

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: P589185

Luminaire Tested: **FMR-24-2-LD4-2STD-35-UNV-81-88-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P589185  
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-81-88-EDD  
Description: 2X2 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

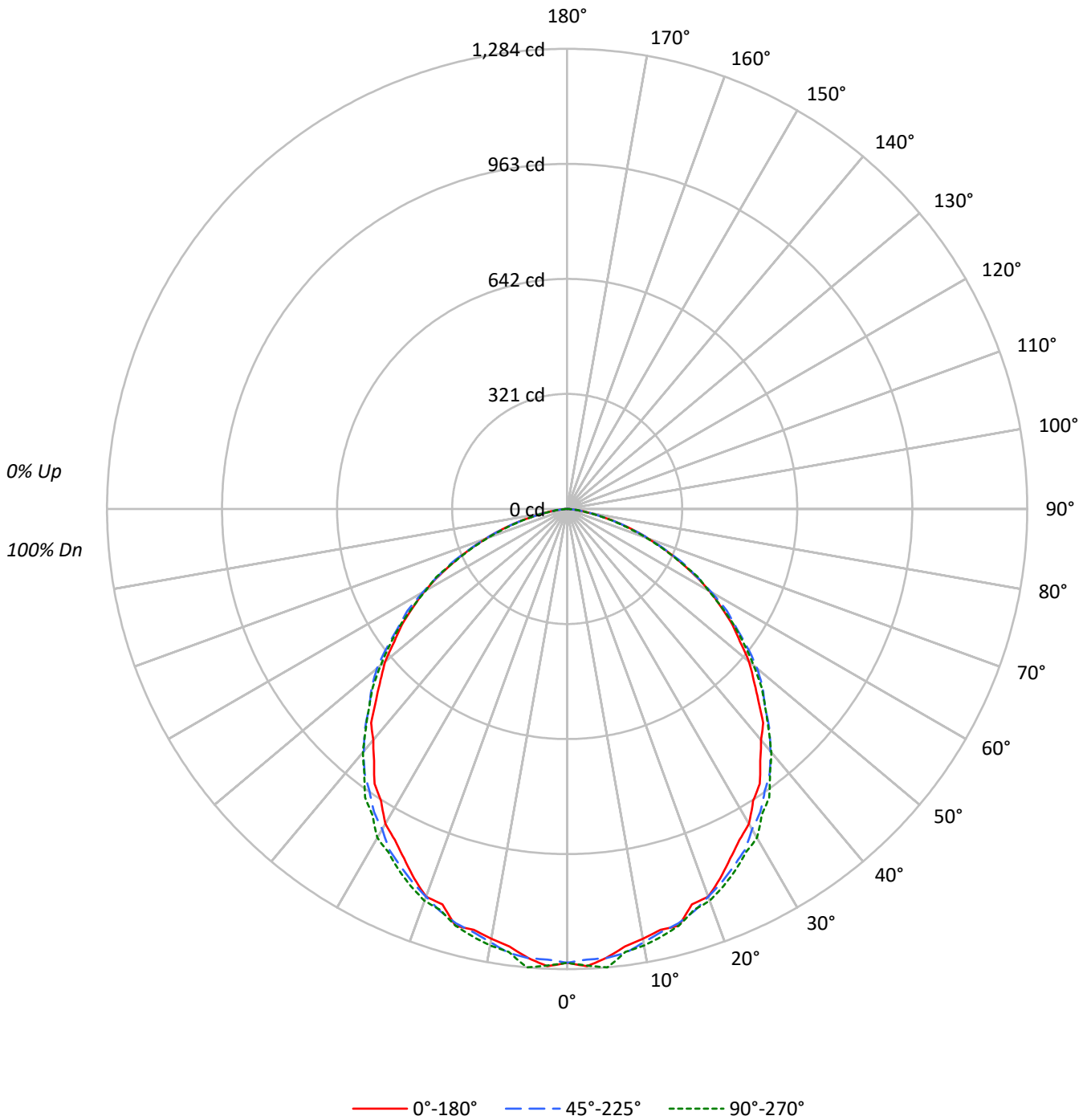
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3191.0 lumens  
Efficiency: N/A  
Efficacy: 95.8 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°	3407	3407	3407
5°	3396	3397	3469
10°	3327	3356	3380
15°	3353	3335	3354
20°	3297	3297	3332
25°	3195	3265	3301
30°	3151	3207	3292
35°	3077	3158	3229
40°	2957	3100	3114
45°	2868	2970	2974
50°	2774	2899	2843
55°	2643	2694	2675
60°	2471	2496	2451
65°	2204	2260	2188
70°	1891	1897	1844
75°	1497	1494	1436
80°	1003	975	938
85°	546	540	503



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	119.1	3.7
10°-20°	337.5	10.6
20°-30°	505.7	15.8
30°-40°	599.3	18.8
40°-50°	600.5	18.8
50°-60°	509.7	16.0
60°-70°	343.6	10.8
70°-80°	151.0	4.7
80°-90°	24.5	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°	962.3	30.2
0°-40°	1561.7	48.9
0°-60°	2671.8	83.7
0°-90°	3191.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3191.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1266	1266	1266	1266	1266	
5°	1257	1254	1258	1254	1284	119
15°	1204	1190	1197	1203	1204	335
25°	1076	1082	1100	1114	1112	498
35°	937	940	961	984	983	582
45°	754	768	780	800	782	583
55°	563	560	574	570	570	501
65°	346	342	355	341	344	344
75°	144	141	144	134	138	154
85°	18	17	18	17	16	26
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1266.1	1266.1	1266.1	1266.1	1266.1
2.5°	1277.1	1267.4	1258.4	1268.9	1275.3
5°	1257.1	1254.2	1257.6	1253.8	1284.1
7.5°	1231.3	1242.6	1249.1	1245.0	1246.8
10°	1217.6	1213.6	1228.2	1238.3	1236.8
12.5°	1202.8	1208.7	1209.5	1220.5	1221.5
15°	1203.7	1189.8	1197.1	1203.3	1203.8
17.5°	1156.9	1171.9	1177.0	1191.2	1173.6
20°	1151.2	1140.2	1151.2	1165.7	1163.4
22.5°	1116.0	1103.8	1127.3	1140.2	1139.4
25°	1076.2	1082.0	1099.7	1114.1	1111.8
27.5°	1041.2	1048.0	1073.2	1093.0	1080.2
30°	1014.2	1010.8	1032.0	1049.7	1059.5
32.5°	966.0	978.4	1003.2	1020.7	1011.4
35°	936.7	939.5	961.2	983.5	982.8
37.5°	885.5	898.5	929.0	935.2	929.5
40°	841.9	854.8	882.4	889.1	886.4
42.5°	809.7	812.0	835.7	843.4	831.1
45°	753.6	767.7	780.4	800.5	781.6
47.5°	705.9	712.4	739.9	745.3	735.3
50°	662.6	664.8	692.5	685.8	679.2
52.5°	608.1	617.8	633.3	632.0	624.3
55°	563.3	559.6	574.3	570.4	570.2
57.5°	509.5	516.1	528.2	522.0	512.0
60°	459.2	459.4	463.8	456.7	455.4
62.5°	403.1	405.1	406.1	397.4	411.5
65°	346.1	341.5	354.9	341.3	343.6
67.5°	293.6	295.9	294.6	286.1	289.3
70°	240.3	243.2	241.1	231.5	234.4
72.5°	191.6	188.0	190.3	178.2	183.7
75°	144.0	141.1	143.7	133.6	138.1
77.5°	98.1	100.4	98.7	93.3	96.4
80°	64.7	62.9	62.9	59.8	60.5
82.5°	37.8	36.0	35.5	34.5	36.0
85°	17.7	17.2	17.5	17.0	16.3
87.5°	6.4	6.5	6.5	6.2	5.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)