

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: P589027

Luminaire Tested: **FMR-24-2-LD4-2HI-40-UNV-81-96-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P589027  
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-81-96-EDD  
Description: 2X2 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR  
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

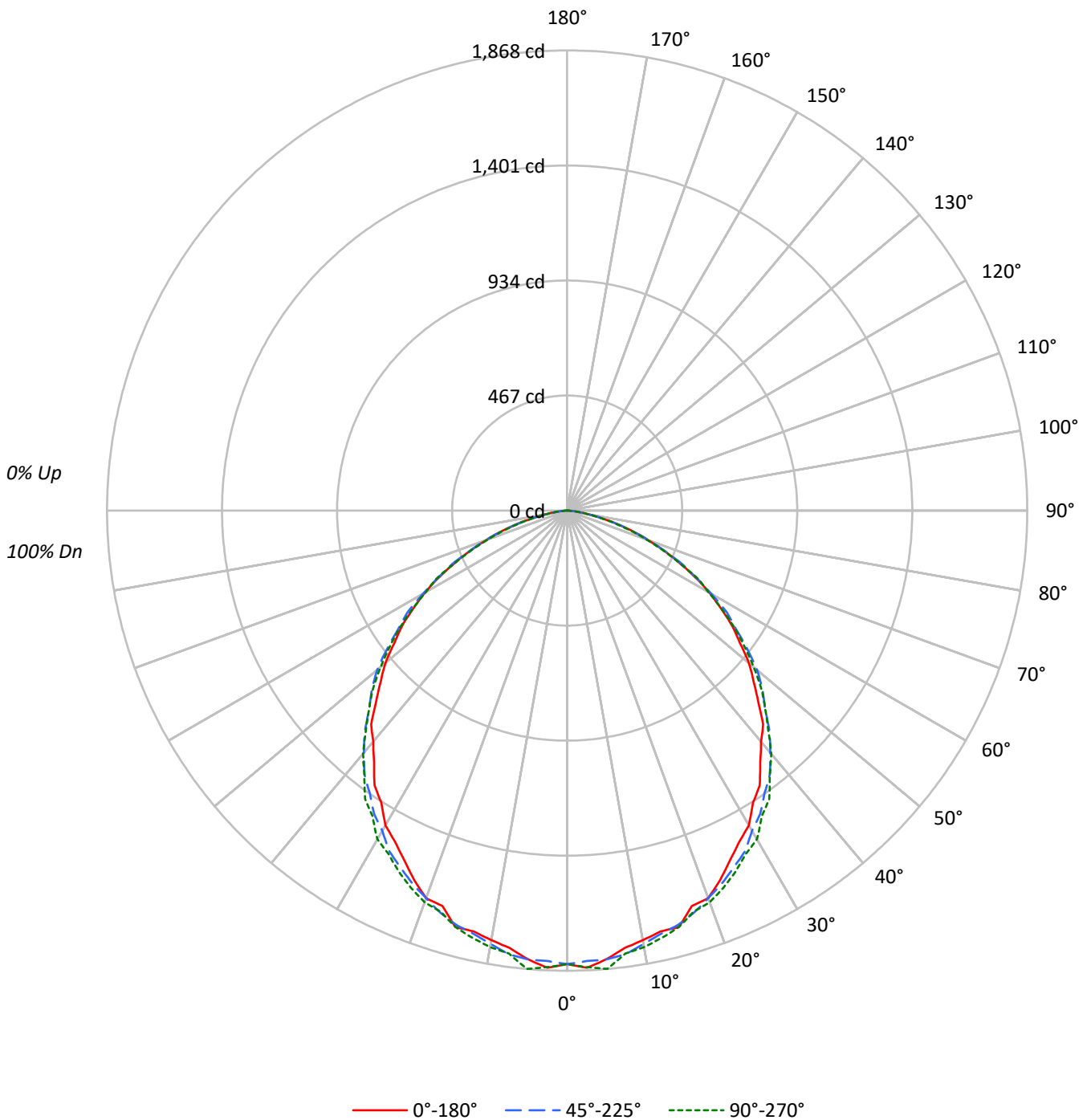
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4641.0 lumens  
Efficiency: N/A  
Efficacy: 107.4 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): 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°	4955	4955	4955
5°	4939	4941	5045
10°	4839	4881	4915
15°	4877	4851	4878
20°	4795	4795	4846
25°	4647	4749	4801
30°	4583	4664	4788
35°	4476	4593	4696
40°	4301	4508	4528
45°	4171	4320	4326
50°	4034	4216	4136
55°	3844	3918	3891
60°	3595	3630	3565
65°	3205	3287	3182
70°	2750	2759	2682
75°	2178	2173	2089
80°	1460	1418	1364
85°	794	784	735



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	173.2	3.7
10°-20°	490.9	10.6
20°-30°	735.5	15.8
30°-40°	871.7	18.8
40°-50°	873.3	18.8
50°-60°	741.3	16.0
60°-70°	499.8	10.8
70°-80°	219.6	4.7
80°-90°	35.7	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°	1399.6	30.2
0°-40°	2271.3	48.9
0°-60°	3885.9	83.7
0°-90°	4641.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4641.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1841	1841	1841	1841	1841	
5°	1828	1824	1829	1824	1868	172
15°	1751	1730	1741	1750	1751	488
25°	1565	1574	1599	1620	1617	724
35°	1362	1366	1398	1430	1429	846
45°	1096	1116	1135	1164	1137	848
55°	819	814	835	830	829	729
65°	503	497	516	496	500	501
75°	210	205	209	194	201	225
85°	26	25	25	25	24	37
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1841.4	1841.4	1841.4	1841.4	1841.4
2.5°	1857.4	1843.3	1830.3	1845.5	1854.7
5°	1828.4	1824.1	1829.1	1823.6	1867.6
7.5°	1790.8	1807.2	1816.7	1810.8	1813.4
10°	1770.8	1765.1	1786.3	1801.0	1798.9
12.5°	1749.4	1758.0	1759.2	1775.1	1776.5
15°	1750.6	1730.4	1741.1	1750.1	1750.8
17.5°	1682.6	1704.5	1711.9	1732.5	1706.9
20°	1674.3	1658.4	1674.3	1695.4	1692.1
22.5°	1623.2	1605.3	1639.6	1658.4	1657.2
25°	1565.2	1573.7	1599.4	1620.3	1617.0
27.5°	1514.3	1524.3	1560.9	1589.6	1571.1
30°	1475.0	1470.1	1501.0	1526.6	1540.9
32.5°	1404.9	1423.0	1459.1	1484.6	1471.0
35°	1362.4	1366.4	1398.0	1430.3	1429.4
37.5°	1287.9	1306.7	1351.2	1360.2	1351.9
40°	1224.5	1243.2	1283.4	1293.2	1289.1
42.5°	1177.6	1180.9	1215.4	1226.6	1208.8
45°	1096.1	1116.5	1135.1	1164.3	1136.7
47.5°	1026.6	1036.1	1076.1	1083.9	1069.4
50°	963.6	967.0	1007.1	997.4	987.9
52.5°	884.5	898.5	921.1	919.2	908.0
55°	819.3	813.8	835.2	829.5	829.3
57.5°	741.1	750.6	768.2	759.2	744.7
60°	667.9	668.1	674.5	664.3	662.4
62.5°	586.3	589.2	590.6	578.0	598.4
65°	503.3	496.7	516.2	496.4	499.8
67.5°	427.0	430.3	428.4	416.1	420.8
70°	349.5	353.8	350.7	336.7	340.9
72.5°	278.7	273.4	276.7	259.2	267.2
75°	209.5	205.2	209.0	194.2	200.9
77.5°	142.7	146.0	143.6	135.8	140.3
80°	94.2	91.5	91.5	87.0	88.0
82.5°	54.9	52.3	51.6	50.2	52.3
85°	25.7	25.0	25.4	24.7	23.8
87.5°	9.3	9.5	9.5	9.0	8.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)