

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: P588977

Luminaire Tested: **FMR-24-2-LD4-1STD-50-UNV-93-88-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P588977  
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-LD4-1STD-50-UNV-93-88-EDD  
Description: 2X2 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

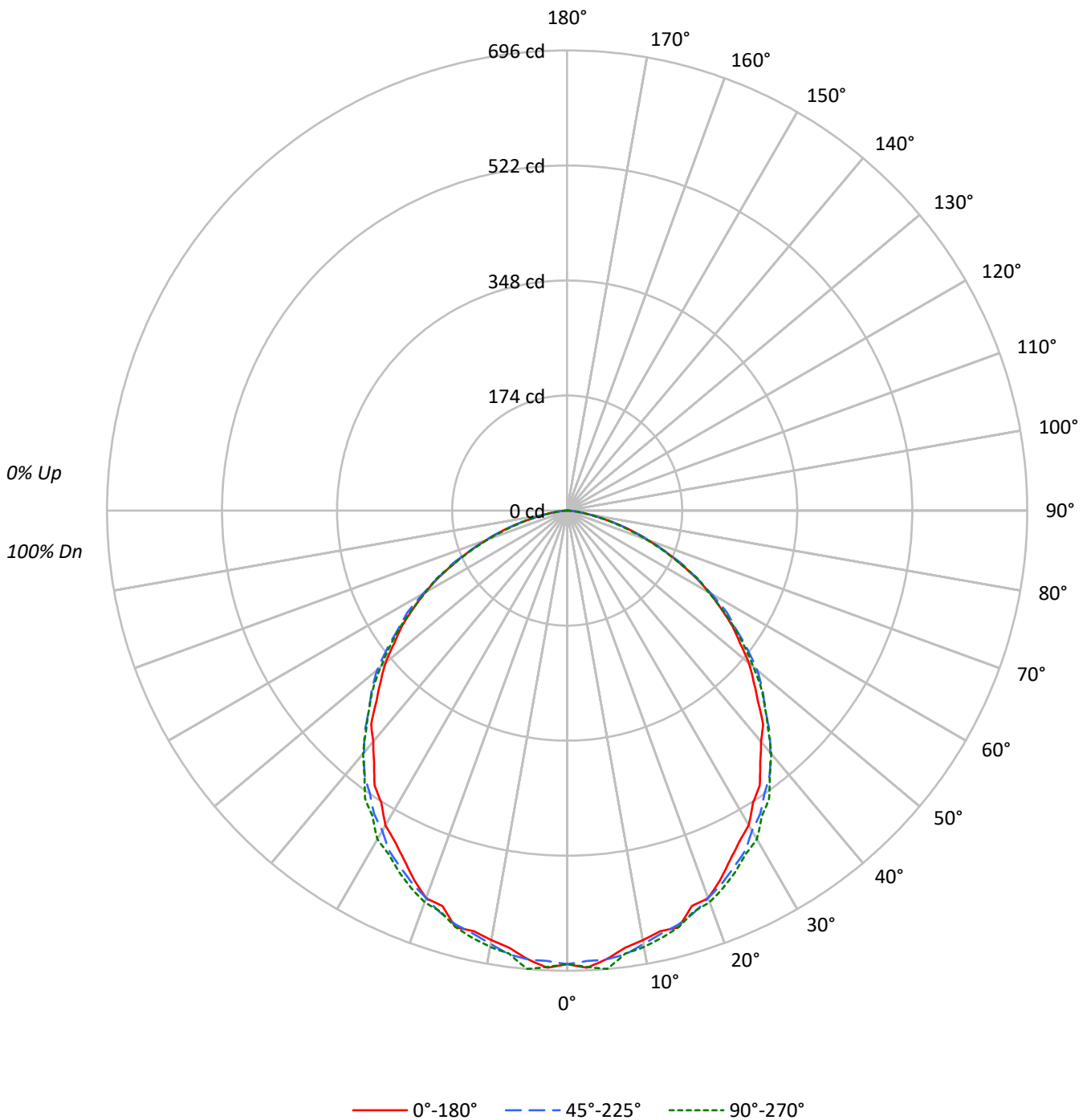
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1729.0 lumens  
Efficiency: N/A  
Efficacy: 104.2 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): 16.6  
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°	1846	1846	1846
5°	1840	1841	1880
10°	1803	1818	1831
15°	1817	1807	1817
20°	1786	1786	1805
25°	1731	1769	1789
30°	1707	1738	1784
35°	1667	1711	1749
40°	1603	1679	1687
45°	1554	1609	1612
50°	1503	1571	1541
55°	1432	1460	1450
60°	1339	1352	1328
65°	1194	1224	1186
70°	1024	1028	999
75°	811	810	778
80°	544	528	508
85°	296	293	275



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	64.5	3.7
10°-20°	182.9	10.6
20°-30°	274.0	15.8
30°-40°	324.7	18.8
40°-50°	325.4	18.8
50°-60°	276.2	16.0
60°-70°	186.2	10.8
70°-80°	81.8	4.7
80°-90°	13.3	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°	521.4	30.2
0°-40°	846.2	48.9
0°-60°	1447.7	83.7
0°-90°	1729.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1729.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	686	686	686	686	686	
5°	681	680	681	679	696	64
15°	652	645	649	652	652	182
25°	583	586	596	604	602	270
35°	508	509	521	533	532	315
45°	408	416	423	434	424	316
55°	305	303	311	309	309	272
65°	188	185	192	185	186	186
75°	78	76	78	72	75	84
85°	10	9	10	9	9	14
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	686.0	686.0	686.0	686.0	686.0
2.5°	692.0	686.7	681.9	687.5	691.0
5°	681.2	679.6	681.4	679.4	695.8
7.5°	667.2	673.3	676.8	674.6	675.6
10°	659.7	657.6	665.5	671.0	670.2
12.5°	651.7	654.9	655.4	661.3	661.8
15°	652.2	644.7	648.6	652.0	652.3
17.5°	626.9	635.0	637.7	645.5	635.9
20°	623.8	617.8	623.8	631.6	630.4
22.5°	604.7	598.1	610.8	617.8	617.4
25°	583.1	586.3	595.9	603.6	602.4
27.5°	564.1	567.9	581.5	592.2	585.3
30°	549.5	547.7	559.2	568.7	574.1
32.5°	523.4	530.1	543.6	553.1	548.0
35°	507.5	509.0	520.8	532.9	532.5
37.5°	479.8	486.8	503.4	506.7	503.6
40°	456.2	463.2	478.1	481.8	480.3
42.5°	438.7	440.0	452.8	457.0	450.3
45°	408.3	416.0	422.9	433.8	423.5
47.5°	382.5	386.0	400.9	403.8	398.4
50°	359.0	360.2	375.2	371.6	368.0
52.5°	329.5	334.7	343.1	342.4	338.3
55°	305.2	303.2	311.2	309.0	309.0
57.5°	276.1	279.6	286.2	282.8	277.4
60°	248.8	248.9	251.3	247.5	246.8
62.5°	218.4	219.5	220.0	215.3	222.9
65°	187.5	185.0	192.3	184.9	186.2
67.5°	159.1	160.3	159.6	155.0	156.8
70°	130.2	131.8	130.7	125.4	127.0
72.5°	103.8	101.9	103.1	96.5	99.6
75°	78.0	76.4	77.9	72.4	74.8
77.5°	53.1	54.4	53.5	50.6	52.3
80°	35.1	34.1	34.1	32.4	32.8
82.5°	20.5	19.5	19.2	18.7	19.5
85°	9.6	9.3	9.5	9.2	8.9
87.5°	3.5	3.5	3.5	3.4	3.2
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)