

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: P589440

Luminaire Tested: **FMR-24-2-LD4-3LO-50-UNV-81-87-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P589440  
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-LD4-3LO-50-UNV-81-87-EDD  
Description: 2X2 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

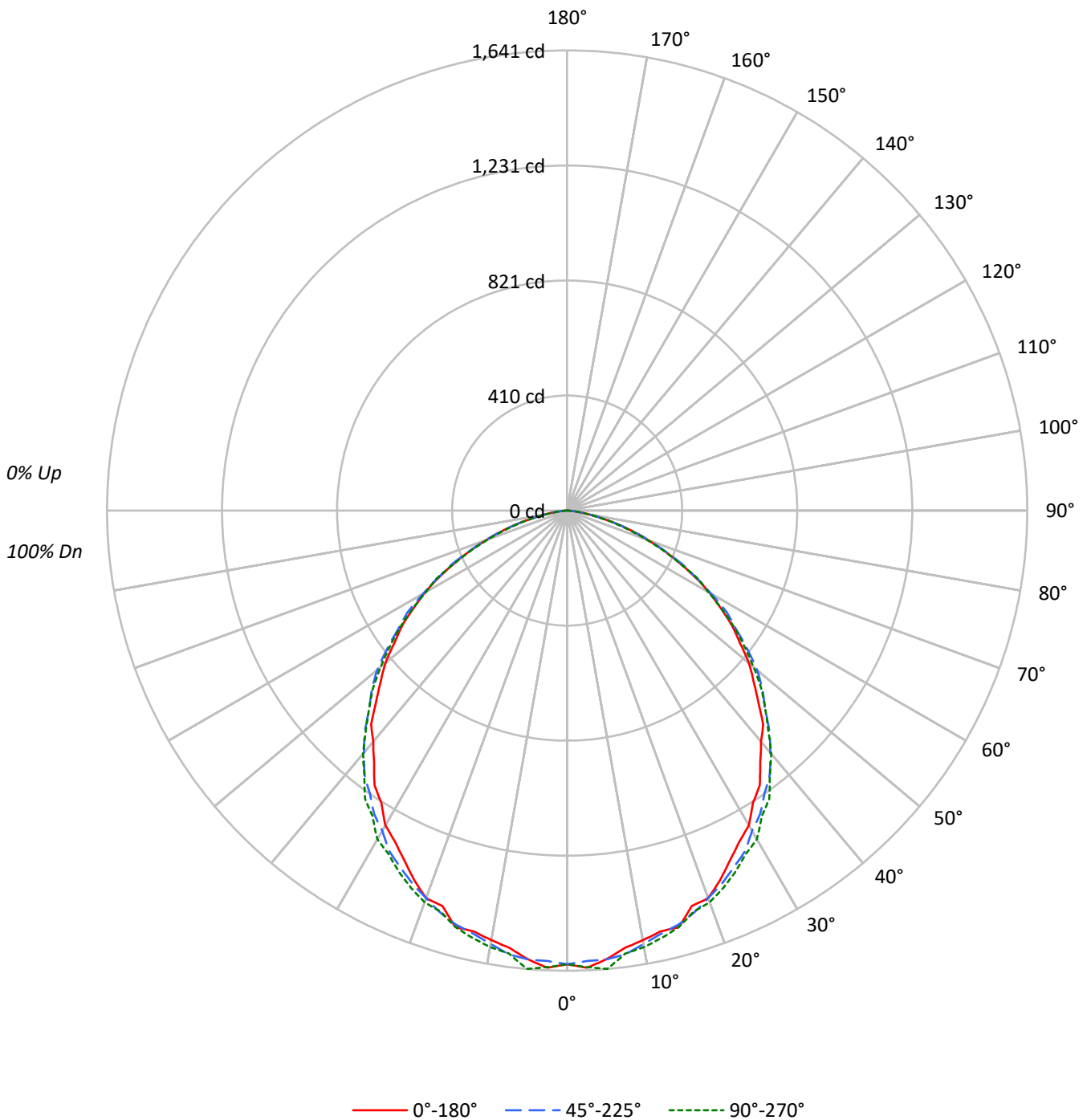
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4077.0 lumens  
Efficiency: N/A  
Efficacy: 116.2 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): 35.1  
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°	4353	4353	4353
5°	4339	4340	4432
10°	4251	4288	4318
15°	4284	4261	4285
20°	4212	4212	4257
25°	4083	4172	4218
30°	4026	4097	4206
35°	3932	4034	4125
40°	3778	3960	3978
45°	3664	3795	3800
50°	3544	3704	3633
55°	3377	3442	3418
60°	3158	3189	3132
65°	2816	2887	2795
70°	2415	2424	2356
75°	1913	1909	1835
80°	1282	1246	1198
85°	698	689	645



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	152.2	3.7
10°-20°	431.2	10.6
20°-30°	646.1	15.8
30°-40°	765.8	18.8
40°-50°	767.2	18.8
50°-60°	651.2	16.0
60°-70°	439.0	10.8
70°-80°	192.9	4.7
80°-90°	31.3	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°	1229.5	30.2
0°-40°	1995.3	48.9
0°-60°	3413.7	83.7
0°-90°	4077.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4077.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1618	1618	1618	1618	1618	
5°	1606	1602	1607	1602	1641	151
15°	1538	1520	1530	1537	1538	428
25°	1375	1382	1405	1423	1420	636
35°	1197	1200	1228	1256	1256	743
45°	963	981	997	1023	999	745
55°	720	715	734	729	728	640
65°	442	436	453	436	439	440
75°	184	180	184	171	176	197
85°	23	22	22	22	21	33
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1617.7	1617.7	1617.7	1617.7	1617.7
2.5°	1631.6	1619.3	1607.8	1621.2	1629.3
5°	1606.2	1602.4	1606.8	1602.0	1640.6
7.5°	1573.2	1587.6	1595.9	1590.7	1593.0
10°	1555.6	1550.6	1569.2	1582.1	1580.3
12.5°	1536.8	1544.3	1545.4	1559.4	1560.6
15°	1537.9	1520.1	1529.5	1537.4	1538.1
17.5°	1478.1	1497.3	1503.8	1522.0	1499.4
20°	1470.8	1456.8	1470.8	1489.4	1486.5
22.5°	1425.9	1410.2	1440.3	1456.8	1455.8
25°	1375.0	1382.5	1405.0	1423.4	1420.5
27.5°	1330.3	1339.0	1371.2	1396.5	1380.2
30°	1295.8	1291.4	1318.6	1341.1	1353.6
32.5°	1234.2	1250.1	1281.8	1304.1	1292.2
35°	1196.8	1200.3	1228.1	1256.5	1255.7
37.5°	1131.4	1147.9	1187.0	1194.9	1187.6
40°	1075.6	1092.1	1127.4	1136.0	1132.5
42.5°	1034.5	1037.4	1067.7	1077.5	1061.9
45°	962.9	980.8	997.1	1022.8	998.6
47.5°	901.9	910.2	945.3	952.2	939.5
50°	846.5	849.4	884.7	876.2	867.8
52.5°	777.0	789.3	809.1	807.5	797.7
55°	719.7	714.9	733.7	728.7	728.5
57.5°	651.0	659.4	674.8	666.9	654.2
60°	586.7	586.9	592.5	583.6	581.9
62.5°	515.1	517.6	518.8	507.7	525.7
65°	442.2	436.3	453.4	436.1	439.0
67.5°	375.1	378.0	376.4	365.5	369.7
70°	307.0	310.8	308.1	295.8	299.5
72.5°	244.8	240.2	243.1	227.7	234.8
75°	184.0	180.2	183.6	170.6	176.5
77.5°	125.3	128.2	126.2	119.3	123.2
80°	82.7	80.4	80.4	76.4	77.3
82.5°	48.2	46.0	45.3	44.1	46.0
85°	22.6	21.9	22.3	21.7	20.9
87.5°	8.1	8.4	8.4	7.9	7.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)