

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: P589190

Luminaire Tested: **FMR-24-2-LD4-2STD-35-UNV-82-85-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P589190  
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-35-UNV-82-85-EDD  
Description: 2X2 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

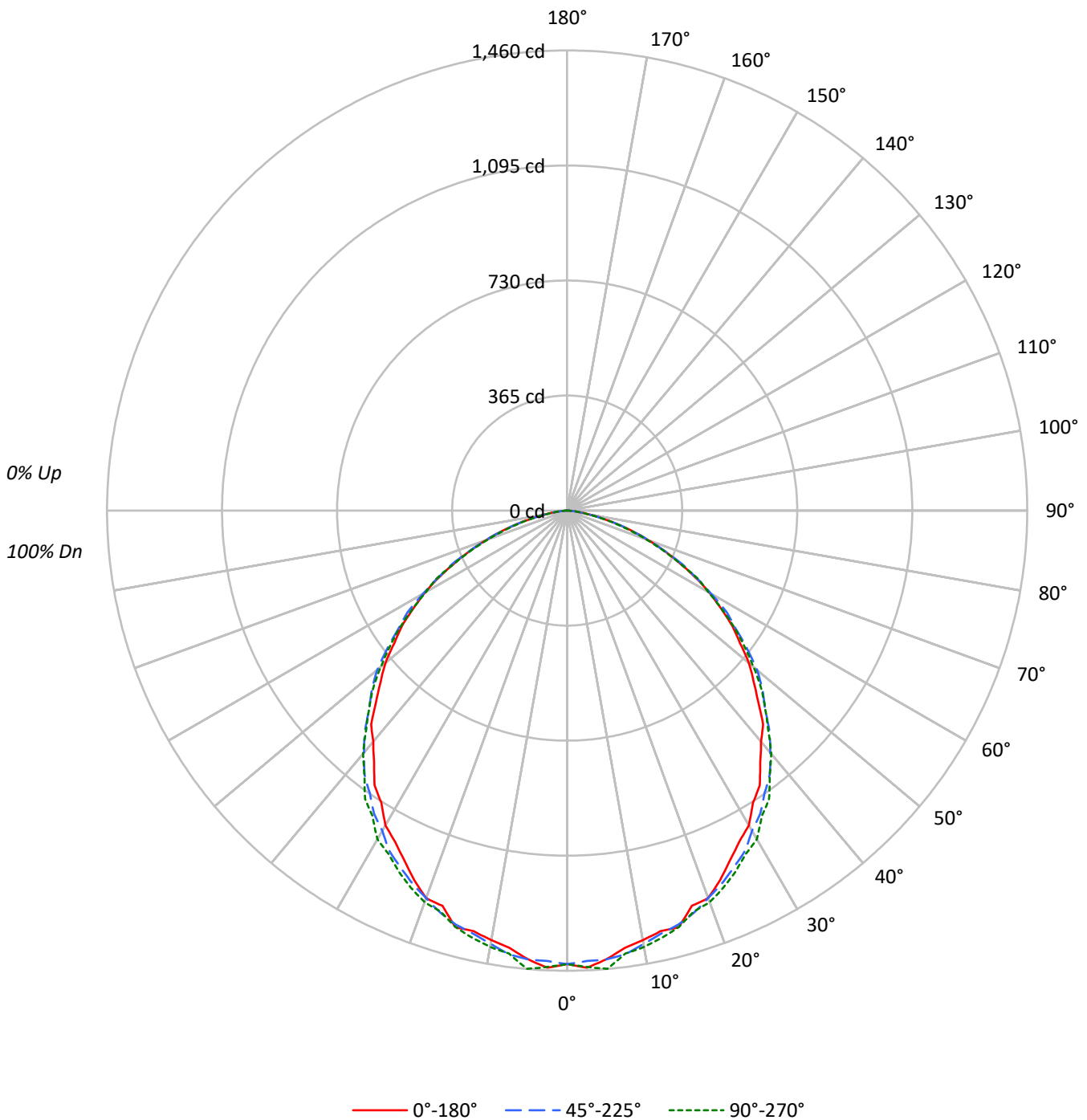
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3627.0 lumens  
Efficiency: N/A  
Efficacy: 108.9 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	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°	3873	3873	3873
5°	3860	3861	3942
10°	3781	3815	3841
15°	3811	3791	3812
20°	3747	3747	3787
25°	3632	3711	3752
30°	3582	3645	3742
35°	3498	3589	3670
40°	3361	3523	3539
45°	3260	3376	3381
50°	3153	3295	3232
55°	3004	3063	3041
60°	2809	2837	2786
65°	2505	2569	2487
70°	2149	2157	2097
75°	1702	1698	1632
80°	1141	1108	1065
85°	621	614	574



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	135.4	3.7
10°-20°	383.7	10.6
20°-30°	574.8	15.8
30°-40°	681.2	18.8
40°-50°	682.5	18.8
50°-60°	579.3	16.0
60°-70°	390.6	10.8
70°-80°	171.6	4.7
80°-90°	27.9	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°	1093.8	30.2
0°-40°	1775.1	48.9
0°-60°	3036.9	83.7
0°-90°	3627.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3627.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1439	1439	1439	1439	1439	
5°	1429	1426	1429	1425	1460	135
15°	1368	1352	1361	1368	1368	381
25°	1223	1230	1250	1266	1264	565
35°	1065	1068	1093	1118	1117	661
45°	857	873	887	910	888	663
55°	640	636	653	648	648	570
65°	393	388	403	388	391	391
75°	164	160	163	152	157	175
85°	20	20	20	19	19	29
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1439.1	1439.1	1439.1	1439.1	1439.1
2.5°	1451.6	1440.6	1430.4	1442.3	1449.5
5°	1428.9	1425.5	1429.4	1425.2	1459.5
7.5°	1399.5	1412.3	1419.8	1415.1	1417.2
10°	1383.9	1379.5	1396.0	1407.5	1405.8
12.5°	1367.2	1373.9	1374.8	1387.3	1388.4
15°	1368.1	1352.3	1360.7	1367.8	1368.3
17.5°	1315.0	1332.1	1337.8	1354.0	1333.9
20°	1308.5	1296.0	1308.5	1325.0	1322.4
22.5°	1268.5	1254.6	1281.3	1296.0	1295.1
25°	1223.2	1229.9	1249.9	1266.3	1263.7
27.5°	1183.4	1191.2	1219.8	1242.3	1227.8
30°	1152.8	1148.9	1173.0	1193.1	1204.2
32.5°	1098.0	1112.1	1140.3	1160.2	1149.6
35°	1064.7	1067.9	1092.6	1117.8	1117.1
37.5°	1006.5	1021.2	1056.0	1063.0	1056.5
40°	956.9	971.6	1003.0	1010.6	1007.5
42.5°	920.3	922.9	949.9	958.6	944.7
45°	856.6	872.6	887.1	909.9	888.4
47.5°	802.3	809.8	841.0	847.1	835.8
50°	753.1	755.7	787.1	779.5	772.0
52.5°	691.2	702.2	719.8	718.3	709.6
55°	640.3	636.0	652.8	648.3	648.1
57.5°	579.2	586.6	600.4	593.3	582.0
60°	521.9	522.1	527.1	519.2	517.7
62.5°	458.2	460.4	461.6	451.7	467.7
65°	393.4	388.2	403.4	388.0	390.6
67.5°	333.7	336.3	334.8	325.2	328.9
70°	273.1	276.5	274.1	263.1	266.5
72.5°	217.8	213.7	216.3	202.5	208.9
75°	163.7	160.4	163.3	151.8	157.0
77.5°	111.5	114.1	112.2	106.1	109.6
80°	73.6	71.5	71.5	68.0	68.7
82.5°	42.9	40.9	40.3	39.2	40.9
85°	20.1	19.5	19.9	19.3	18.6
87.5°	7.2	7.4	7.4	7.1	6.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)