

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: P589222

Luminaire Tested: **FMR-24-2-LD4-2STD-40-UNV-82-85-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P589222  
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-82-85-EDD  
Description: 2X2 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

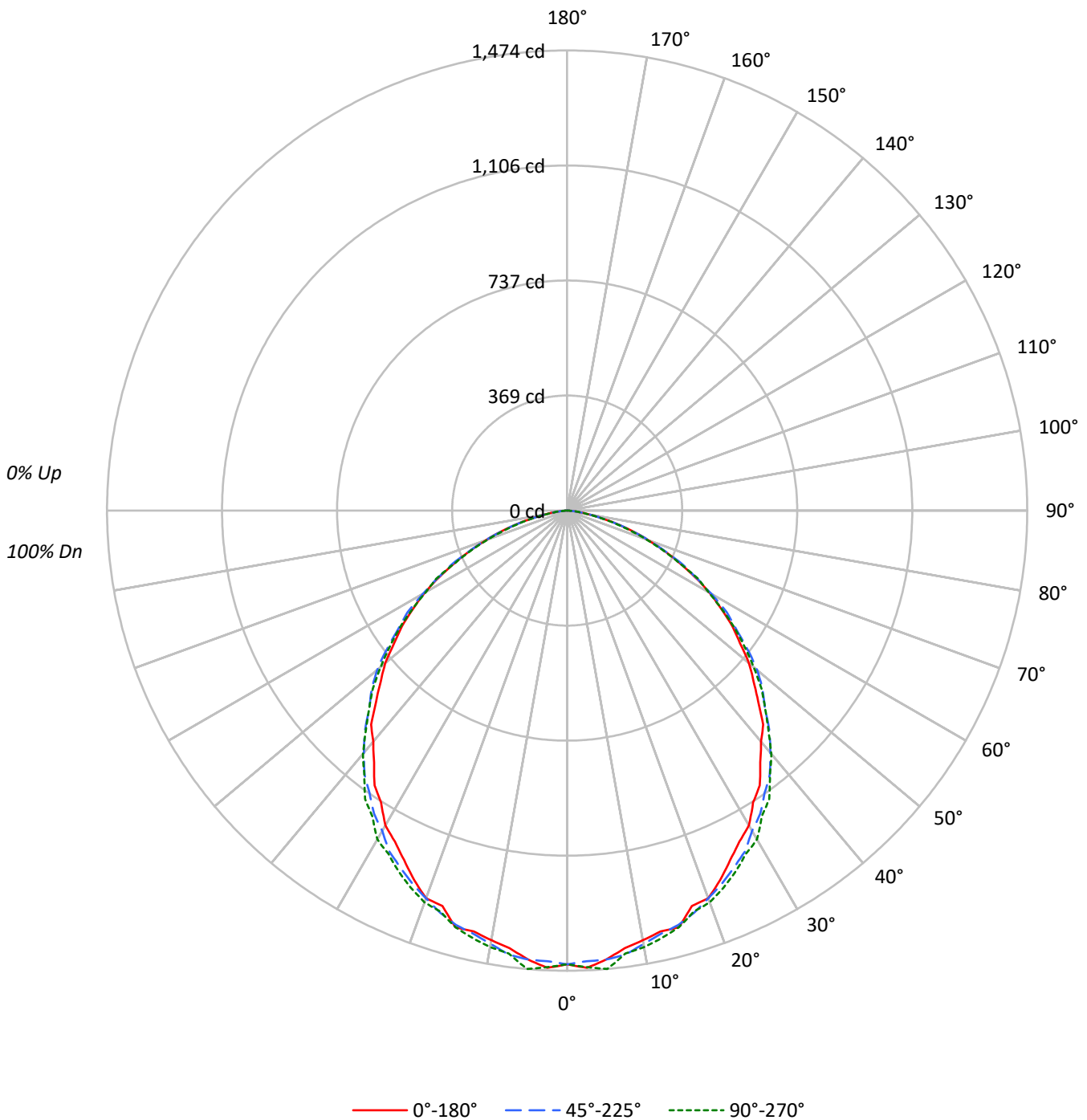
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3663.0 lumens  
Efficiency: N/A  
Efficacy: 110.0 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°	3911	3911	3911
5°	3898	3900	3982
10°	3819	3852	3880
15°	3849	3828	3850
20°	3784	3784	3824
25°	3668	3748	3789
30°	3617	3681	3779
35°	3532	3625	3706
40°	3395	3558	3574
45°	3292	3409	3414
50°	3184	3328	3264
55°	3034	3093	3071
60°	2837	2865	2814
65°	2530	2594	2512
70°	2171	2178	2117
75°	1719	1714	1649
80°	1151	1119	1075
85°	627	621	580



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	136.7	3.7
10°-20°	387.5	10.6
20°-30°	580.5	15.8
30°-40°	688.0	18.8
40°-50°	689.3	18.8
50°-60°	585.1	16.0
60°-70°	394.5	10.8
70°-80°	173.3	4.7
80°-90°	28.2	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°	1104.7	30.2
0°-40°	1792.7	48.9
0°-60°	3067.0	83.7
0°-90°	3663.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3663.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1453	1453	1453	1453	1453	
5°	1443	1440	1444	1439	1474	136
15°	1382	1366	1374	1381	1382	385
25°	1235	1242	1262	1279	1276	571
35°	1075	1078	1103	1129	1128	668
45°	865	881	896	919	897	669
55°	647	642	659	655	654	575
65°	397	392	407	392	394	395
75°	165	162	165	153	159	177
85°	20	20	20	20	19	29
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1453.4	1453.4	1453.4	1453.4	1453.4
2.5°	1466.0	1454.9	1444.6	1456.6	1463.9
5°	1443.1	1439.7	1443.6	1439.3	1474.0
7.5°	1413.4	1426.4	1433.9	1429.2	1431.2
10°	1397.7	1393.1	1409.8	1421.5	1419.8
12.5°	1380.8	1387.5	1388.5	1401.0	1402.2
15°	1381.7	1365.8	1374.2	1381.3	1381.9
17.5°	1328.0	1345.3	1351.1	1367.4	1347.2
20°	1321.5	1308.9	1321.5	1338.2	1335.5
22.5°	1281.1	1267.0	1294.1	1308.9	1308.0
25°	1235.3	1242.1	1262.4	1278.9	1276.2
27.5°	1195.2	1203.1	1232.0	1254.7	1240.0
30°	1164.2	1160.3	1184.7	1204.9	1216.2
32.5°	1108.9	1123.1	1151.6	1171.7	1161.0
35°	1075.3	1078.5	1103.4	1128.9	1128.2
37.5°	1016.5	1031.4	1066.4	1073.6	1067.0
40°	966.4	981.2	1013.0	1020.7	1017.5
42.5°	929.5	932.1	959.3	968.1	954.0
45°	865.1	881.2	895.9	918.9	897.2
47.5°	810.3	817.8	849.3	855.5	844.1
50°	760.6	763.2	794.9	787.2	779.7
52.5°	698.1	709.1	727.0	725.5	716.7
55°	646.7	642.3	659.2	654.7	654.5
57.5°	584.9	592.4	606.3	599.2	587.7
60°	527.1	527.3	532.4	524.3	522.8
62.5°	462.8	465.0	466.1	456.2	472.3
65°	397.3	392.0	407.4	391.8	394.5
67.5°	337.0	339.7	338.2	328.4	332.1
70°	275.9	279.2	276.8	265.7	269.1
72.5°	219.9	215.8	218.4	204.5	210.9
75°	165.3	161.9	164.9	153.3	158.6
77.5°	112.6	115.2	113.3	107.2	110.7
80°	74.3	72.2	72.2	68.7	69.4
82.5°	43.3	41.3	40.7	39.6	41.3
85°	20.3	19.7	20.1	19.5	18.8
87.5°	7.3	7.5	7.5	7.1	6.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)