

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: P589025

Luminaire Tested: **FMR-24-2-LD4-2HI-40-UNV-81-88-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P589025  
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-40-UNV-81-88-EDD  
Description: 2X2 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

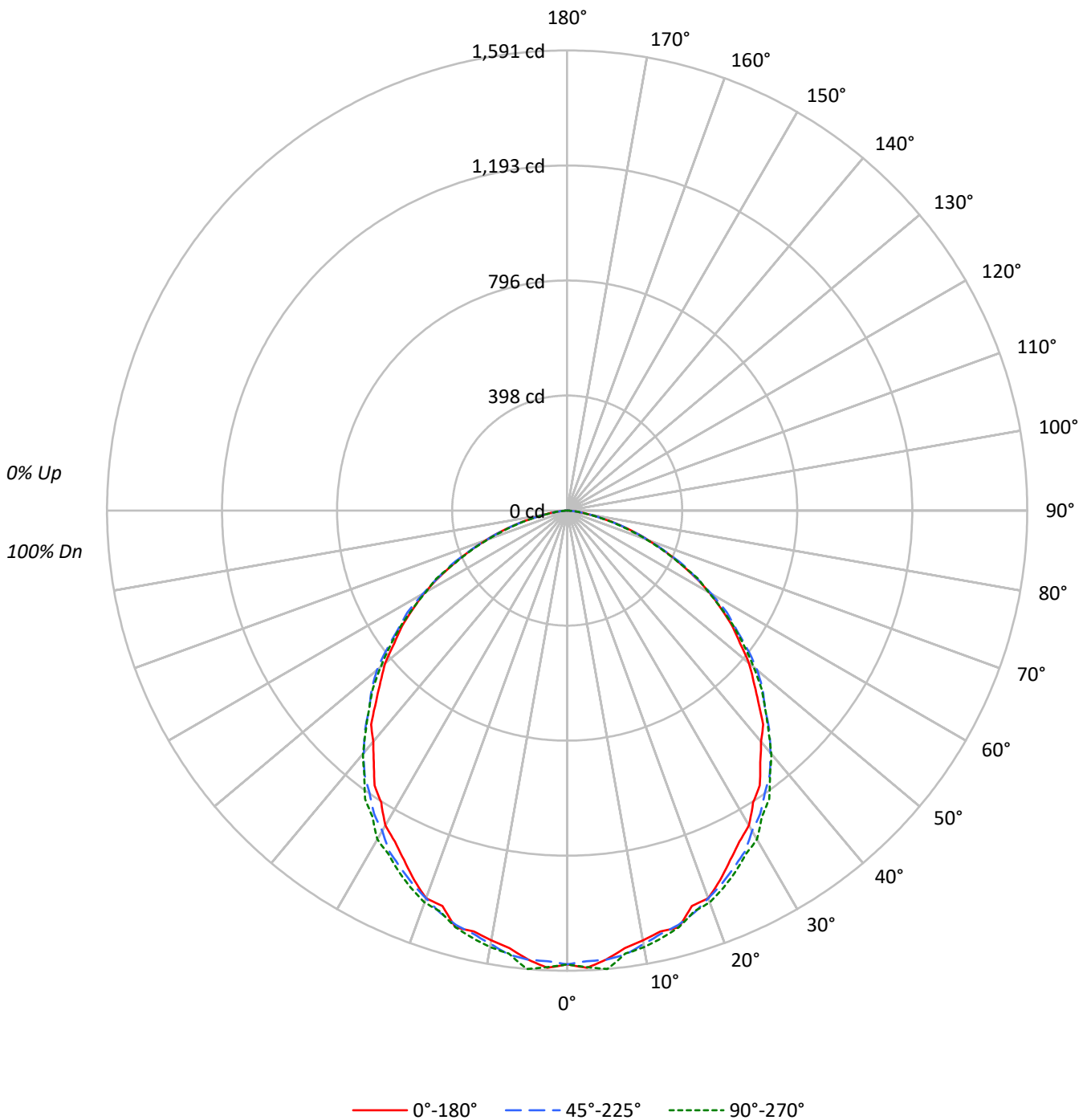
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3954.0 lumens  
Efficiency: N/A  
Efficacy: 91.5 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°	4222	4222	4222
5°	4208	4209	4298
10°	4123	4159	4188
15°	4155	4133	4156
20°	4085	4085	4128
25°	3959	4046	4090
30°	3905	3974	4079
35°	3813	3913	4001
40°	3665	3841	3858
45°	3554	3680	3686
50°	3437	3592	3523
55°	3275	3339	3315
60°	3062	3093	3037
65°	2730	2800	2711
70°	2343	2351	2286
75°	1856	1852	1780
80°	1243	1209	1161
85°	676	670	627



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	147.6	3.7
10°-20°	418.2	10.6
20°-30°	626.6	15.8
30°-40°	742.7	18.8
40°-50°	744.0	18.8
50°-60°	631.6	16.0
60°-70°	425.8	10.8
70°-80°	187.1	4.7
80°-90°	30.4	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°	1192.4	30.2
0°-40°	1935.1	48.9
0°-60°	3310.7	83.7
0°-90°	3954.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3954.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1569	1569	1569	1569	1569	
5°	1558	1554	1558	1554	1591	147
15°	1492	1474	1483	1491	1492	416
25°	1334	1341	1363	1380	1378	616
35°	1161	1164	1191	1219	1218	721
45°	934	951	967	992	968	722
55°	698	693	712	707	706	621
65°	429	423	440	423	426	426
75°	178	175	178	166	171	191
85°	22	21	22	21	20	32
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1568.8	1568.8	1568.8	1568.8	1568.8
2.5°	1582.4	1570.5	1559.3	1572.3	1580.2
5°	1557.7	1554.1	1558.3	1553.7	1591.1
7.5°	1525.7	1539.7	1547.8	1542.7	1544.9
10°	1508.7	1503.8	1521.9	1534.4	1532.6
12.5°	1490.5	1497.7	1498.8	1512.3	1513.5
15°	1491.5	1474.3	1483.4	1491.1	1491.7
17.5°	1433.5	1452.2	1458.5	1476.1	1454.2
20°	1426.4	1412.9	1426.4	1444.5	1441.6
22.5°	1382.9	1367.7	1396.9	1412.9	1411.9
25°	1333.5	1340.8	1362.6	1380.5	1377.6
27.5°	1290.1	1298.6	1329.8	1354.3	1338.5
30°	1256.7	1252.4	1278.8	1300.7	1312.8
32.5°	1196.9	1212.3	1243.1	1264.8	1253.3
35°	1160.7	1164.1	1191.1	1218.6	1217.8
37.5°	1097.3	1113.3	1151.2	1158.9	1151.8
40°	1043.2	1059.2	1093.4	1101.7	1098.3
42.5°	1003.3	1006.1	1035.5	1045.0	1029.8
45°	933.8	951.2	967.0	991.9	968.5
47.5°	874.7	882.8	916.8	923.5	911.1
50°	821.0	823.8	858.1	849.8	841.6
52.5°	753.5	765.5	784.7	783.1	773.6
55°	698.0	693.4	711.6	706.7	706.5
57.5°	631.4	639.5	654.5	646.8	634.4
60°	569.0	569.2	574.7	566.0	564.3
62.5°	499.5	502.0	503.2	492.4	509.9
65°	428.8	423.2	439.8	423.0	425.8
67.5°	363.8	366.6	365.0	354.5	358.5
70°	297.8	301.4	298.8	286.8	290.5
72.5°	237.4	232.9	235.8	220.8	227.7
75°	178.5	174.8	178.1	165.5	171.2
77.5°	121.5	124.4	122.3	115.7	119.5
80°	80.2	78.0	78.0	74.1	74.9
82.5°	46.8	44.6	44.0	42.7	44.6
85°	21.9	21.3	21.7	21.1	20.3
87.5°	7.9	8.1	8.1	7.7	7.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)