

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: P588849

Luminaire Tested: **FMR-24-2-LD4-1LO-40-UNV-93-88-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P588849  
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-LD4-1LO-40-UNV-93-88-EDD  
Description: 2X2 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

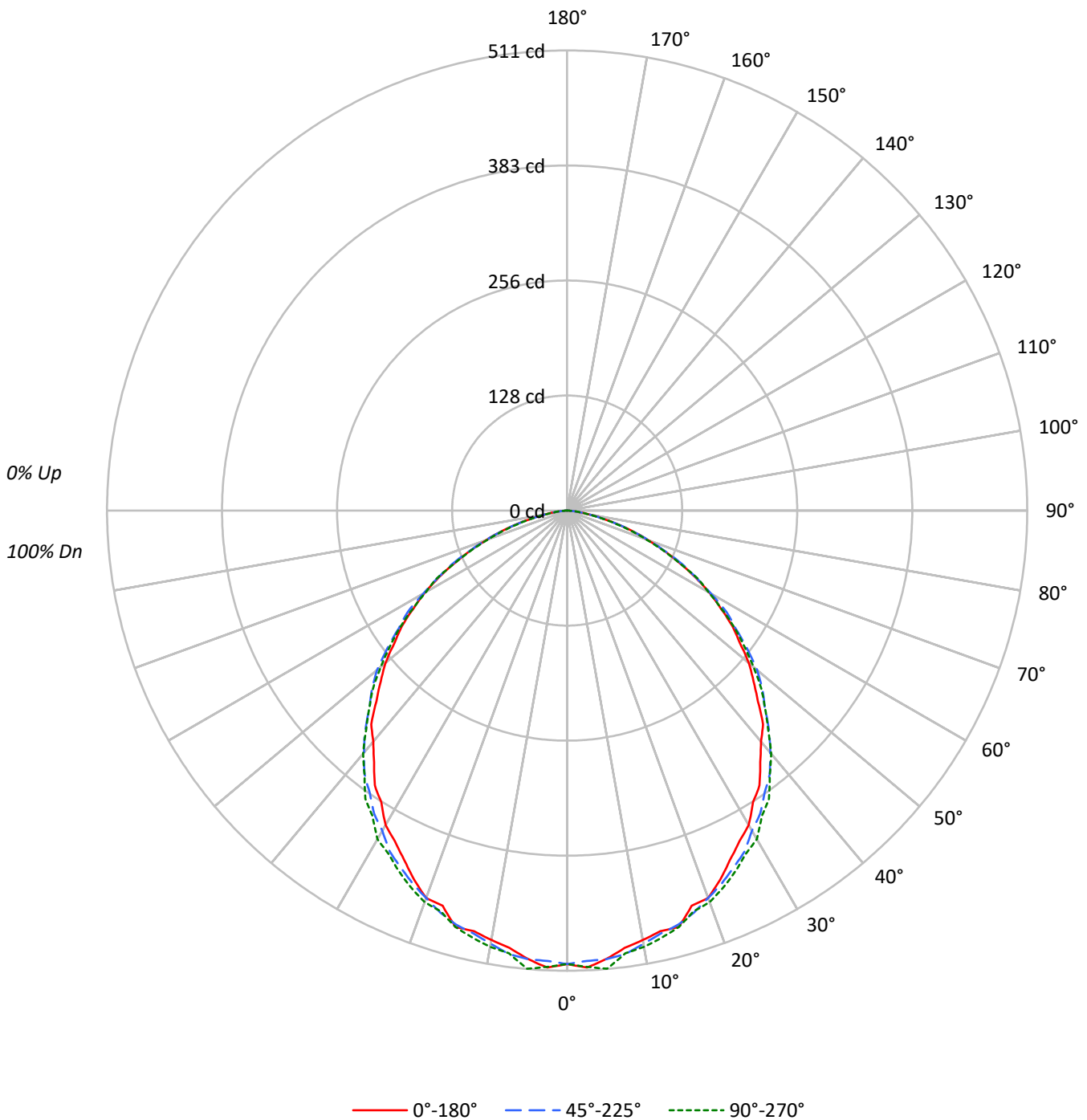
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1269.0 lumens  
Efficiency: N/A  
Efficacy: 108.5 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): 11.7  
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

TEST NUMBER: P588849

CATALOG NUMBER: FMR-24-2-LD4-1LO-40-UNV-93-88-EDD

### Luminous Intensity Polar Plot





TEST NUMBER: P588849

CATALOG NUMBER: FMR-24-2-LD4-1LO-40-UNV-93-88-EDD

**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°	1355	1355	1355
5°	1350	1351	1380
10°	1323	1335	1344
15°	1334	1326	1334
20°	1311	1311	1325
25°	1271	1298	1313
30°	1253	1275	1309
35°	1224	1256	1284
40°	1176	1233	1238
45°	1141	1181	1183
50°	1103	1153	1131
55°	1051	1072	1064
60°	983	992	975
65°	876	898	870
70°	752	755	733
75°	596	594	571
80°	398	387	373
85°	216	216	201



TEST NUMBER: P588849

CATALOG NUMBER: FMR-24-2-LD4-1LO-40-UNV-93-88-EDD

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	47.4	3.7
10°-20°	134.2	10.6
20°-30°	201.1	15.8
30°-40°	238.4	18.8
40°-50°	238.8	18.8
50°-60°	202.7	16.0
60°-70°	136.7	10.8
70°-80°	60.1	4.7
80°-90°	9.8	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°	382.7	30.2
0°-40°	621.0	48.9
0°-60°	1062.5	83.7
0°-90°	1269.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1269.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	504	504	504	504	504	
5°	500	499	500	499	511	47
15°	479	473	476	478	479	133
25°	428	430	437	443	442	198
35°	372	374	382	391	391	231
45°	300	305	310	318	311	232
55°	224	222	228	227	227	199
65°	138	136	141	136	137	137
75°	57	56	57	53	55	61
85°	7	7	7	7	6	10
90°	0	0	0	0	0	



TEST NUMBER: P588849

CATALOG NUMBER: FMR-24-2-LD4-1LO-40-UNV-93-88-EDD

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	503.5	503.5	503.5	503.5	503.5
2.5°	507.9	504.0	500.5	504.6	507.1
5°	499.9	498.8	500.1	498.6	510.7
7.5°	489.7	494.1	496.7	495.1	495.8
10°	484.2	482.6	488.4	492.5	491.9
12.5°	478.3	480.7	481.0	485.4	485.8
15°	478.7	473.1	476.1	478.5	478.7
17.5°	460.1	466.1	468.1	473.7	466.7
20°	457.8	453.4	457.8	463.6	462.7
22.5°	443.8	439.0	448.3	453.4	453.1
25°	428.0	430.3	437.3	443.0	442.1
27.5°	414.1	416.8	426.8	434.7	429.6
30°	403.3	402.0	410.4	417.4	421.3
32.5°	384.1	389.1	399.0	405.9	402.2
35°	372.5	373.6	382.3	391.1	390.8
37.5°	352.2	357.3	369.5	371.9	369.7
40°	334.8	339.9	350.9	353.6	352.5
42.5°	322.0	322.9	332.3	335.4	330.5
45°	299.7	305.3	310.4	318.4	310.8
47.5°	280.7	283.3	294.2	296.4	292.4
50°	263.5	264.4	275.4	272.7	270.1
52.5°	241.8	245.7	251.9	251.3	248.3
55°	224.0	222.5	228.4	226.8	226.8
57.5°	202.6	205.2	210.0	207.6	203.6
60°	182.6	182.7	184.4	181.6	181.1
62.5°	160.3	161.1	161.5	158.0	163.6
65°	137.6	135.8	141.1	135.7	136.7
67.5°	116.8	117.7	117.1	113.8	115.1
70°	95.6	96.7	95.9	92.1	93.2
72.5°	76.2	74.8	75.7	70.9	73.1
75°	57.3	56.1	57.1	53.1	54.9
77.5°	39.0	39.9	39.3	37.1	38.4
80°	25.7	25.0	25.0	23.8	24.1
82.5°	15.0	14.3	14.1	13.7	14.3
85°	7.0	6.8	7.0	6.8	6.5
87.5°	2.5	2.6	2.6	2.5	2.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)