

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: P589194

Luminaire Tested: **FMR-24-2-LD4-2STD-35-UNV-82-94-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P589194  
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-35-UNV-82-94-EDD  
Description: 2X2 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR  
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

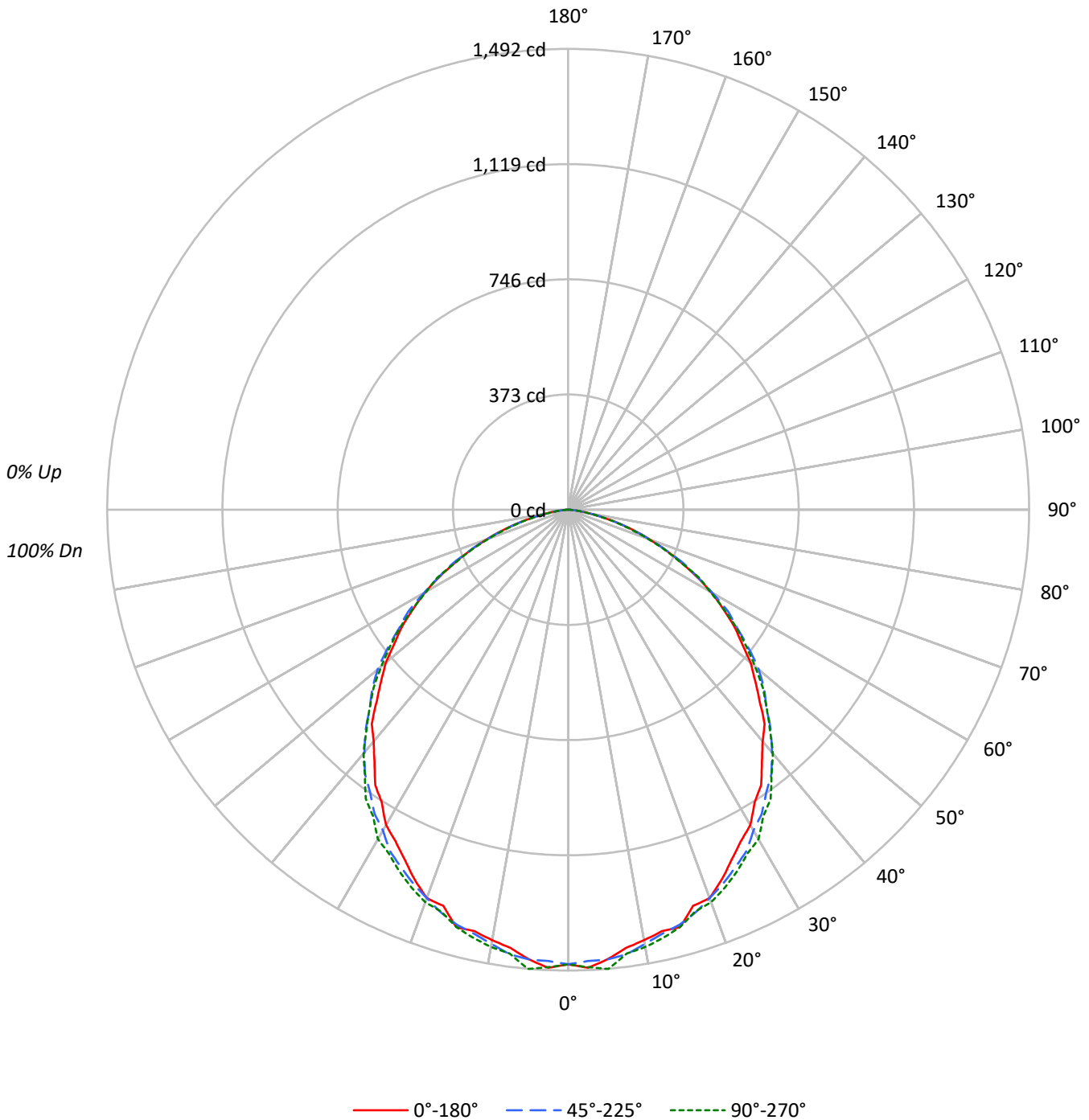
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3709.0 lumens  
Efficiency: N/A  
Efficacy: 111.4 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): 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°	3960	3960	3960
5°	3947	3949	4032
10°	3867	3901	3928
15°	3898	3877	3898
20°	3832	3832	3873
25°	3714	3795	3837
30°	3663	3727	3827
35°	3577	3670	3753
40°	3438	3603	3619
45°	3334	3452	3457
50°	3224	3370	3305
55°	3072	3132	3110
60°	2872	2901	2849
65°	2562	2627	2543
70°	2198	2205	2144
75°	1740	1736	1670
80°	1165	1134	1089
85°	633	627	587



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	138.4	3.7
10°-20°	392.3	10.6
20°-30°	587.8	15.8
30°-40°	696.6	18.8
40°-50°	697.9	18.8
50°-60°	592.4	16.0
60°-70°	399.4	10.8
70°-80°	175.5	4.7
80°-90°	28.5	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°	1118.5	30.2
0°-40°	1815.2	48.9
0°-60°	3105.6	83.7
0°-90°	3709.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3709.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1472	1472	1472	1472	1472	
5°	1461	1458	1462	1457	1492	138
15°	1399	1383	1392	1399	1399	390
25°	1251	1258	1278	1295	1292	578
35°	1089	1092	1117	1143	1142	676
45°	876	892	907	930	908	678
55°	655	650	668	663	663	582
65°	402	397	412	397	399	400
75°	167	164	167	155	161	179
85°	20	20	20	20	19	30
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1471.6	1471.6	1471.6	1471.6	1471.6
2.5°	1484.4	1473.2	1462.7	1474.9	1482.3
5°	1461.2	1457.8	1461.8	1457.4	1492.5
7.5°	1431.2	1444.3	1451.9	1447.1	1449.2
10°	1415.2	1410.6	1427.6	1439.3	1437.6
12.5°	1398.1	1404.9	1405.9	1418.6	1419.8
15°	1399.1	1382.9	1391.5	1398.7	1399.2
17.5°	1344.7	1362.2	1368.1	1384.6	1364.1
20°	1338.1	1325.3	1338.1	1355.0	1352.3
22.5°	1297.2	1283.0	1310.3	1325.3	1324.4
25°	1250.8	1257.7	1278.2	1294.9	1292.3
27.5°	1210.2	1218.2	1247.4	1270.4	1255.6
30°	1178.8	1174.8	1199.5	1220.1	1231.5
32.5°	1122.8	1137.2	1166.1	1186.4	1175.6
35°	1088.8	1092.0	1117.3	1143.1	1142.3
37.5°	1029.3	1044.3	1079.8	1087.1	1080.4
40°	978.6	993.6	1025.7	1033.5	1030.2
42.5°	941.1	943.8	971.3	980.3	966.0
45°	876.0	892.3	907.1	930.5	908.4
47.5°	820.5	828.1	860.0	866.3	854.7
50°	770.1	772.8	804.9	797.1	789.5
52.5°	706.8	718.1	736.1	734.6	725.7
55°	654.8	650.4	667.5	662.9	662.8
57.5°	592.3	599.9	613.9	606.7	595.1
60°	533.7	533.9	539.1	530.9	529.4
62.5°	468.6	470.8	472.0	461.9	478.3
65°	402.3	396.9	412.5	396.7	399.4
67.5°	341.3	343.9	342.4	332.5	336.3
70°	279.3	282.7	280.3	269.1	272.5
72.5°	222.7	218.5	221.2	207.1	213.6
75°	167.4	164.0	167.0	155.2	160.6
77.5°	114.0	116.7	114.8	108.5	112.1
80°	75.2	73.2	73.2	69.5	70.3
82.5°	43.9	41.8	41.2	40.1	41.8
85°	20.5	20.0	20.3	19.8	19.0
87.5°	7.4	7.6	7.6	7.2	6.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)