	353.9	352.4	342.2	346.1
70°	287.4	291.0	288.4	276.9	280.4
72.5°	229.2	224.9	227.6	213.1	219.8
75°	172.3	168.8	171.9	159.8	165.2
77.5°	117.3	120.1	118.1	111.7	115.4
80°	77.4	75.3	75.3	71.6	72.4
82.5°	45.2	43.0	42.4	41.3	43.0
85°	21.1	20.5	20.9	20.3	19.6
87.5°	7.6	7.8	7.8	7.4	7.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)