

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: P589664

Luminaire Tested: **FMR-24-2-LD4-4LO-35-UNV-81-87-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P589664  
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-35-UNV-81-87-EDD  
Description: 2X2 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

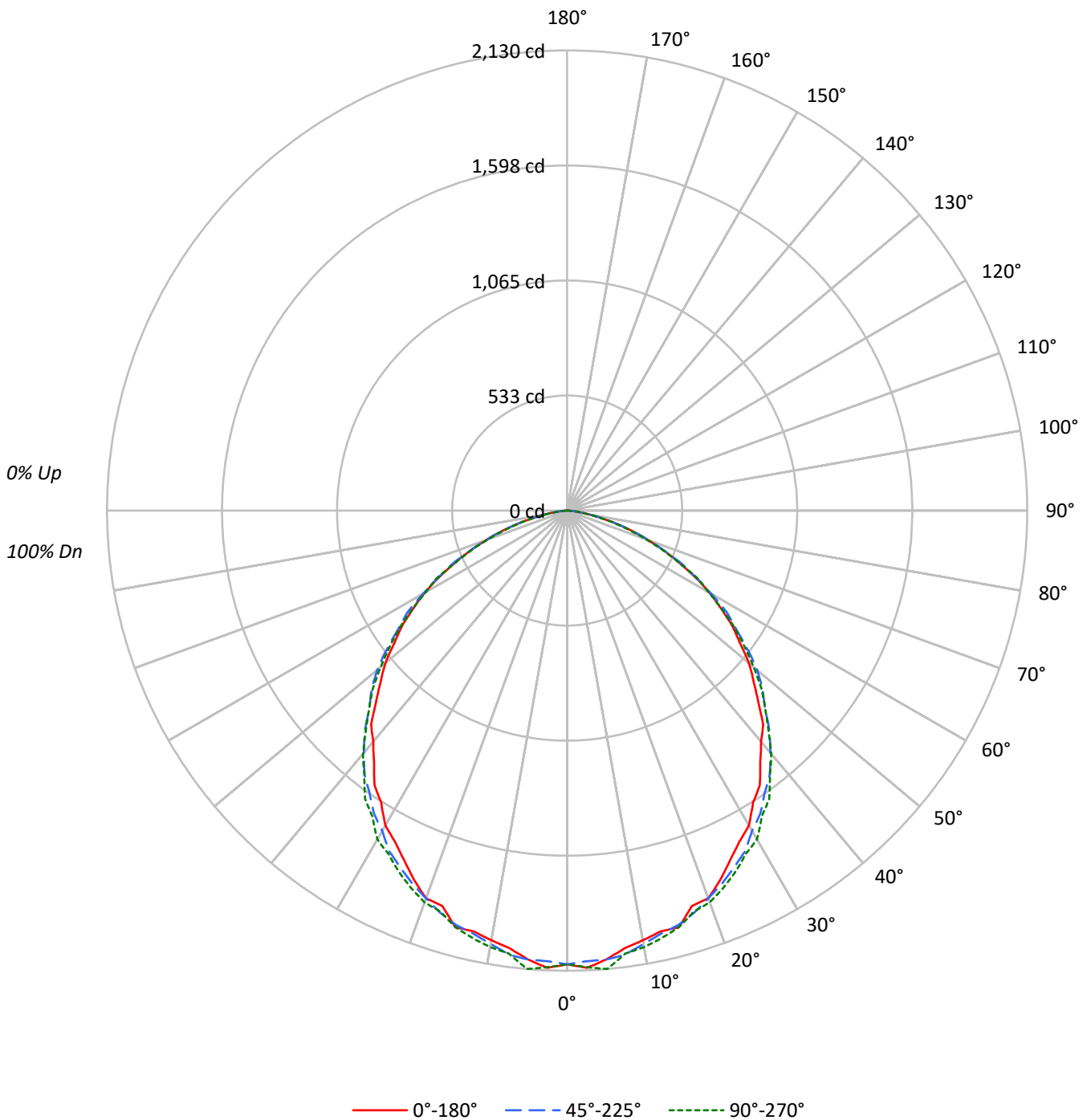
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5293.0 lumens  
Efficiency: N/A  
Efficacy: 113.1 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): 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	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°	5651	5651	5651
5°	5633	5635	5754
10°	5519	5567	5606
15°	5562	5532	5563
20°	5468	5468	5526
25°	5300	5416	5476
30°	5227	5319	5461
35°	5104	5238	5355
40°	4906	5142	5165
45°	4757	4926	4934
50°	4601	4809	4717
55°	4384	4469	4437
60°	4099	4140	4066
65°	3655	3748	3629
70°	3136	3147	3059
75°	2484	2478	2382
80°	1664	1618	1554
85°	905	895	837



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	197.5	3.7
10°-20°	559.9	10.6
20°-30°	838.8	15.8
30°-40°	994.2	18.8
40°-50°	996.0	18.8
50°-60°	845.4	16.0
60°-70°	570.0	10.8
70°-80°	250.5	4.7
80°-90°	40.7	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°	1596.2	30.2
0°-40°	2590.4	48.9
0°-60°	4431.8	83.7
0°-90°	5293.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5293.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2100	2100	2100	2100	2100	
5°	2085	2080	2086	2080	2130	197
15°	1996	1974	1986	1996	1997	556
25°	1785	1795	1824	1848	1844	825
35°	1554	1558	1594	1631	1630	965
45°	1250	1273	1294	1328	1296	967
55°	934	928	953	946	946	831
65°	574	566	589	566	570	571
75°	239	234	238	222	229	256
85°	29	28	29	28	27	42
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2100.1	2100.1	2100.1	2100.1	2100.1
2.5°	2118.3	2102.3	2087.4	2104.7	2115.3
5°	2085.2	2080.3	2086.0	2079.8	2130.0
7.5°	2042.4	2061.1	2071.9	2065.1	2068.1
10°	2019.6	2013.1	2037.2	2054.0	2051.6
12.5°	1995.2	2005.0	2006.3	2024.5	2026.1
15°	1996.5	1973.5	1985.7	1996.0	1996.8
17.5°	1919.0	1943.9	1952.3	1975.9	1946.7
20°	1909.5	1891.3	1909.5	1933.6	1929.8
22.5°	1851.2	1830.9	1869.9	1891.3	1890.0
25°	1785.0	1794.8	1824.1	1848.0	1844.2
27.5°	1727.0	1738.4	1780.2	1813.0	1791.8
30°	1682.3	1676.6	1711.8	1741.1	1757.4
32.5°	1602.3	1622.9	1664.1	1693.1	1677.7
35°	1553.7	1558.4	1594.4	1631.3	1630.2
37.5°	1468.9	1490.3	1541.0	1551.3	1541.8
40°	1396.5	1417.9	1463.7	1474.8	1470.2
42.5°	1343.1	1346.8	1386.2	1398.9	1378.6
45°	1250.0	1273.4	1294.5	1327.9	1296.4
47.5°	1170.9	1181.7	1227.3	1236.2	1219.7
50°	1099.0	1102.8	1148.6	1137.5	1126.7
52.5°	1008.7	1024.7	1050.5	1048.3	1035.6
55°	934.4	928.2	952.6	946.1	945.8
57.5°	845.2	856.0	876.1	865.8	849.3
60°	761.7	762.0	769.3	757.6	755.4
62.5°	668.7	671.9	673.6	659.2	682.5
65°	574.0	566.5	588.7	566.2	570.0
67.5°	487.0	490.8	488.6	474.5	480.0
70°	398.6	403.5	400.0	384.0	388.8
72.5°	317.8	311.8	315.6	295.6	304.8
75°	238.9	234.0	238.3	221.5	229.1
77.5°	162.7	166.5	163.8	154.8	160.0
80°	107.4	104.4	104.4	99.2	100.3
82.5°	62.6	59.7	58.8	57.2	59.7
85°	29.3	28.5	29.0	28.2	27.1
87.5°	10.6	10.8	10.8	10.3	9.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)