

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: P589730

Luminaire Tested: **FMR-24-2-LD4-4LO-50-UNV-81-94-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P589730  
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-LD4-4LO-50-UNV-81-94-EDD  
Description: 2X2 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR  
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

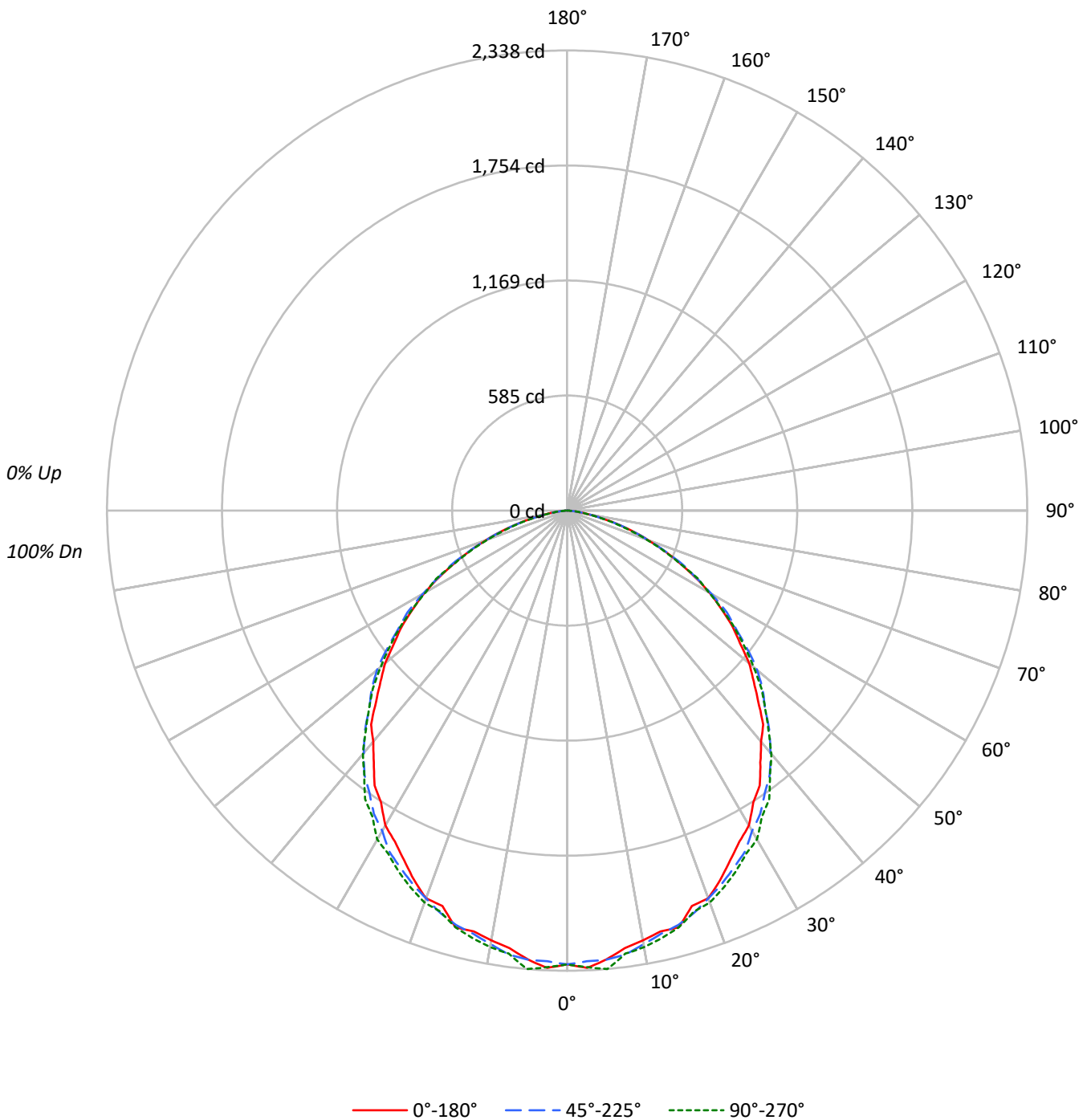
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5811.0 lumens  
Efficiency: N/A  
Efficacy: 124.2 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): 46.8  
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	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					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°	6205	6205	6205
5°	6184	6186	6317
10°	6058	6111	6155
15°	6106	6073	6107
20°	6003	6003	6067
25°	5819	5946	6011
30°	5739	5840	5995
35°	5604	5751	5880
40°	5386	5645	5670
45°	5223	5409	5417
50°	5051	5279	5178
55°	4813	4906	4872
60°	4500	4546	4464
65°	4013	4115	3985
70°	3443	3455	3359
75°	2727	2721	2616
80°	1827	1776	1706
85°	994	985	920



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	216.9	3.7
10°-20°	614.7	10.6
20°-30°	920.9	15.8
30°-40°	1091.5	18.8
40°-50°	1093.5	18.8
50°-60°	928.2	16.0
60°-70°	625.8	10.8
70°-80°	275.0	4.7
80°-90°	44.7	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°	1752.5	30.2
0°-40°	2843.9	48.9
0°-60°	4865.6	83.7
0°-90°	5811.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5811.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2306	2306	2306	2306	2306	
5°	2289	2284	2290	2283	2338	216
15°	2192	2167	2180	2191	2192	611
25°	1960	1970	2003	2029	2025	906
35°	1706	1711	1750	1791	1790	1059
45°	1372	1398	1421	1458	1423	1062
55°	1026	1019	1046	1039	1038	913
65°	630	622	646	622	626	627
75°	262	257	262	243	252	281
85°	32	31	32	31	30	47
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2305.7	2305.7	2305.7	2305.7	2305.7
2.5°	2325.6	2308.0	2291.7	2310.7	2322.3
5°	2289.3	2283.9	2290.2	2283.3	2338.4
7.5°	2242.2	2262.8	2274.7	2267.3	2270.5
10°	2217.2	2210.1	2236.6	2255.0	2252.4
12.5°	2190.4	2201.2	2202.7	2222.6	2224.4
15°	2191.9	2166.6	2180.0	2191.3	2192.2
17.5°	2106.8	2134.2	2143.4	2169.3	2137.2
20°	2096.4	2076.4	2096.4	2122.9	2118.7
22.5°	2032.4	2010.0	2052.9	2076.4	2074.9
25°	1959.7	1970.5	2002.6	2028.8	2024.6
27.5°	1896.0	1908.5	1954.4	1990.4	1967.2
30°	1846.9	1840.7	1879.4	1911.5	1929.4
32.5°	1759.1	1781.7	1827.0	1858.8	1841.8
35°	1705.8	1710.9	1750.5	1790.9	1789.8
37.5°	1612.6	1636.1	1691.8	1703.1	1692.7
40°	1533.1	1556.7	1607.0	1619.2	1614.1
42.5°	1474.5	1478.7	1521.8	1535.8	1513.5
45°	1372.4	1398.0	1421.2	1457.8	1423.3
47.5°	1285.5	1297.4	1347.4	1357.2	1339.0
50°	1206.6	1210.7	1261.0	1248.8	1236.9
52.5°	1107.4	1125.0	1153.3	1150.9	1136.9
55°	1025.9	1019.0	1045.8	1038.7	1038.4
57.5°	927.9	939.8	961.9	950.5	932.4
60°	836.2	836.5	844.6	831.8	829.4
62.5°	734.1	737.7	739.5	723.7	749.3
65°	630.2	621.9	646.3	621.6	625.8
67.5°	534.7	538.8	536.4	521.0	526.9
70°	437.6	443.0	439.1	421.5	426.9
72.5°	348.9	342.4	346.5	324.5	334.6
75°	262.3	256.9	261.7	243.2	251.6
77.5°	178.6	182.8	179.8	170.0	175.6
80°	117.9	114.6	114.6	109.0	110.1
82.5°	68.8	65.5	64.6	62.8	65.5
85°	32.2	31.3	31.9	31.0	29.8
87.5°	11.6	11.9	11.9	11.3	10.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)