

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: P589186

Luminaire Tested: **FMR-24-2-LD4-2STD-35-UNV-81-94-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P589186  
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-81-94-EDD  
Description: 2X2 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR  
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

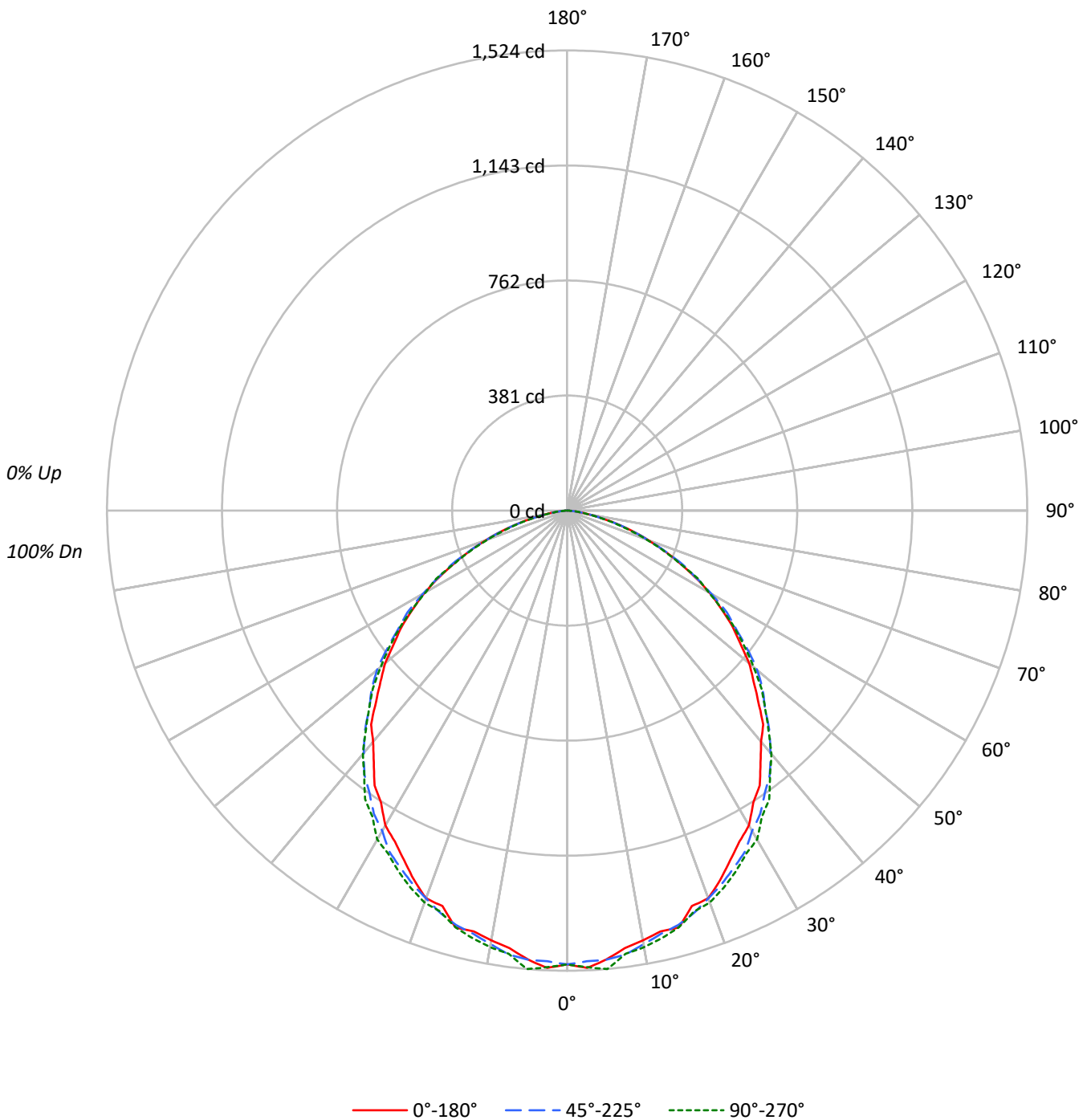
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3788.0 lumens  
Efficiency: N/A  
Efficacy: 113.8 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	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°	4045	4045	4045
5°	4031	4033	4118
10°	3949	3984	4012
15°	3981	3959	3981
20°	3914	3914	3955
25°	3793	3876	3919
30°	3741	3807	3908
35°	3653	3749	3833
40°	3511	3680	3696
45°	3405	3526	3531
50°	3293	3441	3376
55°	3137	3198	3176
60°	2934	2963	2909
65°	2616	2683	2597
70°	2245	2252	2190
75°	1778	1774	1705
80°	1190	1158	1113
85°	648	642	599



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	141.4	3.7
10°-20°	400.7	10.6
20°-30°	600.3	15.8
30°-40°	711.5	18.8
40°-50°	712.8	18.8
50°-60°	605.0	16.0
60°-70°	407.9	10.8
70°-80°	179.2	4.7
80°-90°	29.1	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°	1142.4	30.2
0°-40°	1853.9	48.9
0°-60°	3171.7	83.7
0°-90°	3788.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3788.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1503	1503	1503	1503	1503	
5°	1492	1489	1493	1488	1524	141
15°	1429	1412	1421	1428	1429	398
25°	1278	1284	1305	1322	1320	591
35°	1112	1115	1141	1168	1167	690
45°	895	911	926	950	928	692
55°	669	664	682	677	677	595
65°	411	405	421	405	408	409
75°	171	168	171	158	164	183
85°	21	20	21	20	19	30
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1503.0	1503.0	1503.0	1503.0	1503.0
2.5°	1516.0	1504.5	1493.9	1506.3	1513.8
5°	1492.3	1488.8	1492.9	1488.4	1524.3
7.5°	1461.6	1475.0	1482.8	1477.9	1480.1
10°	1445.3	1440.7	1458.0	1470.0	1468.2
12.5°	1427.9	1434.9	1435.8	1448.8	1450.0
15°	1428.9	1412.4	1421.1	1428.5	1429.0
17.5°	1373.4	1391.2	1397.2	1414.1	1393.1
20°	1366.6	1353.6	1366.6	1383.8	1381.1
22.5°	1324.8	1310.3	1338.2	1353.6	1352.6
25°	1277.5	1284.5	1305.4	1322.5	1319.8
27.5°	1236.0	1244.1	1274.0	1297.5	1282.3
30°	1203.9	1199.9	1225.1	1246.0	1257.7
32.5°	1146.7	1161.4	1190.9	1211.7	1200.6
35°	1112.0	1115.3	1141.1	1167.5	1166.7
37.5°	1051.2	1066.5	1102.8	1110.2	1103.4
40°	999.4	1014.7	1047.5	1055.5	1052.2
42.5°	961.2	963.9	992.0	1001.1	986.6
45°	894.6	911.3	926.4	950.3	927.8
47.5°	837.9	845.7	878.3	884.7	872.9
50°	786.5	789.2	822.0	814.1	806.3
52.5°	721.9	733.3	751.8	750.2	741.1
55°	668.7	664.3	681.7	677.1	676.9
57.5°	604.9	612.6	627.0	619.6	607.8
60°	545.1	545.3	550.5	542.2	540.6
62.5°	478.5	480.9	482.0	471.8	488.4
65°	410.8	405.4	421.3	405.2	407.9
67.5°	348.5	351.2	349.7	339.6	343.5
70°	285.3	288.8	286.2	274.8	278.3
72.5°	227.4	223.2	225.9	211.5	218.1
75°	171.0	167.5	170.6	158.5	164.0
77.5°	116.4	119.2	117.2	110.8	114.5
80°	76.8	74.7	74.7	71.0	71.8
82.5°	44.8	42.7	42.1	40.9	42.7
85°	21.0	20.4	20.8	20.2	19.4
87.5°	7.6	7.8	7.8	7.4	7.0
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)