

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: P588944

Luminaire Tested: **FMR-24-2-LD4-1STD-40-UNV-93-87-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P588944  
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-40-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 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

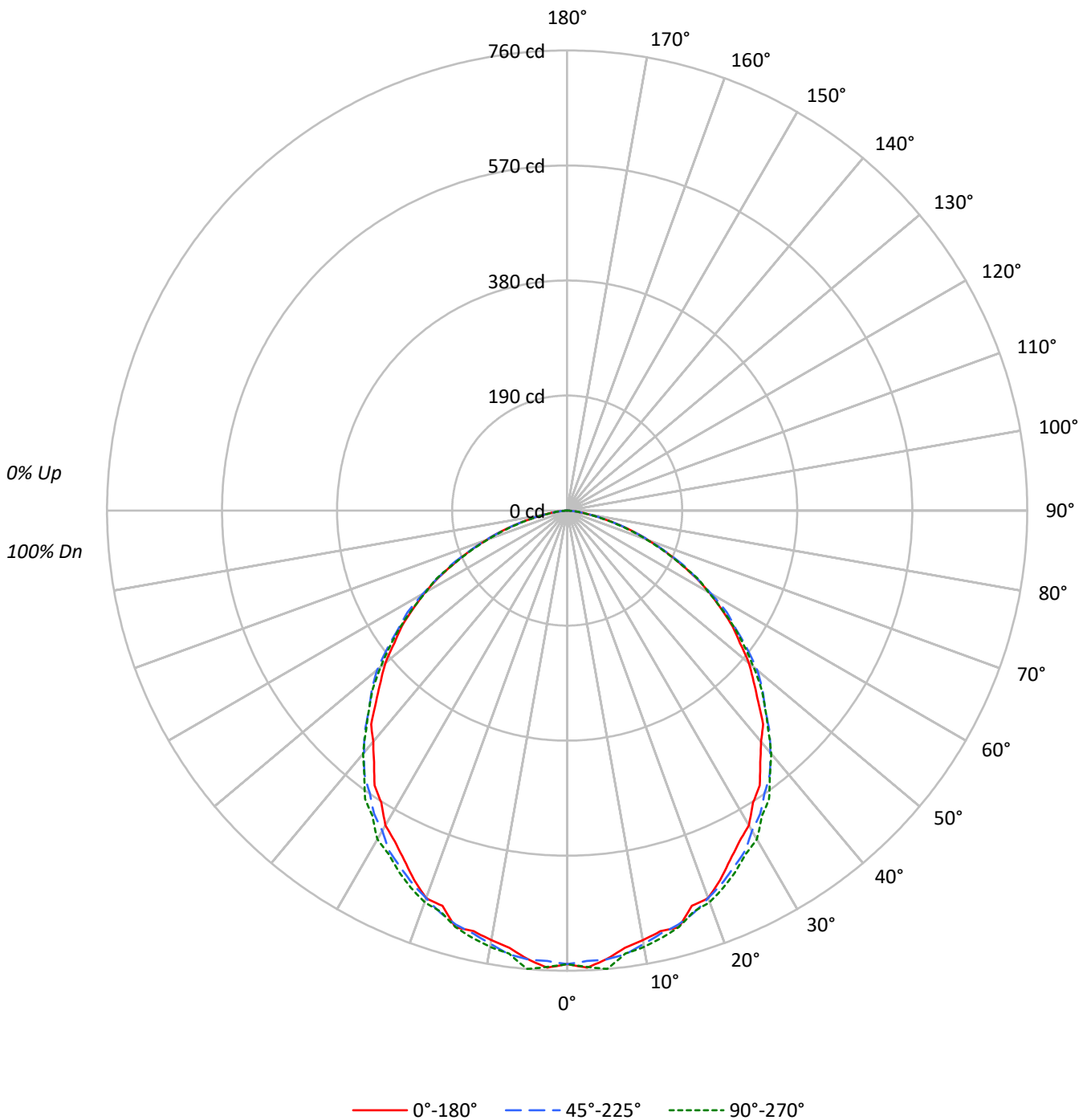
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1888.0 lumens  
Efficiency: N/A  
Efficacy: 113.7 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°	2016	2016	2016
5°	2009	2010	2052
10°	1968	1986	2000
15°	1984	1973	1984
20°	1950	1950	1971
25°	1890	1932	1953
30°	1865	1897	1948
35°	1821	1868	1910
40°	1750	1834	1842
45°	1697	1757	1760
50°	1641	1715	1683
55°	1564	1594	1583
60°	1462	1477	1450
65°	1304	1337	1294
70°	1119	1123	1091
75°	886	884	849
80°	594	576	555
85°	321	318	299



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	70.5	3.7
10°-20°	199.7	10.6
20°-30°	299.2	15.8
30°-40°	354.6	18.8
40°-50°	355.3	18.8
50°-60°	301.6	16.0
60°-70°	203.3	10.8
70°-80°	89.3	4.7
80°-90°	14.5	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°	569.4	30.2
0°-40°	924.0	48.9
0°-60°	1580.8	83.7
0°-90°	1888.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1888.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	749	749	749	749	749	
5°	744	742	744	742	760	70
15°	712	704	708	712	712	198
25°	637	640	651	659	658	294
35°	554	556	569	582	582	344
45°	446	454	462	474	462	345
55°	333	331	340	338	337	296
65°	205	202	210	202	203	204
75°	85	84	85	79	82	91
85°	10	10	10	10	10	15
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	749.1	749.1	749.1	749.1	749.1
2.5°	755.6	749.9	744.6	750.8	754.5
5°	743.8	742.1	744.1	741.9	759.8
7.5°	728.5	735.2	739.1	736.6	737.7
10°	720.4	718.1	726.7	732.7	731.8
12.5°	711.7	715.2	715.6	722.1	722.7
15°	712.2	703.9	708.3	712.0	712.3
17.5°	684.5	693.4	696.4	704.8	694.4
20°	681.1	674.6	681.1	689.7	688.4
22.5°	660.3	653.1	667.0	674.6	674.2
25°	636.7	640.2	650.6	659.2	657.8
27.5°	616.0	620.1	635.0	646.7	639.1
30°	600.1	598.0	610.6	621.1	626.9
32.5°	571.5	578.9	593.6	603.9	598.4
35°	554.2	555.9	568.7	581.9	581.5
37.5°	523.9	531.6	549.7	553.3	550.0
40°	498.1	505.8	522.1	526.1	524.4
42.5°	479.1	480.4	494.4	499.0	491.7
45°	445.9	454.2	461.8	473.6	462.4
47.5°	417.6	421.5	437.8	441.0	435.1
50°	392.0	393.4	409.7	405.7	401.9
52.5°	359.8	365.5	374.7	373.9	369.4
55°	333.3	331.1	339.8	337.5	337.4
57.5°	301.5	305.4	312.5	308.8	302.9
60°	271.7	271.8	274.4	270.2	269.5
62.5°	238.5	239.7	240.3	235.1	243.4
65°	204.8	202.1	210.0	202.0	203.3
67.5°	173.7	175.1	174.3	169.3	171.2
70°	142.2	143.9	142.7	137.0	138.7
72.5°	113.4	111.2	112.6	105.4	108.7
75°	85.2	83.5	85.0	79.0	81.7
77.5°	58.0	59.4	58.4	55.2	57.1
80°	38.3	37.2	37.2	35.4	35.8
82.5°	22.3	21.3	21.0	20.4	21.3
85°	10.4	10.2	10.3	10.1	9.7
87.5°	3.8	3.9	3.9	3.7	3.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)