

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: P589470

Luminaire Tested: **FMR-24-2-LD4-3STD-35-UNV-81-85-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P589470  
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-LD4-3STD-35-UNV-81-85-EDD  
Description: 2X2 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

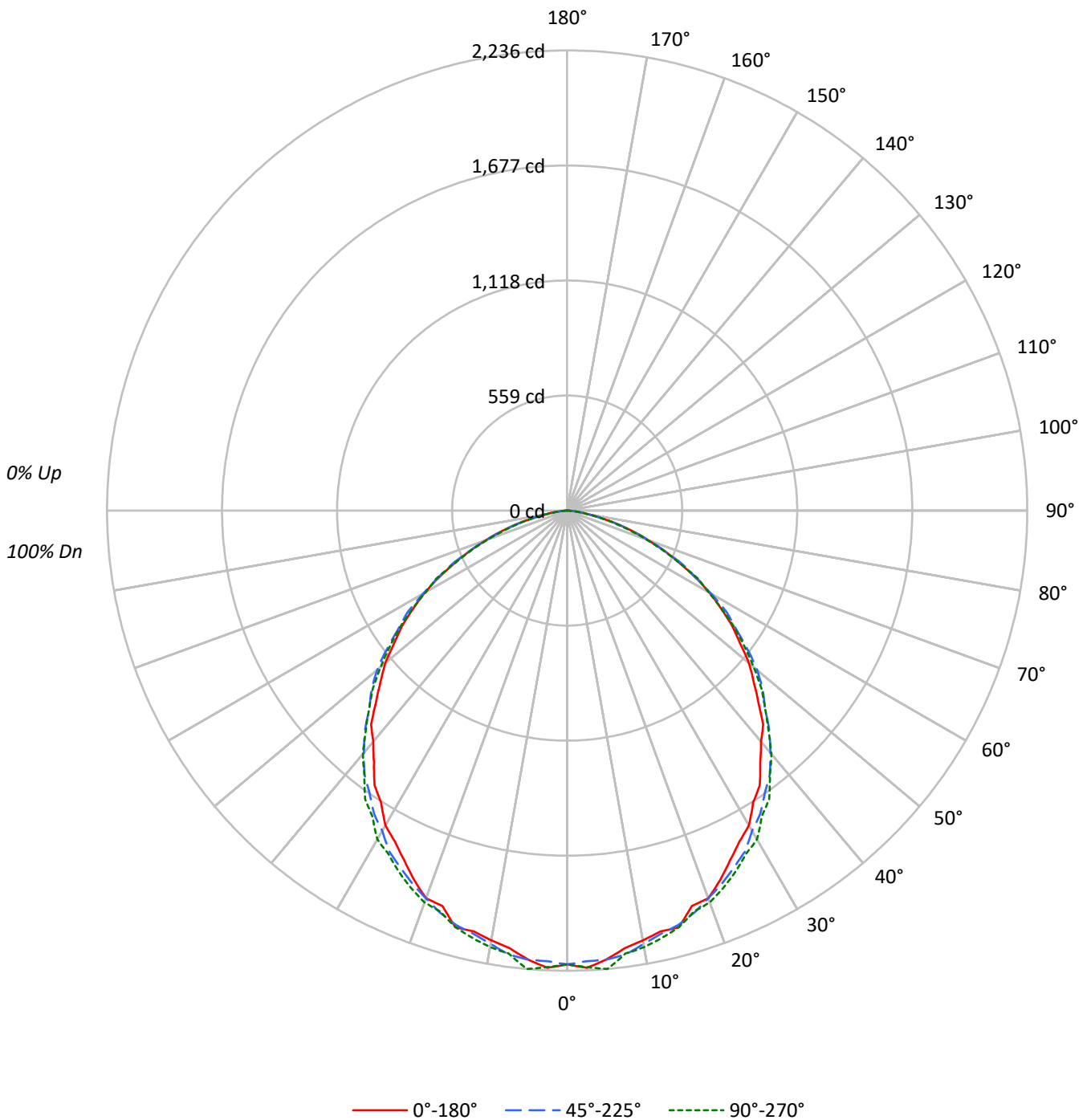
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5557.0 lumens  
Efficiency: N/A  
Efficacy: 111.1 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): 50  
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°	5933	5933	5933
5°	5914	5916	6041
10°	5794	5844	5886
15°	5840	5808	5840
20°	5741	5741	5802
25°	5565	5686	5749
30°	5488	5584	5733
35°	5359	5499	5622
40°	5150	5398	5422
45°	4994	5172	5180
50°	4830	5048	4952
55°	4602	4692	4659
60°	4304	4346	4268
65°	3838	3935	3810
70°	3293	3304	3212
75°	2608	2601	2502
80°	1746	1698	1632
85°	948	942	880



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	207.4	3.7
10°-20°	587.8	10.6
20°-30°	880.7	15.8
30°-40°	1043.7	18.8
40°-50°	1045.7	18.8
50°-60°	887.6	16.0
60°-70°	598.4	10.8
70°-80°	263.0	4.7
80°-90°	42.7	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°	1675.9	30.2
0°-40°	2719.6	48.9
0°-60°	4652.9	83.7
0°-90°	5557.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5557.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2205	2205	2205	2205	2205	
5°	2189	2184	2190	2184	2236	206
15°	2096	2072	2085	2096	2096	584
25°	1874	1884	1915	1940	1936	866
35°	1631	1636	1674	1713	1712	1013
45°	1312	1337	1359	1394	1361	1015
55°	981	974	1000	993	993	873
65°	603	595	618	594	598	599
75°	251	246	250	233	241	269
85°	31	30	30	30	28	45
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2204.9	2204.9	2204.9	2204.9	2204.9
2.5°	2224.0	2207.2	2191.5	2209.7	2220.8
5°	2189.2	2184.1	2190.1	2183.5	2236.2
7.5°	2144.2	2163.9	2175.3	2168.2	2171.3
10°	2120.3	2113.5	2138.8	2156.5	2153.9
12.5°	2094.7	2105.0	2106.4	2125.5	2127.2
15°	2096.1	2071.9	2084.7	2095.6	2096.4
17.5°	2014.7	2040.9	2049.7	2074.5	2043.7
20°	2004.7	1985.7	2004.7	2030.1	2026.1
22.5°	1943.5	1922.2	1963.2	1985.7	1984.2
25°	1874.1	1884.3	1915.1	1940.1	1936.1
27.5°	1813.2	1825.1	1869.0	1903.4	1881.2
30°	1766.2	1760.2	1797.2	1828.0	1845.0
32.5°	1682.2	1703.8	1747.1	1777.6	1761.3
35°	1631.2	1636.1	1673.9	1712.7	1711.5
37.5°	1542.1	1564.6	1617.9	1628.7	1618.7
40°	1466.1	1488.6	1536.7	1548.4	1543.6
42.5°	1410.0	1414.0	1455.3	1468.7	1447.3
45°	1312.4	1336.9	1359.1	1394.1	1361.1
47.5°	1229.3	1240.7	1288.5	1297.9	1280.5
50°	1153.8	1157.8	1205.9	1194.2	1182.9
52.5°	1059.0	1075.8	1102.9	1100.6	1087.2
55°	981.0	974.5	1000.1	993.3	993.0
57.5°	887.4	898.7	919.8	909.0	891.6
60°	799.7	800.0	807.6	795.4	793.1
62.5°	702.0	705.4	707.2	692.1	716.5
65°	602.7	594.7	618.0	594.4	598.4
67.5°	511.3	515.3	513.0	498.2	503.9
70°	418.5	423.6	419.9	403.1	408.2
72.5°	333.6	327.4	331.4	310.3	320.0
75°	250.8	245.7	250.2	232.6	240.6
77.5°	170.8	174.8	171.9	162.6	168.0
80°	112.7	109.6	109.6	104.2	105.3
82.5°	65.8	62.6	61.8	60.1	62.6
85°	30.7	29.9	30.5	29.6	28.5
87.5°	11.1	11.4	11.4	10.8	10.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)