

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: P589197

Luminaire Tested: **FMR-24-2-LD4-2STD-35-UNV-93-84-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P589197  
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-LD4-2STD-35-UNV-93-84-EDD  
Description: 2X2 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

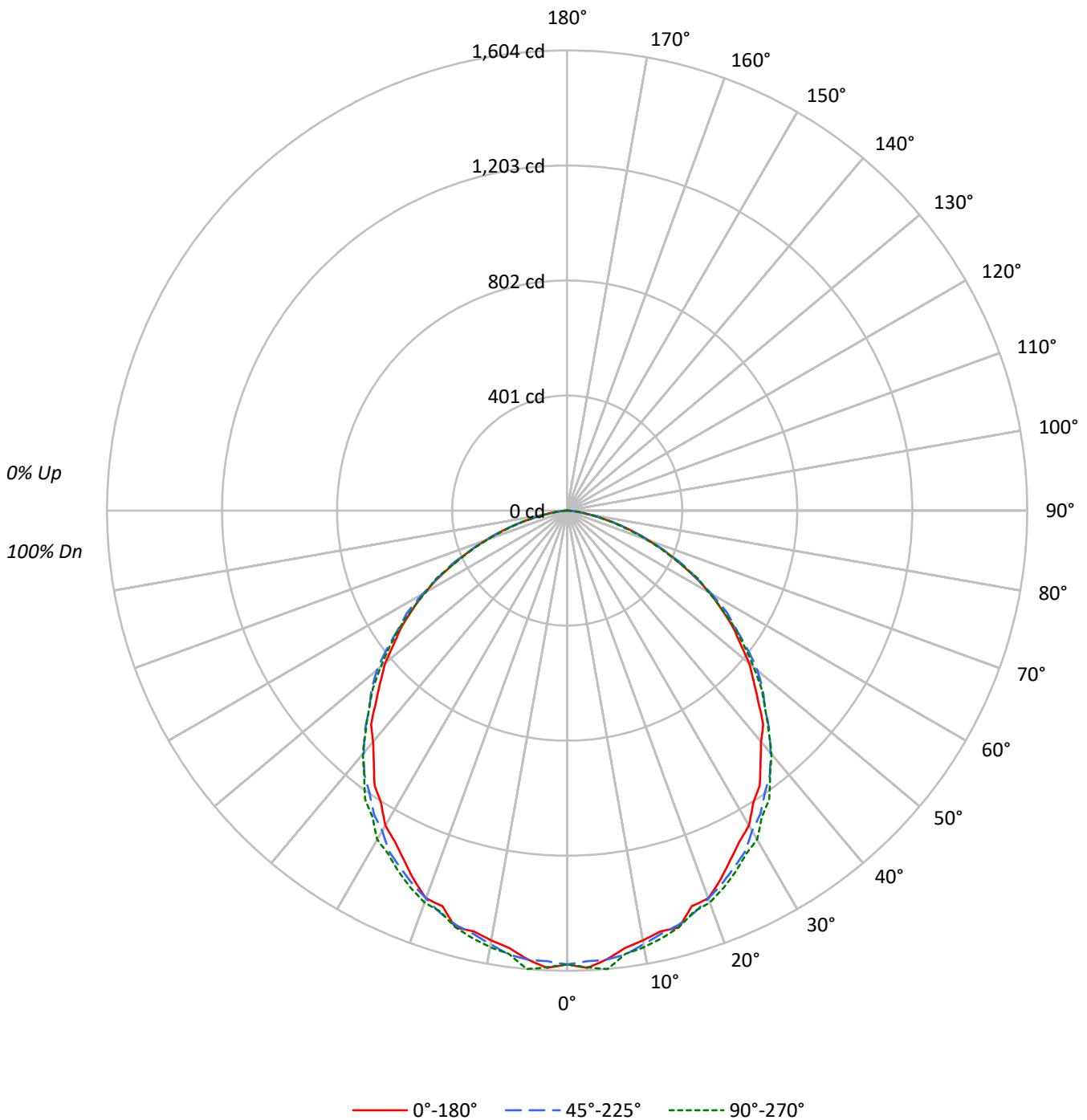
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3987.0 lumens  
Efficiency: N/A  
Efficacy: 119.7 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): 33.3  
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°	4257	4257	4257
5°	4243	4244	4334
10°	4157	4193	4223
15°	4190	4167	4190
20°	4119	4119	4163
25°	3992	4080	4124
30°	3938	4007	4113
35°	3845	3945	4034
40°	3695	3873	3890
45°	3583	3711	3716
50°	3466	3622	3553
55°	3302	3366	3342
60°	3088	3119	3062
65°	2753	2823	2734
70°	2363	2371	2305
75°	1870	1866	1795
80°	1254	1218	1172
85°	682	676	630



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	148.8	3.7
10°-20°	421.7	10.6
20°-30°	631.8	15.8
30°-40°	748.9	18.8
40°-50°	750.2	18.8
50°-60°	636.8	16.0
60°-70°	429.4	10.8
70°-80°	188.7	4.7
80°-90°	30.7	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°	1202.4	30.2
0°-40°	1951.2	48.9
0°-60°	3338.3	83.7
0°-90°	3987.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3987.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1582	1582	1582	1582	1582	
5°	1571	1567	1571	1567	1604	148
15°	1504	1487	1496	1504	1504	419
25°	1345	1352	1374	1392	1389	622
35°	1170	1174	1201	1229	1228	727
45°	942	959	975	1000	976	728
55°	704	699	718	713	712	626
65°	432	427	443	426	429	430
75°	180	176	180	167	173	193
85°	22	21	22	21	20	32
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1581.9	1581.9	1581.9	1581.9	1581.9
2.5°	1595.6	1583.6	1572.3	1585.4	1593.4
5°	1570.7	1567.0	1571.3	1566.6	1604.4
7.5°	1538.4	1552.5	1560.7	1555.6	1557.8
10°	1521.3	1516.4	1534.6	1547.2	1545.4
12.5°	1502.9	1510.2	1511.3	1525.0	1526.2
15°	1503.9	1486.6	1495.7	1503.5	1504.1
17.5°	1445.5	1464.3	1470.6	1488.4	1466.3
20°	1438.4	1424.7	1438.4	1456.5	1453.7
22.5°	1394.4	1379.1	1408.5	1424.7	1423.6
25°	1344.6	1352.0	1374.0	1392.0	1389.1
27.5°	1300.9	1309.5	1340.9	1365.6	1349.7
30°	1267.2	1262.9	1289.5	1311.5	1323.8
32.5°	1206.9	1222.5	1253.5	1275.4	1263.7
35°	1170.4	1173.8	1201.0	1228.8	1228.0
37.5°	1106.4	1122.6	1160.8	1168.5	1161.4
40°	1051.9	1068.0	1102.6	1110.9	1107.5
42.5°	1011.7	1014.5	1044.1	1053.7	1038.4
45°	941.6	959.2	975.1	1000.2	976.5
47.5°	882.0	890.1	924.4	931.2	918.7
50°	827.8	830.7	865.2	856.8	848.7
52.5°	759.8	771.9	791.3	789.6	780.0
55°	703.9	699.2	717.5	712.6	712.4
57.5°	636.7	644.8	659.9	652.2	639.7
60°	573.7	574.0	579.5	570.7	569.0
62.5°	503.7	506.1	507.4	496.5	514.1
65°	432.4	426.7	443.4	426.5	429.3
67.5°	366.8	369.7	368.1	357.4	361.5
70°	300.3	303.9	301.3	289.2	292.9
72.5°	239.4	234.9	237.8	222.6	229.6
75°	179.9	176.3	179.5	166.9	172.6
77.5°	122.6	125.4	123.4	116.6	120.5
80°	80.9	78.6	78.6	74.8	75.6
82.5°	47.2	44.9	44.3	43.1	44.9
85°	22.1	21.4	21.9	21.2	20.4
87.5°	8.0	8.2	8.2	7.8	7.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)