

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: P589262

Luminaire Tested: **FMR-24-2-LD4-2STD-50-UNV-93-85-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P589262  
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-50-UNV-93-85-EDD  
Description: 2X2 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

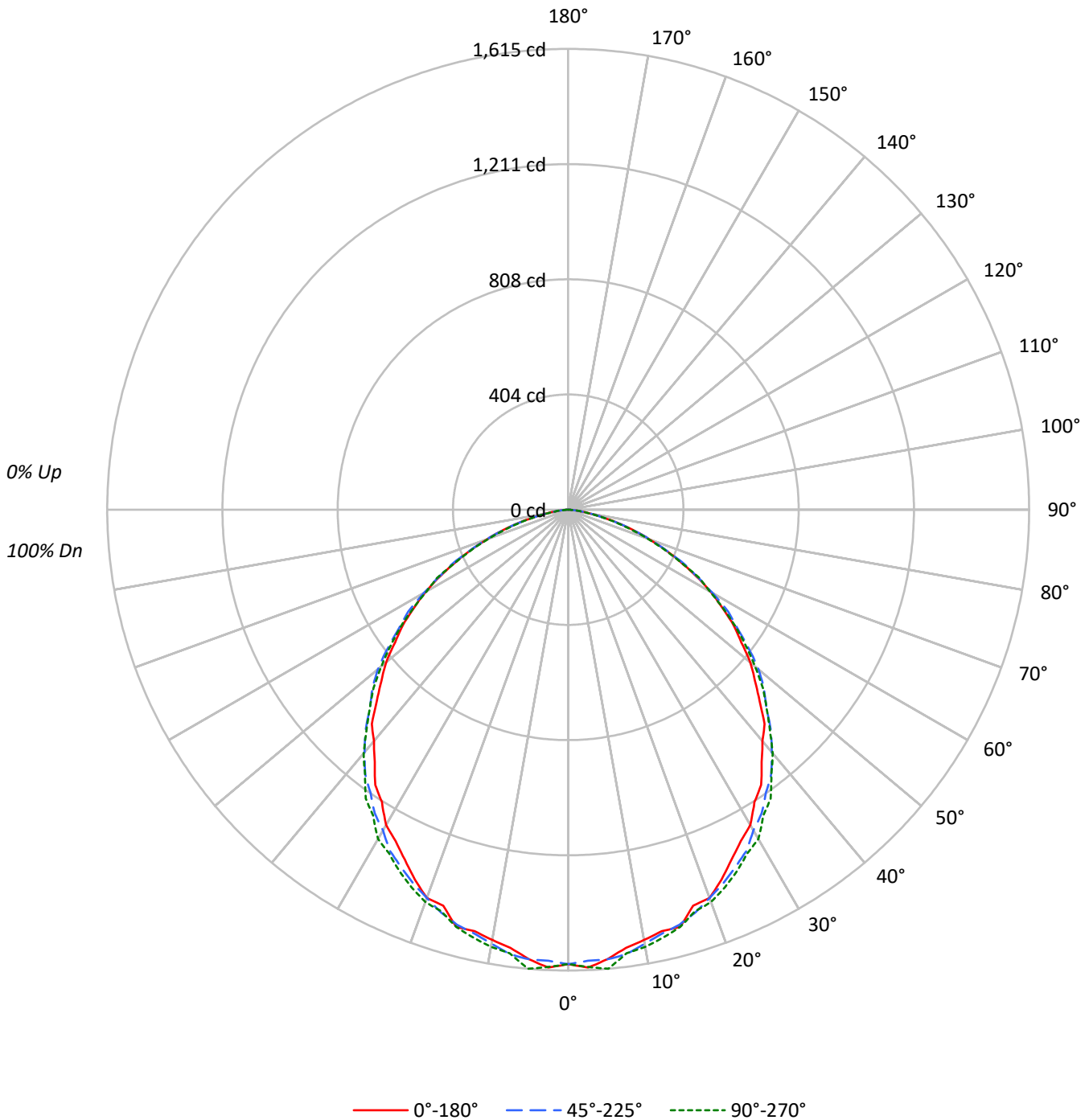
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 4013.0 lumens  
Efficiency: N/A  
Efficacy: 120.5 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): 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°	4285	4285	4285
5°	4270	4272	4362
10°	4184	4221	4250
15°	4217	4194	4218
20°	4146	4146	4190
25°	4018	4106	4151
30°	3963	4033	4140
35°	3870	3971	4060
40°	3719	3898	3916
45°	3607	3735	3741
50°	3488	3646	3576
55°	3324	3388	3364
60°	3108	3139	3083
65°	2771	2842	2751
70°	2378	2386	2319
75°	1883	1879	1806
80°	1261	1227	1179
85°	685	679	636



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	149.8	3.7
10°-20°	424.5	10.6
20°-30°	636.0	15.8
30°-40°	753.7	18.8
40°-50°	755.1	18.8
50°-60°	641.0	16.0
60°-70°	432.2	10.8
70°-80°	189.9	4.7
80°-90°	30.9	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°	1210.2	30.2
0°-40°	1964.0	48.9
0°-60°	3360.1	83.7
0°-90°	4013.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4013.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1592	1592	1592	1592	1592	
5°	1581	1577	1582	1577	1615	149
15°	1514	1496	1506	1513	1514	422
25°	1353	1361	1383	1401	1398	626
35°	1178	1182	1209	1237	1236	731
45°	948	965	982	1007	983	733
55°	708	704	722	717	717	630
65°	435	430	446	429	432	433
75°	181	177	181	168	174	194
85°	22	22	22	21	21	32
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1592.3	1592.3	1592.3	1592.3	1592.3
2.5°	1606.0	1593.9	1582.6	1595.8	1603.8
5°	1580.9	1577.2	1581.6	1576.8	1614.9
7.5°	1548.5	1562.7	1570.9	1565.7	1568.0
10°	1531.2	1526.3	1544.6	1557.3	1555.5
12.5°	1512.7	1520.1	1521.1	1534.9	1536.1
15°	1513.7	1496.2	1505.5	1513.3	1513.9
17.5°	1454.9	1473.8	1480.2	1498.1	1475.9
20°	1447.7	1434.0	1447.7	1466.0	1463.1
22.5°	1403.5	1388.1	1417.7	1434.0	1432.9
25°	1353.4	1360.8	1383.0	1401.1	1398.2
27.5°	1309.4	1318.0	1349.7	1374.5	1358.5
30°	1275.5	1271.1	1297.9	1320.1	1332.4
32.5°	1214.8	1230.4	1261.7	1283.7	1272.0
35°	1178.0	1181.5	1208.8	1236.8	1236.0
37.5°	1113.7	1129.9	1168.3	1176.2	1169.0
40°	1058.8	1075.0	1109.7	1118.2	1114.7
42.5°	1018.3	1021.1	1051.0	1060.6	1045.2
45°	947.7	965.4	981.5	1006.8	982.9
47.5°	887.7	895.9	930.5	937.3	924.7
50°	833.2	836.1	870.9	862.4	854.2
52.5°	764.8	776.9	796.4	794.8	785.1
55°	708.4	703.7	722.2	717.3	717.1
57.5°	640.8	649.0	664.2	656.4	643.9
60°	577.5	577.7	583.2	574.4	572.8
62.5°	507.0	509.4	510.7	499.8	517.5
65°	435.2	429.5	446.3	429.3	432.1
67.5°	369.2	372.1	370.5	359.8	363.9
70°	302.2	305.9	303.2	291.1	294.8
72.5°	240.9	236.4	239.3	224.1	231.1
75°	181.1	177.4	180.7	168.0	173.7
77.5°	123.4	126.2	124.2	117.4	121.3
80°	81.4	79.2	79.2	75.2	76.1
82.5°	47.5	45.2	44.6	43.4	45.2
85°	22.2	21.6	22.0	21.4	20.6
87.5°	8.0	8.2	8.2	7.8	7.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)