

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: P589456

Luminaire Tested: **FMR-24-2-LD4-3LO-50-UNV-93-87-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P589456  
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-93-87-EDD  
Description: 2X2 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

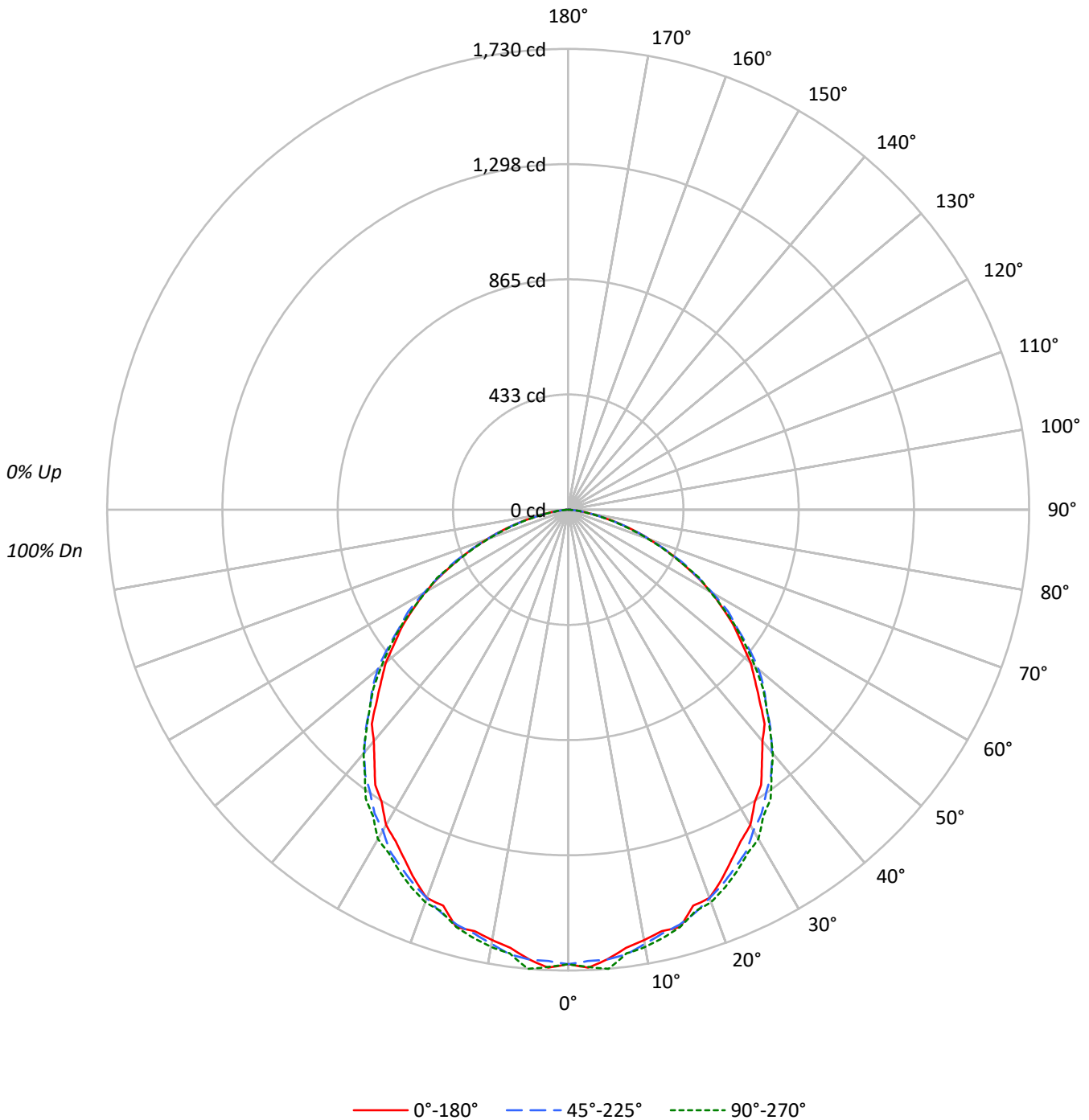
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4300.0 lumens  
Efficiency: N/A  
Efficacy: 122.5 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°	4591	4591	4591
5°	4576	4578	4674
10°	4483	4522	4554
15°	4519	4494	4519
20°	4442	4442	4490
25°	4306	4400	4448
30°	4247	4321	4436
35°	4147	4255	4351
40°	3985	4177	4196
45°	3865	4002	4008
50°	3738	3906	3832
55°	3561	3631	3605
60°	3330	3364	3303
65°	2969	3045	2948
70°	2548	2556	2485
75°	2018	2013	1935
80°	1351	1314	1263
85°	735	729	679



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	160.5	3.7
10°-20°	454.8	10.6
20°-30°	681.5	15.8
30°-40°	807.7	18.8
40°-50°	809.1	18.8
50°-60°	686.8	16.0
60°-70°	463.1	10.8
70°-80°	203.5	4.7
80°-90°	33.1	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°	1296.8	30.2
0°-40°	2104.4	48.9
0°-60°	3600.4	83.7
0°-90°	4300.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4300.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1706	1706	1706	1706	1706	
5°	1694	1690	1695	1690	1730	160
15°	1622	1603	1613	1622	1622	452
25°	1450	1458	1482	1501	1498	670
35°	1262	1266	1295	1325	1324	784
45°	1016	1034	1052	1079	1053	786
55°	759	754	774	769	768	675
65°	466	460	478	460	463	464
75°	194	190	194	180	186	208
85°	24	23	24	23	22	34
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1706.1	1706.1	1706.1	1706.1	1706.1
2.5°	1720.9	1707.9	1695.8	1709.9	1718.5
5°	1694.0	1690.1	1694.7	1689.6	1730.4
7.5°	1659.2	1674.4	1683.2	1677.7	1680.1
10°	1640.7	1635.4	1655.0	1668.7	1666.7
12.5°	1620.9	1628.8	1629.9	1644.7	1646.0
15°	1622.0	1603.3	1613.2	1621.5	1622.2
17.5°	1559.0	1579.2	1586.1	1605.2	1581.4
20°	1551.3	1536.5	1551.3	1570.9	1567.8
22.5°	1503.9	1487.4	1519.1	1536.5	1535.4
25°	1450.2	1458.1	1481.9	1501.3	1498.2
27.5°	1403.0	1412.3	1446.2	1472.8	1455.7
30°	1366.7	1362.0	1390.7	1414.5	1427.7
32.5°	1301.7	1318.4	1351.9	1375.5	1362.9
35°	1262.3	1266.0	1295.3	1325.3	1324.4
37.5°	1193.3	1210.7	1251.9	1260.3	1252.6
40°	1134.5	1151.9	1189.1	1198.1	1194.4
42.5°	1091.1	1094.2	1126.1	1136.5	1119.9
45°	1015.5	1034.5	1051.7	1078.8	1053.2
47.5°	951.2	960.0	997.0	1004.3	990.9
50°	892.8	895.9	933.1	924.1	915.3
52.5°	819.5	832.5	853.4	851.6	841.3
55°	759.1	754.0	773.9	768.6	768.4
57.5°	686.6	695.4	711.8	703.4	689.9
60°	618.8	619.0	625.0	615.5	613.7
62.5°	543.2	545.9	547.2	535.5	554.5
65°	466.3	460.2	478.2	460.0	463.0
67.5°	395.6	398.7	397.0	385.5	389.9
70°	323.8	327.8	324.9	311.9	315.9
72.5°	258.2	253.3	256.4	240.1	247.6
75°	194.1	190.1	193.6	180.0	186.1
77.5°	132.2	135.3	133.1	125.8	130.0
80°	87.2	84.8	84.8	80.6	81.5
82.5°	50.9	48.5	47.8	46.5	48.5
85°	23.8	23.1	23.6	22.9	22.0
87.5°	8.6	8.8	8.8	8.4	7.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)