

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: P589217

Luminaire Tested: **FMR-24-2-LD4-2STD-40-UNV-81-88-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P589217  
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-40-UNV-81-88-EDD  
Description: 2X2 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

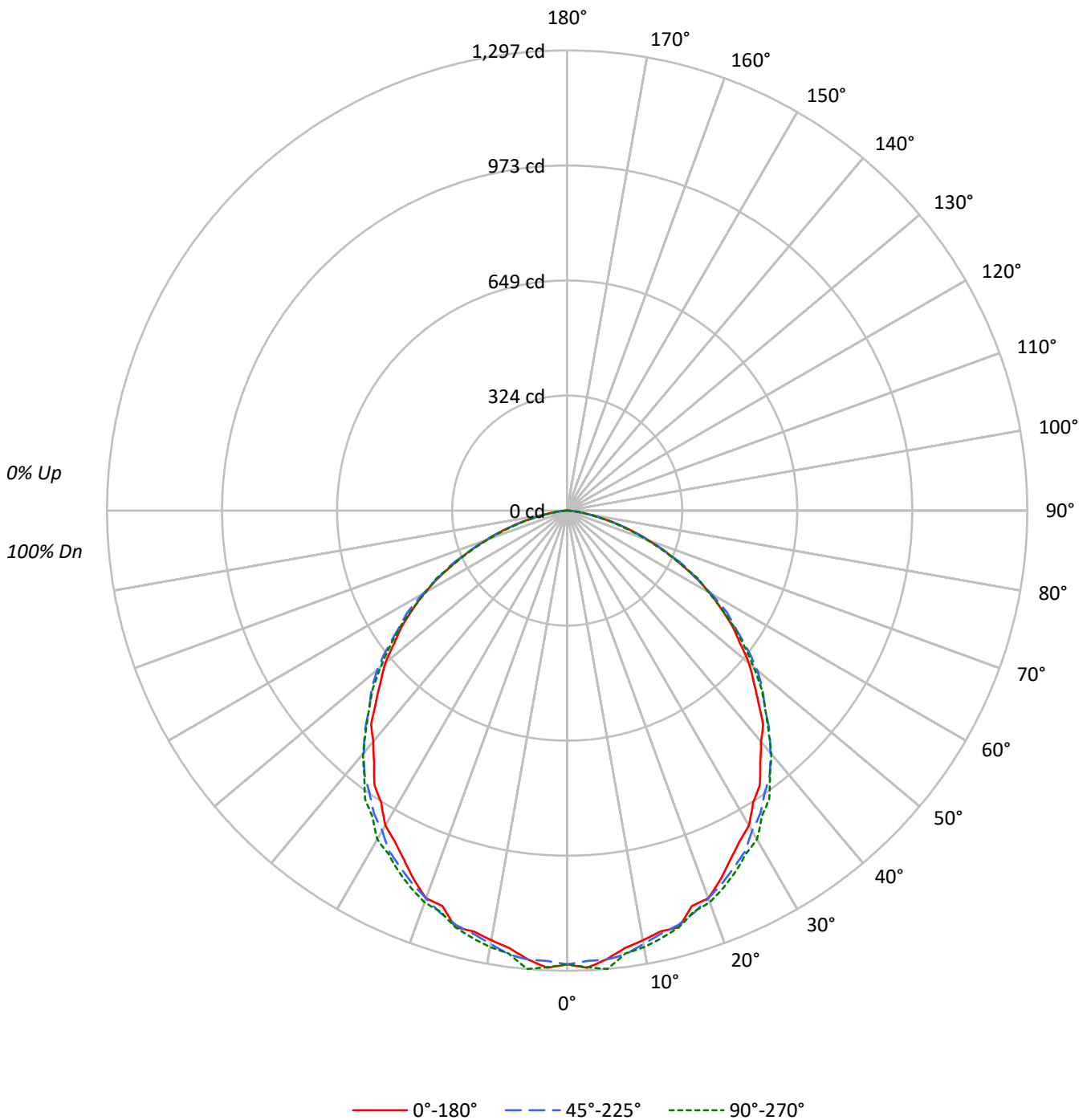
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3223.0 lumens  
Efficiency: N/A  
Efficacy: 96.8 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

TEST NUMBER: P589217

CATALOG NUMBER: FMR-24-2-LD4-2STD-40-UNV-81-88-EDD

### Luminous Intensity Polar Plot





TEST NUMBER: P589217

CATALOG NUMBER: FMR-24-2-LD4-2STD-40-UNV-81-88-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°	3441	3441	3441
5°	3430	3431	3504
10°	3360	3390	3413
15°	3387	3368	3387
20°	3330	3330	3365
25°	3227	3298	3334
30°	3183	3239	3325
35°	3108	3189	3261
40°	2987	3131	3145
45°	2897	3000	3004
50°	2802	2928	2872
55°	2670	2721	2702
60°	2496	2521	2476
65°	2225	2283	2210
70°	1910	1916	1863
75°	1513	1509	1450
80°	1013	986	947
85°	550	546	509



TEST NUMBER: P589217

CATALOG NUMBER: FMR-24-2-LD4-2STD-40-UNV-81-88-EDD

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	120.3	3.7
10°-20°	340.9	10.6
20°-30°	510.8	15.8
30°-40°	605.4	18.8
40°-50°	606.5	18.8
50°-60°	514.8	16.0
60°-70°	347.1	10.8
70°-80°	152.5	4.7
80°-90°	24.8	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°	972.0	30.2
0°-40°	1577.3	48.9
0°-60°	2698.6	83.7
0°-90°	3223.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3223.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1279	1279	1279	1279	1279	
5°	1270	1267	1270	1266	1297	120
15°	1216	1202	1209	1215	1216	339
25°	1087	1093	1111	1125	1123	502
35°	946	949	971	993	993	587
45°	761	775	788	809	789	589
55°	569	565	580	576	576	506
65°	350	345	358	345	347	348
75°	146	142	145	135	140	156
85°	18	17	18	17	16	26
90°	0	0	0	0	0	



TEST NUMBER: P589217

CATALOG NUMBER: FMR-24-2-LD4-2STD-40-UNV-81-88-EDD

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1278.8	1278.8	1278.8	1278.8	1278.8
2.5°	1289.9	1280.1	1271.0	1281.6	1288.1
5°	1269.7	1266.8	1270.2	1266.4	1297.0
7.5°	1243.6	1255.0	1261.6	1257.5	1259.3
10°	1229.8	1225.8	1240.5	1250.7	1249.2
12.5°	1214.9	1220.9	1221.7	1232.7	1233.7
15°	1215.7	1201.7	1209.1	1215.4	1215.9
17.5°	1168.5	1183.7	1188.8	1203.2	1185.4
20°	1162.7	1151.7	1162.7	1177.4	1175.1
22.5°	1127.2	1114.8	1138.6	1151.7	1150.8
25°	1086.9	1092.9	1110.7	1125.2	1122.9
27.5°	1051.6	1058.5	1084.0	1103.9	1091.1
30°	1024.4	1020.9	1042.4	1060.2	1070.1
32.5°	975.7	988.2	1013.3	1031.0	1021.6
35°	946.1	948.9	970.9	993.3	992.7
37.5°	894.4	907.5	938.3	944.6	938.8
40°	850.3	863.4	891.3	898.1	895.2
42.5°	817.8	820.1	844.1	851.8	839.4
45°	761.2	775.4	788.3	808.6	789.4
47.5°	713.0	719.6	747.3	752.8	742.7
50°	669.2	671.5	699.4	692.7	686.0
52.5°	614.2	624.0	639.7	638.3	630.6
55°	569.0	565.2	580.0	576.1	575.9
57.5°	514.7	521.3	533.5	527.2	517.1
60°	463.8	464.0	468.4	461.3	460.0
62.5°	407.2	409.2	410.1	401.4	415.6
65°	349.5	344.9	358.5	344.8	347.1
67.5°	296.5	298.9	297.5	288.9	292.3
70°	242.7	245.7	243.5	233.8	236.8
72.5°	193.5	189.9	192.2	180.0	185.6
75°	145.5	142.5	145.1	134.9	139.5
77.5°	99.1	101.4	99.7	94.3	97.4
80°	65.4	63.6	63.6	60.4	61.1
82.5°	38.1	36.3	35.8	34.8	36.3
85°	17.8	17.3	17.7	17.2	16.5
87.5°	6.4	6.6	6.6	6.3	5.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)