

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: P589662

Luminaire Tested: **FMR-24-2-LD4-4LO-35-UNV-81-85-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P589662  
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-81-85-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: -

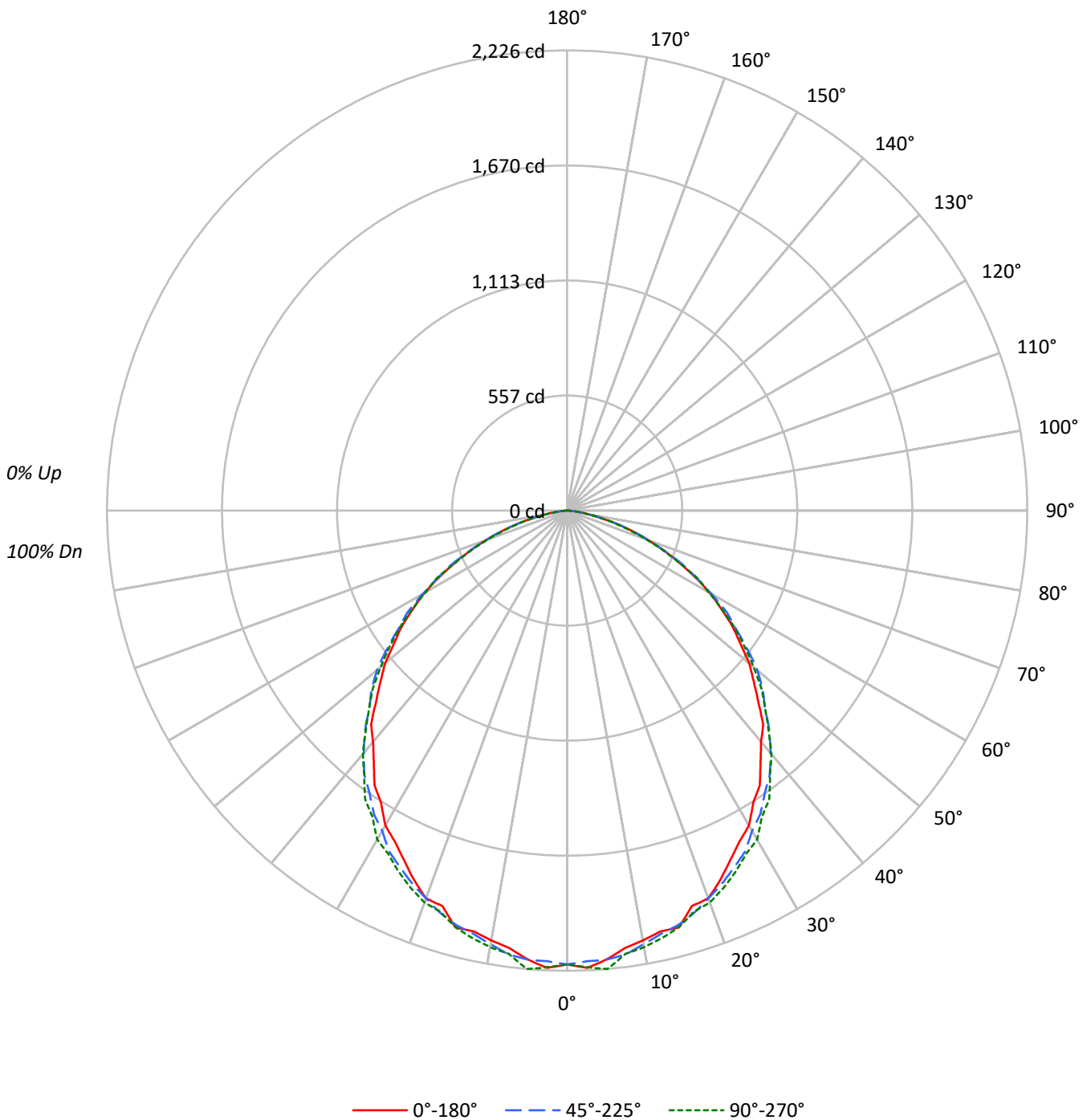
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 5533.0 lumens  
Efficiency: N/A  
Efficacy: 118.2 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	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°	5908	5908	5908
5°	5888	5890	6014
10°	5769	5819	5860
15°	5814	5783	5815
20°	5716	5716	5777
25°	5540	5662	5724
30°	5464	5560	5708
35°	5336	5475	5598
40°	5128	5375	5399
45°	4973	5150	5157
50°	4809	5027	4931
55°	4583	4672	4639
60°	4285	4328	4250
65°	3821	3918	3794
70°	3279	3290	3198
75°	2596	2591	2490
80°	1739	1691	1626
85°	945	936	874



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	206.5	3.7
10°-20°	585.3	10.6
20°-30°	876.8	15.8
30°-40°	1039.2	18.8
40°-50°	1041.2	18.8
50°-60°	883.8	16.0
60°-70°	595.9	10.8
70°-80°	261.8	4.7
80°-90°	42.5	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°	1668.6	30.2
0°-40°	2707.9	48.9
0°-60°	4632.8	83.7
0°-90°	5533.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5533.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2195	2195	2195	2195	2195	
5°	2180	2175	2181	2174	2226	206
15°	2087	2063	2076	2086	2087	581
25°	1866	1876	1907	1932	1928	863
35°	1624	1629	1667	1705	1704	1008
45°	1307	1331	1353	1388	1355	1011
55°	977	970	996	989	989	869
65°	600	592	615	592	596	597
75°	250	245	249	232	240	268
85°	31	30	30	30	28	44
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2195.4	2195.4	2195.4	2195.4	2195.4
2.5°	2214.3	2197.6	2182.0	2200.2	2211.2
5°	2179.8	2174.7	2180.6	2174.1	2226.5
7.5°	2135.0	2154.5	2165.9	2158.8	2161.9
10°	2111.2	2104.4	2129.6	2147.2	2144.6
12.5°	2085.7	2095.9	2097.3	2116.3	2118.0
15°	2087.1	2063.0	2075.7	2086.5	2087.4
17.5°	2006.0	2032.1	2040.9	2065.5	2034.9
20°	1996.1	1977.1	1996.1	2021.3	2017.3
22.5°	1935.1	1913.9	1954.7	1977.1	1975.7
25°	1866.0	1876.2	1906.8	1931.7	1927.8
27.5°	1805.3	1817.2	1860.9	1895.2	1873.1
30°	1758.6	1752.6	1789.4	1820.1	1837.1
32.5°	1674.9	1696.5	1739.6	1769.9	1753.7
35°	1624.2	1629.0	1666.7	1705.3	1704.1
37.5°	1535.5	1557.9	1610.9	1621.6	1611.7
40°	1459.8	1482.2	1530.1	1541.7	1536.9
42.5°	1403.9	1407.9	1449.0	1462.3	1441.1
45°	1306.7	1331.1	1353.2	1388.1	1355.2
47.5°	1224.0	1235.3	1282.9	1292.3	1275.0
50°	1148.8	1152.8	1200.7	1189.1	1177.8
52.5°	1054.5	1071.2	1098.1	1095.8	1082.5
55°	976.8	970.3	995.8	989.0	988.7
57.5°	883.5	894.9	915.8	905.1	887.8
60°	796.2	796.5	804.2	792.0	789.7
62.5°	699.0	702.4	704.1	689.1	713.5
65°	600.1	592.1	615.4	591.9	595.8
67.5°	509.1	513.1	510.8	496.0	501.7
70°	416.7	421.8	418.1	401.4	406.5
72.5°	332.2	326.0	329.9	309.0	318.6
75°	249.7	244.6	249.2	231.6	239.5
77.5°	170.1	174.0	171.2	161.9	167.2
80°	112.2	109.1	109.1	103.7	104.9
82.5°	65.5	62.4	61.5	59.8	62.4
85°	30.6	29.8	30.3	29.5	28.3
87.5°	11.1	11.3	11.3	10.8	10.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)