

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: P589245

Luminaire Tested: **FMR-24-2-LD4-2STD-50-UNV-81-84-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P589245  
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-81-84-EDD  
Description: 2X2 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

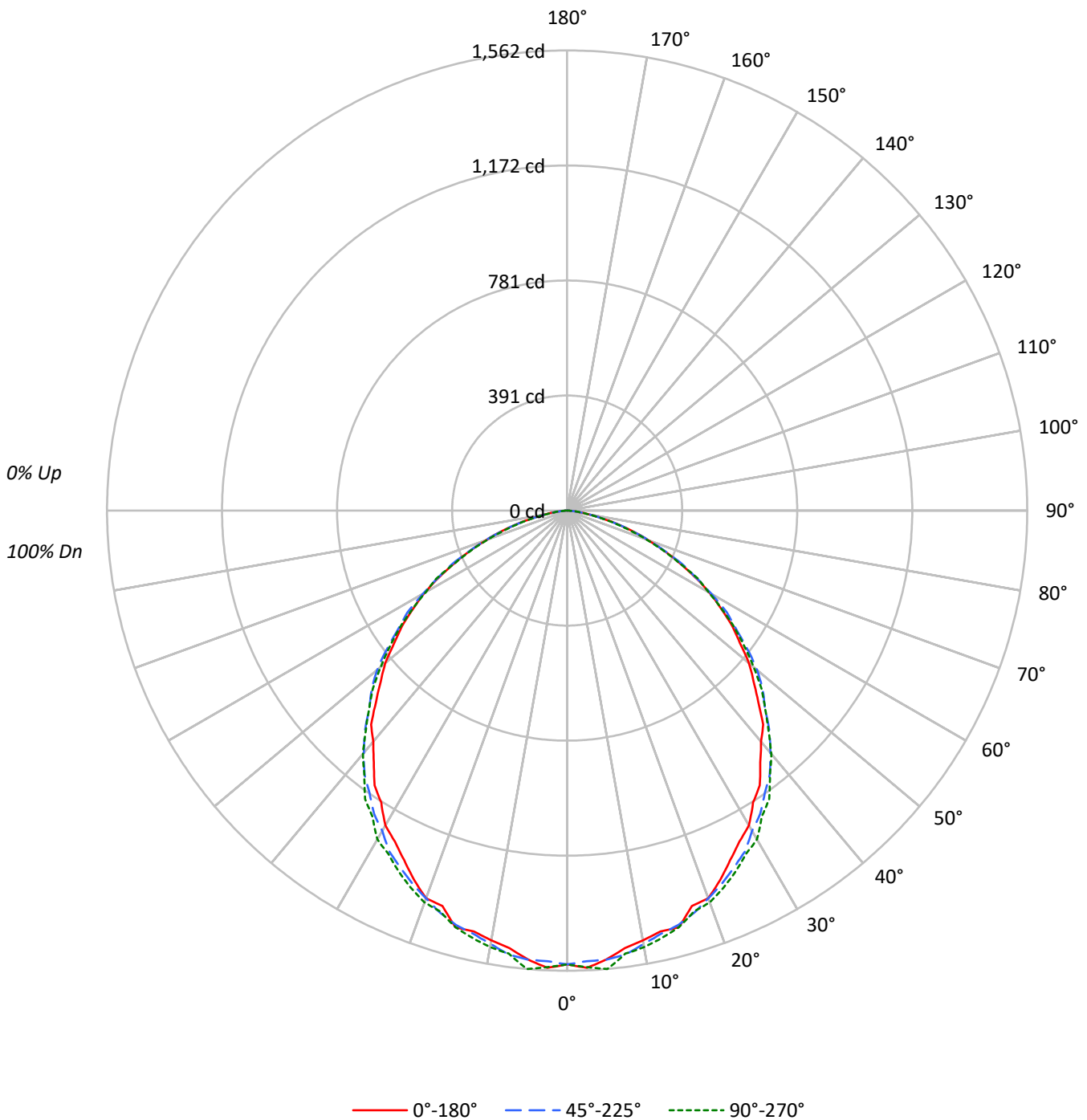
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3882.0 lumens  
Efficiency: N/A  
Efficacy: 116.6 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				
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°	4145	4145	4145
5°	4131	4133	4220
10°	4047	4083	4112
15°	4079	4057	4080
20°	4011	4011	4053
25°	3887	3972	4016
30°	3834	3901	4005
35°	3743	3842	3928
40°	3598	3771	3788
45°	3489	3613	3618
50°	3374	3527	3459
55°	3215	3278	3255
60°	3006	3037	2982
65°	2681	2749	2662
70°	2300	2308	2244
75°	1822	1817	1747
80°	1221	1187	1141
85°	664	658	614



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	144.9	3.7
10°-20°	410.6	10.6
20°-30°	615.2	15.8
30°-40°	729.1	18.8
40°-50°	730.5	18.8
50°-60°	620.1	16.0
60°-70°	418.0	10.8
70°-80°	183.7	4.7
80°-90°	29.9	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°	1170.7	30.2
0°-40°	1899.9	48.9
0°-60°	3250.4	83.7
0°-90°	3882.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3882.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1540	1540	1540	1540	1540	
5°	1529	1526	1530	1525	1562	144
15°	1464	1447	1456	1464	1464	408
25°	1309	1316	1338	1355	1352	605
35°	1140	1143	1169	1196	1196	708
45°	917	934	949	974	951	709
55°	685	681	699	694	694	610
65°	421	415	432	415	418	419
75°	175	172	175	162	168	188
85°	22	21	21	21	20	31
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1540.3	1540.3	1540.3	1540.3	1540.3
2.5°	1553.6	1541.9	1530.9	1543.7	1551.4
5°	1529.3	1525.8	1529.9	1525.4	1562.2
7.5°	1497.9	1511.6	1519.6	1514.6	1516.8
10°	1481.2	1476.4	1494.1	1506.5	1504.7
12.5°	1463.3	1470.5	1471.5	1484.8	1486.0
15°	1464.3	1447.4	1456.4	1463.9	1464.5
17.5°	1407.4	1425.7	1431.9	1449.2	1427.7
20°	1400.5	1387.1	1400.5	1418.2	1415.4
22.5°	1357.7	1342.8	1371.4	1387.1	1386.2
25°	1309.2	1316.3	1337.8	1355.3	1352.5
27.5°	1266.6	1275.0	1305.6	1329.7	1314.2
30°	1233.8	1229.6	1255.5	1277.0	1288.9
32.5°	1175.1	1190.3	1220.5	1241.8	1230.4
35°	1139.5	1142.9	1169.4	1196.4	1195.6
37.5°	1077.3	1093.0	1130.2	1137.8	1130.8
40°	1024.2	1039.9	1073.5	1081.7	1078.3
42.5°	985.0	987.8	1016.6	1026.0	1011.1
45°	916.8	933.9	949.4	973.9	950.8
47.5°	858.7	866.7	900.1	906.7	894.5
50°	806.0	808.8	842.4	834.3	826.3
52.5°	739.8	751.5	770.4	768.8	759.5
55°	685.3	680.7	698.6	693.9	693.7
57.5°	619.9	627.8	642.6	635.0	622.9
60°	558.6	558.8	564.2	555.7	554.1
62.5°	490.4	492.8	494.0	483.5	500.6
65°	421.0	415.4	431.8	415.2	418.0
67.5°	357.2	360.0	358.4	348.0	352.0
70°	292.3	295.9	293.3	281.6	285.2
72.5°	233.1	228.7	231.5	216.8	223.5
75°	175.2	171.6	174.8	162.5	168.0
77.5°	119.3	122.1	120.1	113.6	117.3
80°	78.8	76.6	76.6	72.8	73.6
82.5°	45.9	43.8	43.2	42.0	43.8
85°	21.5	20.9	21.3	20.7	19.9
87.5°	7.8	8.0	8.0	7.6	7.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)