

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: P589265

Luminaire Tested: **FMR-24-2-LD4-2STD-50-UNV-93-88-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P589265  
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-50-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 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

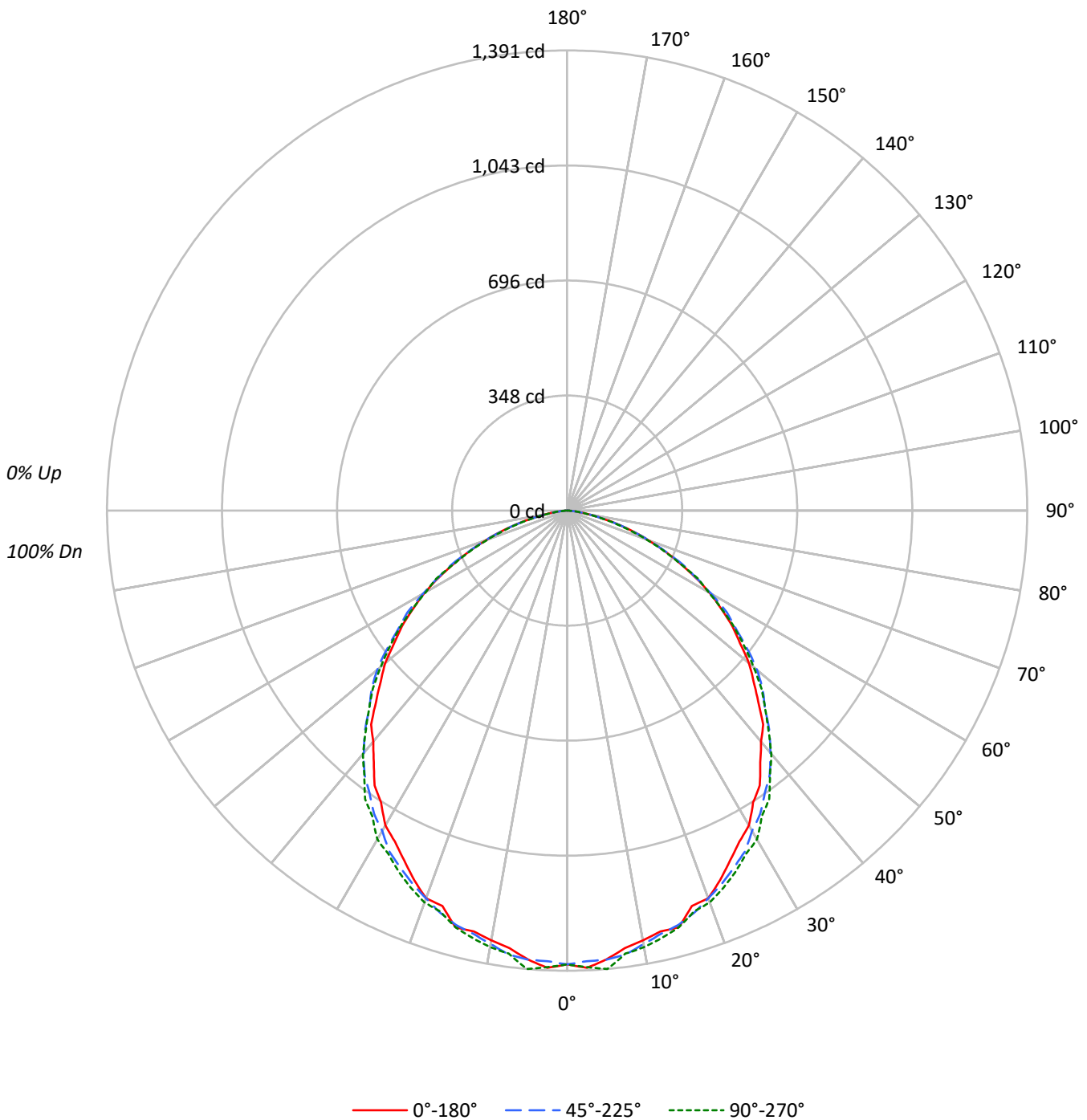
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3457.0 lumens  
Efficiency: N/A  
Efficacy: 103.8 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

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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°	3691	3691	3691
5°	3679	3680	3758
10°	3604	3636	3661
15°	3633	3613	3633
20°	3571	3571	3609
25°	3462	3537	3576
30°	3414	3474	3567
35°	3334	3421	3498
40°	3204	3358	3373
45°	3107	3218	3222
50°	3005	3141	3081
55°	2863	2919	2898
60°	2678	2704	2655
65°	2387	2448	2371
70°	2048	2055	1998
75°	1622	1619	1556
80°	1086	1057	1015
85°	590	584	546



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	129.0	3.7
10°-20°	365.7	10.6
20°-30°	547.9	15.8
30°-40°	649.3	18.8
40°-50°	650.5	18.8
50°-60°	552.2	16.0
60°-70°	372.3	10.8
70°-80°	163.6	4.7
80°-90°	26.6	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°	1042.5	30.2
0°-40°	1691.9	48.9
0°-60°	2894.6	83.7
0°-90°	3457.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3457.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1372	1372	1372	1372	1372	
5°	1362	1359	1362	1358	1391	128
15°	1304	1289	1297	1304	1304	363
25°	1166	1172	1191	1207	1204	539
35°	1015	1018	1041	1065	1065	630
45°	816	832	846	867	847	632
55°	610	606	622	618	618	543
65°	375	370	384	370	372	373
75°	156	153	156	145	150	167
85°	19	19	19	18	18	28
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1371.7	1371.7	1371.7	1371.7	1371.7
2.5°	1383.5	1373.1	1363.3	1374.7	1381.6
5°	1361.9	1358.7	1362.4	1358.4	1391.1
7.5°	1333.9	1346.1	1353.2	1348.8	1350.8
10°	1319.1	1314.8	1330.6	1341.5	1339.9
12.5°	1303.1	1309.5	1310.4	1322.2	1323.3
15°	1304.0	1288.9	1296.9	1303.6	1304.2
17.5°	1253.3	1269.6	1275.1	1290.5	1271.4
20°	1247.1	1235.3	1247.1	1262.9	1260.4
22.5°	1209.1	1195.8	1221.3	1235.3	1234.4
25°	1165.9	1172.2	1191.4	1206.9	1204.5
27.5°	1128.0	1135.4	1162.7	1184.1	1170.3
30°	1098.7	1095.0	1118.0	1137.2	1147.8
32.5°	1046.5	1060.0	1086.9	1105.8	1095.7
35°	1014.8	1017.8	1041.4	1065.4	1064.7
37.5°	959.4	973.3	1006.5	1013.2	1007.0
40°	912.1	926.1	956.0	963.3	960.2
42.5°	877.2	879.7	905.3	913.7	900.4
45°	816.4	831.7	845.5	867.3	846.7
47.5°	764.7	771.8	801.6	807.4	796.6
50°	717.8	720.3	750.2	742.9	735.9
52.5°	658.8	669.3	686.1	684.7	676.4
55°	610.3	606.2	622.2	617.9	617.7
57.5°	552.0	559.1	572.2	565.5	554.7
60°	497.5	497.7	502.4	494.8	493.4
62.5°	436.7	438.9	439.9	430.5	445.8
65°	374.9	370.0	384.5	369.8	372.3
67.5°	318.1	320.6	319.1	309.9	313.5
70°	260.3	263.5	261.2	250.8	254.0
72.5°	207.6	203.7	206.1	193.0	199.1
75°	156.0	152.8	155.7	144.7	149.7
77.5°	106.3	108.7	107.0	101.1	104.5
80°	70.1	68.2	68.2	64.8	65.5
82.5°	40.9	39.0	38.4	37.4	39.0
85°	19.1	18.6	18.9	18.4	17.7
87.5°	6.9	7.1	7.1	6.7	6.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)