

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: P588911

Luminaire Tested: **FMR-24-2-LD4-1STD-35-UNV-93-86-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P588911  
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-35-UNV-93-86-EDD  
Description: 2X2 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

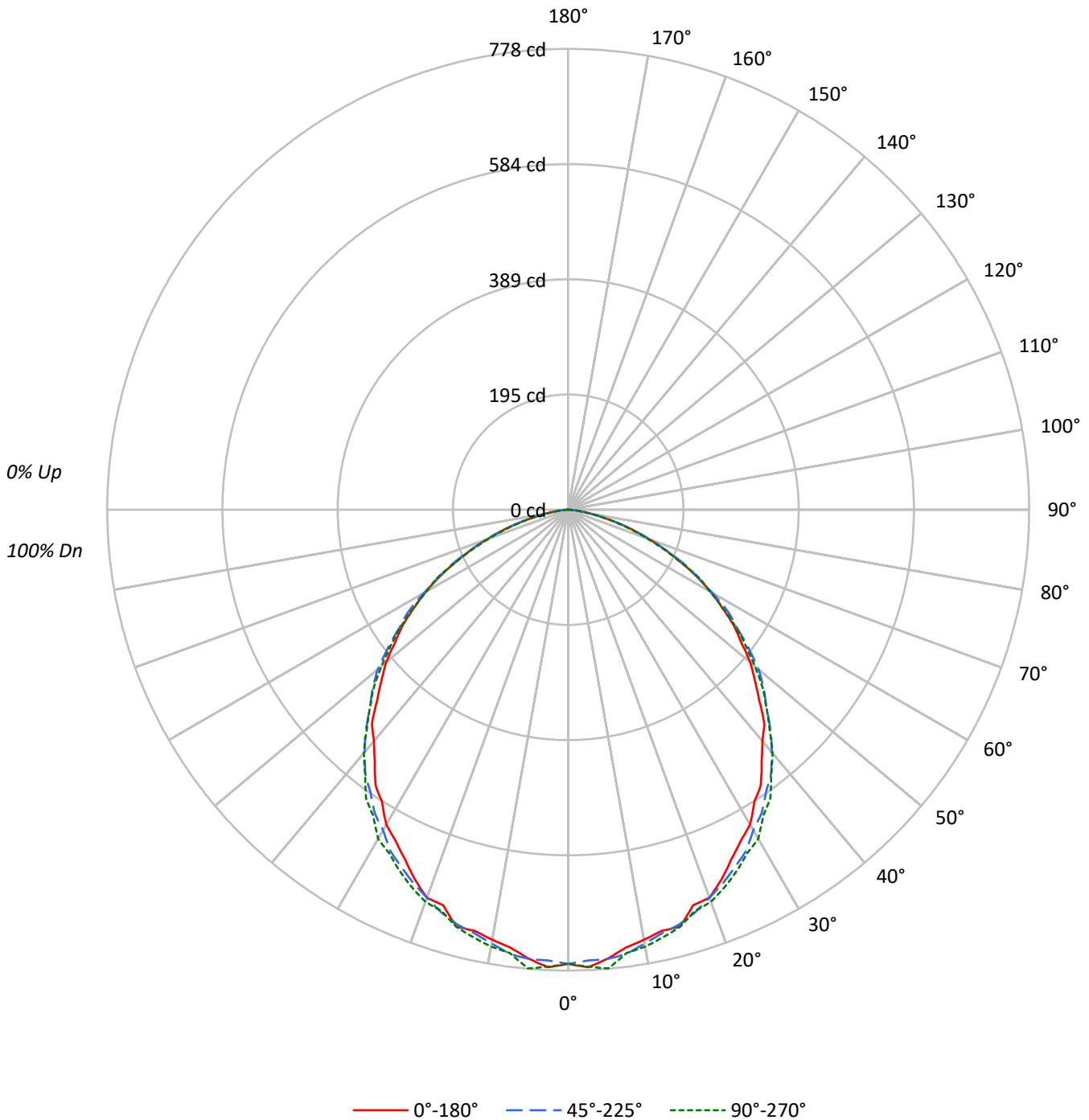
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 1932.0 lumens  
Efficiency: N/A  
Efficacy: 116.4 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°	2063	2063	2063
5°	2056	2057	2100
10°	2014	2032	2046
15°	2030	2019	2031
20°	1996	1996	2017
25°	1935	1977	1999
30°	1908	1941	1993
35°	1863	1912	1955
40°	1790	1877	1885
45°	1737	1798	1801
50°	1679	1755	1721
55°	1600	1631	1620
60°	1496	1511	1484
65°	1334	1368	1324
70°	1145	1149	1116
75°	907	905	869
80°	607	590	567
85°	330	327	306



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	72.1	3.7
10°-20°	204.4	10.6
20°-30°	306.2	15.8
30°-40°	362.9	18.8
40°-50°	363.5	18.8
50°-60°	308.6	16.0
60°-70°	208.1	10.8
70°-80°	91.4	4.7
80°-90°	14.9	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°	582.6	30.2
0°-40°	945.5	48.9
0°-60°	1617.7	83.7
0°-90°	1932.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1932.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	767	767	767	767	767	
5°	761	759	761	759	778	72
15°	729	720	725	729	729	203
25°	652	655	666	674	673	301
35°	567	569	582	595	595	352
45°	456	465	472	485	473	353
55°	341	339	348	345	345	303
65°	210	207	215	207	208	208
75°	87	85	87	81	84	93
85°	11	10	11	10	10	16
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	766.6	766.6	766.6	766.6	766.6
2.5°	773.2	767.4	761.9	768.3	772.1
5°	761.1	759.3	761.4	759.1	777.5
7.5°	745.5	752.3	756.3	753.8	754.9
10°	737.2	734.8	743.6	749.7	748.9
12.5°	728.3	731.8	732.3	739.0	739.5
15°	728.8	720.3	724.8	728.6	728.9
17.5°	700.5	709.6	712.6	721.2	710.5
20°	697.0	690.4	697.0	705.8	704.4
22.5°	675.7	668.3	682.5	690.4	689.9
25°	651.6	655.1	665.8	674.5	673.1
27.5°	630.4	634.5	649.8	661.8	654.0
30°	614.0	612.0	624.8	635.5	641.5
32.5°	584.8	592.4	607.4	618.0	612.4
35°	567.1	568.8	582.0	595.4	595.0
37.5°	536.2	544.0	562.5	566.2	562.8
40°	509.7	517.5	534.3	538.3	536.6
42.5°	490.2	491.6	506.0	510.6	503.2
45°	456.3	464.8	472.5	484.7	473.2
47.5°	427.4	431.3	448.0	451.2	445.2
50°	401.1	402.5	419.3	415.2	411.2
52.5°	368.2	374.0	383.4	382.6	378.0
55°	341.1	338.8	347.7	345.3	345.2
57.5°	308.5	312.5	319.8	316.0	310.0
60°	278.0	278.1	280.8	276.5	275.7
62.5°	244.1	245.3	245.9	240.6	249.1
65°	209.5	206.8	214.9	206.7	208.0
67.5°	177.8	179.1	178.4	173.2	175.2
70°	145.5	147.3	146.0	140.1	141.9
72.5°	116.0	113.8	115.2	107.9	111.2
75°	87.2	85.4	87.0	80.9	83.6
77.5°	59.4	60.8	59.8	56.5	58.4
80°	39.2	38.1	38.1	36.2	36.6
82.5°	22.9	21.8	21.5	20.9	21.8
85°	10.7	10.4	10.6	10.3	9.9
87.5°	3.9	4.0	4.0	3.8	3.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)