

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: P589792

Luminaire Tested: **FMR-24-2-LD4-4STD-40-UNV-81-87-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P589792  
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-LD4-4STD-40-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 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

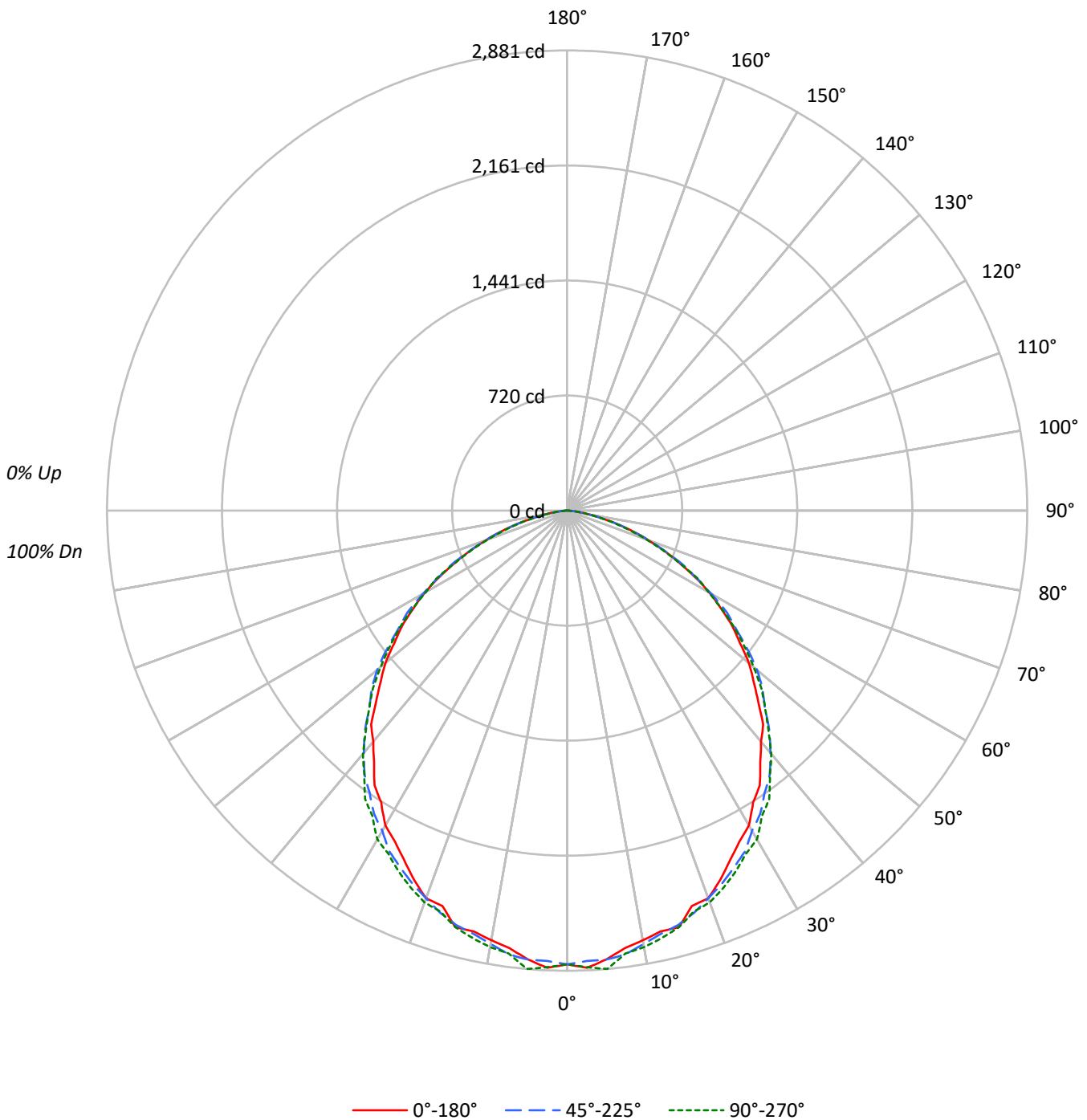
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 7159.0 lumens  
Efficiency: N/A  
Efficacy: 107.5 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): 66.6  
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					86			
2	100	93	86	81	98	91	85	80	87	82	78	84	80	76	81	78	75	73					73			
3	92	82	74	68	89	80	73	67	77	71	66	75	69	65	72	68	64	62					62			
4	84	73	64	58	82	71	64	58	69	62	57	67	61	56	65	59	55	53					53			
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48	46					46			
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	53	47	43	41					41			
7	67	53	45	39	65	53	45	39	51	44	39	50	43	38	48	42	38	36					36			
8	62	49	41	35	61	48	40	35	47	40	34	46	39	34	44	39	34	32					32			
9	58	45	37	31	57	44	37	31	43	36	31	42	36	31	41	35	31	29					29			
10	54	41	34	29	53	41	33	28	40	33	28	39	33	28	38	32	28	26					26			

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	7644	7644	7644
5°	7618	7621	7782
10°	7464	7529	7582
15°	7523	7482	7524
20°	7396	7396	7475
25°	7168	7326	7406
30°	7070	7194	7386
35°	6904	7084	7243
40°	6635	6954	6985
45°	6434	6663	6673
50°	6223	6504	6380
55°	5929	6045	6001
60°	5544	5600	5499
65°	4944	5070	4909
70°	4242	4257	4138
75°	3359	3352	3222
80°	2250	2188	2103
85°	1223	1210	1133



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	267.2	3.7
10°-20°	757.3	10.6
20°-30°	1134.5	15.8
30°-40°	1344.6	18.8
40°-50°	1347.1	18.8
50°-60°	1143.5	16.0
60°-70°	770.9	10.8
70°-80°	338.8	4.7
80°-90°	55.0	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°	2159.0	30.2
0°-40°	3503.6	48.9
0°-60°	5994.2	83.7
0°-90°	7159.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7159.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2840	2840	2840	2840	2840	
5°	2820	2814	2821	2813	2881	266
15°	2700	2669	2686	2700	2701	752
25°	2414	2428	2467	2499	2494	1116
35°	2102	2108	2156	2206	2205	1305
45°	1691	1722	1751	1796	1754	1308
55°	1264	1255	1288	1280	1279	1124
65°	776	766	796	766	771	772
75°	323	316	322	300	310	346
85°	40	38	39	38	37	57
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2840.5	2840.5	2840.5	2840.5	2840.5
2.5°	2865.1	2843.4	2823.3	2846.7	2861.0
5°	2820.3	2813.7	2821.4	2813.0	2880.9
7.5°	2762.4	2787.7	2802.4	2793.2	2797.2
10°	2731.6	2722.8	2755.4	2778.2	2774.9
12.5°	2698.6	2711.8	2713.6	2738.2	2740.4
15°	2700.4	2669.2	2685.7	2699.7	2700.8
17.5°	2595.5	2629.3	2640.6	2672.5	2632.9
20°	2582.7	2558.1	2582.7	2615.3	2610.2
22.5°	2503.8	2476.3	2529.1	2558.1	2556.3
25°	2414.3	2427.5	2467.2	2499.4	2494.3
27.5°	2335.9	2351.3	2407.7	2452.1	2423.5
30°	2275.3	2267.6	2315.3	2354.9	2376.9
32.5°	2167.1	2195.0	2250.8	2290.0	2269.1
35°	2101.5	2107.7	2156.5	2206.4	2204.9
37.5°	1986.7	2015.7	2084.3	2098.2	2085.4
40°	1888.8	1917.8	1979.7	1994.8	1988.5
42.5°	1816.5	1821.7	1874.8	1892.1	1864.6
45°	1690.7	1722.3	1750.9	1796.0	1753.5
47.5°	1583.6	1598.3	1659.9	1672.0	1649.7
50°	1486.5	1491.6	1553.6	1538.5	1523.9
52.5°	1364.3	1386.0	1420.8	1417.9	1400.6
55°	1263.8	1255.4	1288.4	1279.6	1279.2
57.5°	1143.2	1157.8	1185.0	1171.0	1148.7
60°	1030.2	1030.6	1040.5	1024.7	1021.8
62.5°	904.4	908.8	911.0	891.6	923.1
65°	776.4	766.1	796.2	765.8	770.9
67.5°	658.7	663.8	660.9	641.8	649.2
70°	539.1	545.7	541.0	519.3	525.9
72.5°	429.8	421.8	426.9	399.8	412.2
75°	323.1	316.5	322.4	299.6	309.9
77.5°	220.1	225.2	221.5	209.4	216.4
80°	145.2	141.2	141.2	134.2	135.7
82.5°	84.7	80.7	79.6	77.4	80.7
85°	39.6	38.5	39.2	38.1	36.7
87.5°	14.3	14.7	14.7	13.9	13.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)