

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: P589170

Luminaire Tested: **FMR-24-2-LD4-2LO-50-UNV-93-94-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P589170  
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-LD4-2LO-50-UNV-93-94-EDD  
Description: 2X2 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

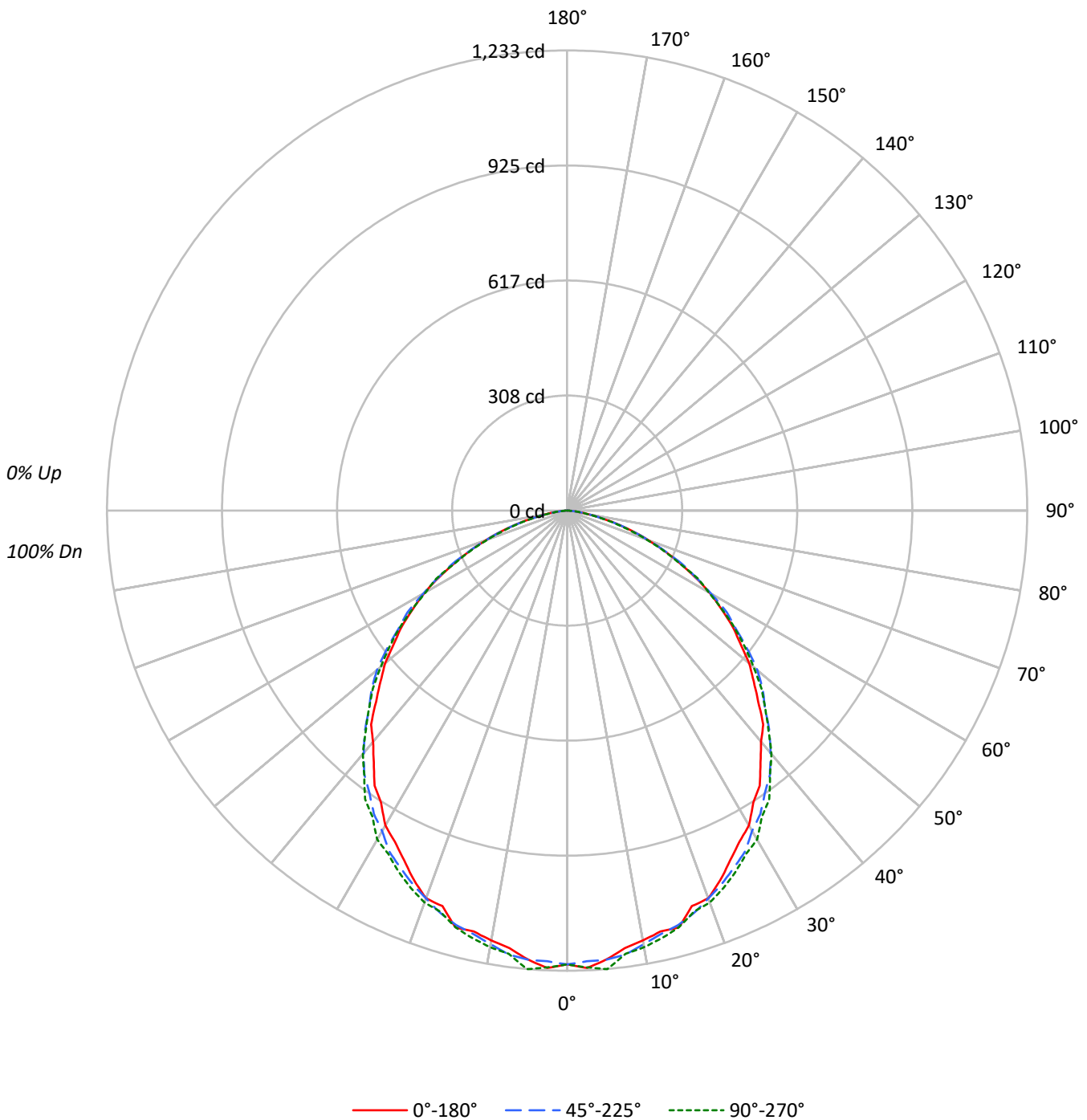
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3065.0 lumens  
Efficiency: N/A  
Efficacy: 131.0 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): 23.4  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): 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°	3272	3272	3272
5°	3262	3263	3332
10°	3196	3224	3246
15°	3221	3204	3221
20°	3166	3166	3200
25°	3069	3136	3171
30°	3027	3080	3162
35°	2956	3033	3101
40°	2840	2977	2991
45°	2755	2853	2857
50°	2664	2784	2731
55°	2539	2588	2570
60°	2374	2398	2355
65°	2117	2171	2102
70°	1816	1822	1772
75°	1438	1435	1380
80°	964	938	900
85°	525	519	485



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	114.4	3.7
10°-20°	324.2	10.6
20°-30°	485.7	15.8
30°-40°	575.7	18.8
40°-50°	576.8	18.8
50°-60°	489.6	16.0
60°-70°	330.1	10.8
70°-80°	145.0	4.7
80°-90°	23.6	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°	924.3	30.2
0°-40°	1500.0	48.9
0°-60°	2566.3	83.7
0°-90°	3065.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3065.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1216	1216	1216	1216	1216	
5°	1208	1205	1208	1204	1233	114
15°	1156	1143	1150	1156	1156	322
25°	1034	1039	1056	1070	1068	478
35°	900	902	923	945	944	559
45°	724	737	750	769	751	560
55°	541	538	552	548	548	481
65°	332	328	341	328	330	331
75°	138	136	138	128	133	148
85°	17	16	17	16	16	25
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1216.1	1216.1	1216.1	1216.1	1216.1
2.5°	1226.6	1217.4	1208.7	1218.8	1224.9
5°	1207.5	1204.7	1207.9	1204.3	1233.4
7.5°	1182.7	1193.5	1199.8	1195.9	1197.6
10°	1169.5	1165.7	1179.7	1189.4	1188.0
12.5°	1155.3	1161.0	1161.8	1172.3	1173.2
15°	1156.1	1142.8	1149.9	1155.8	1156.3
17.5°	1111.2	1125.7	1130.5	1144.2	1127.2
20°	1105.7	1095.2	1105.7	1119.7	1117.5
22.5°	1072.0	1060.2	1082.8	1095.2	1094.4
25°	1033.7	1039.3	1056.3	1070.1	1067.9
27.5°	1000.1	1006.7	1030.8	1049.8	1037.6
30°	974.1	970.9	991.3	1008.2	1017.6
32.5°	927.8	939.8	963.6	980.4	971.5
35°	899.7	902.4	923.3	944.6	944.0
37.5°	850.6	863.0	892.3	898.3	892.8
40°	808.6	821.1	847.6	854.0	851.4
42.5°	777.7	779.9	802.7	810.1	798.3
45°	723.9	737.4	749.6	768.9	750.7
47.5°	678.0	684.3	710.7	715.9	706.3
50°	636.4	638.6	665.1	658.7	652.4
52.5°	584.1	593.4	608.3	607.0	599.7
55°	541.1	537.5	551.6	547.8	547.7
57.5°	489.4	495.7	507.3	501.4	491.8
60°	441.1	441.2	445.5	438.7	437.5
62.5°	387.2	389.1	390.0	381.7	395.2
65°	332.4	328.0	340.9	327.9	330.1
67.5°	282.0	284.2	282.9	274.8	277.9
70°	230.8	233.6	231.6	222.3	225.2
72.5°	184.0	180.6	182.8	171.2	176.5
75°	138.3	135.5	138.0	128.3	132.7
77.5°	94.2	96.4	94.8	89.7	92.6
80°	62.2	60.5	60.5	57.5	58.1
82.5°	36.3	34.5	34.1	33.1	34.5
85°	17.0	16.5	16.8	16.3	15.7
87.5°	6.1	6.3	6.3	6.0	5.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)