

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: P589441

Luminaire Tested: **FMR-24-2-LD4-3LO-50-UNV-81-88-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P589441  
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-81-88-EDD  
Description: 2X2 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

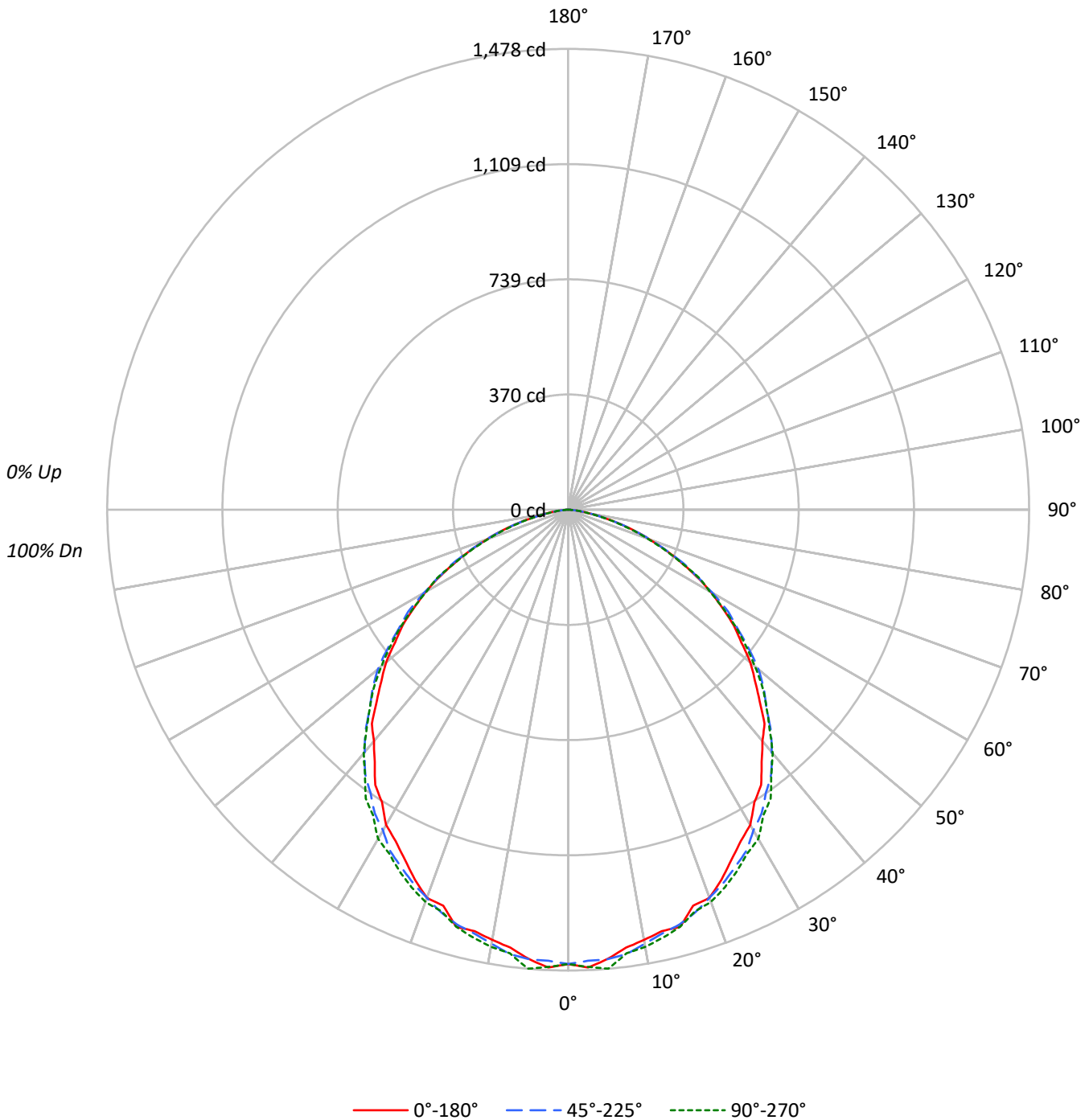
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 3672.0 lumens  
Efficiency: N/A  
Efficacy: 104.6 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): 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	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					86			
2	100	93	86	81	98	91	85	80	87	82	78	84	80	76	81	78	75	73					73			
3	92	82	74	68	89	80	73	67	77	71	66	75	69	65	72	68	64	62					62			
4	84	73	64	58	82	71	64	58	69	62	57	67	61	56	65	59	55	53					53			
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48	46					46			
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	53	47	43	41					41			
7	67	53	45	39	65	53	45	39	51	44	39	50	43	38	48	42	38	36					36			
8	62	49	41	35	61	48	40	35	47	40	34	46	39	34	44	39	34	32					32			
9	58	45	37	31	57	44	37	31	43	36	31	42	36	31	41	35	31	29					29			
10	54	41	34	29	53	41	33	28	40	33	28	39	33	28	38	32	28	26					26			

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	3921	3921	3921
5°	3908	3909	3991
10°	3828	3862	3889
15°	3859	3838	3859
20°	3794	3794	3834
25°	3677	3757	3799
30°	3627	3690	3788
35°	3541	3634	3715
40°	3403	3567	3583
45°	3300	3418	3423
50°	3192	3336	3272
55°	3041	3101	3078
60°	2844	2872	2821
65°	2535	2600	2518
70°	2175	2183	2123
75°	1723	1720	1653
80°	1155	1122	1079
85°	627	621	580



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	137.0	3.7
10°-20°	388.4	10.6
20°-30°	581.9	15.8
30°-40°	689.7	18.8
40°-50°	691.0	18.8
50°-60°	586.5	16.0
60°-70°	395.4	10.8
70°-80°	173.8	4.7
80°-90°	28.2	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°	1107.4	30.2
0°-40°	1797.1	48.9
0°-60°	3074.6	83.7
0°-90°	3672.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3672.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1457	1457	1457	1457	1457	
5°	1447	1443	1447	1443	1478	136
15°	1385	1369	1378	1385	1385	386
25°	1238	1245	1266	1282	1279	573
35°	1078	1081	1106	1132	1131	669
45°	867	883	898	921	899	671
55°	648	644	661	656	656	577
65°	398	393	408	393	395	396
75°	166	162	165	154	159	178
85°	20	20	20	20	19	29
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1457.0	1457.0	1457.0	1457.0	1457.0
2.5°	1469.6	1458.5	1448.1	1460.2	1467.5
5°	1446.6	1443.2	1447.2	1442.8	1477.6
7.5°	1416.9	1429.9	1437.4	1432.7	1434.8
10°	1401.1	1396.6	1413.3	1425.0	1423.3
12.5°	1384.2	1390.9	1391.9	1404.5	1405.6
15°	1385.1	1369.1	1377.6	1384.7	1385.3
17.5°	1331.3	1348.6	1354.4	1370.8	1350.5
20°	1324.7	1312.1	1324.7	1341.5	1338.8
22.5°	1284.3	1270.2	1297.2	1312.1	1311.2
25°	1238.4	1245.1	1265.5	1282.0	1279.4
27.5°	1198.1	1206.0	1235.0	1257.7	1243.1
30°	1167.1	1163.1	1187.6	1207.9	1219.2
32.5°	1111.6	1125.9	1154.5	1174.6	1163.9
35°	1077.9	1081.1	1106.1	1131.7	1131.0
37.5°	1019.0	1033.9	1069.1	1076.2	1069.6
40°	968.8	983.7	1015.4	1023.2	1020.0
42.5°	931.7	934.4	961.6	970.5	956.4
45°	867.2	883.4	898.1	921.2	899.4
47.5°	812.3	819.8	851.4	857.6	846.1
50°	762.4	765.1	796.9	789.1	781.6
52.5°	699.8	710.9	728.8	727.3	718.4
55°	648.2	643.9	660.9	656.3	656.1
57.5°	586.4	593.9	607.8	600.7	589.2
60°	528.4	528.6	533.7	525.6	524.1
62.5°	463.9	466.2	467.3	457.3	473.5
65°	398.2	393.0	408.4	392.8	395.4
67.5°	337.9	340.5	339.0	329.2	333.0
70°	276.5	279.9	277.5	266.4	269.8
72.5°	220.5	216.3	219.0	205.0	211.4
75°	165.7	162.3	165.4	153.7	159.0
77.5°	112.9	115.5	113.6	107.4	111.0
80°	74.5	72.4	72.4	68.9	69.6
82.5°	43.5	41.4	40.8	39.7	41.4
85°	20.3	19.8	20.1	19.6	18.8
87.5°	7.3	7.5	7.5	7.1	6.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)