

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: P589134

Luminaire Tested: **FMR-24-2-LD4-2LO-40-UNV-93-85-EDD**

Issue Date: 12/8/2021



**Test Information**

Test Method: LM-79-08  
Report Number: P589134  
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-LD4-2LO-40-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 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

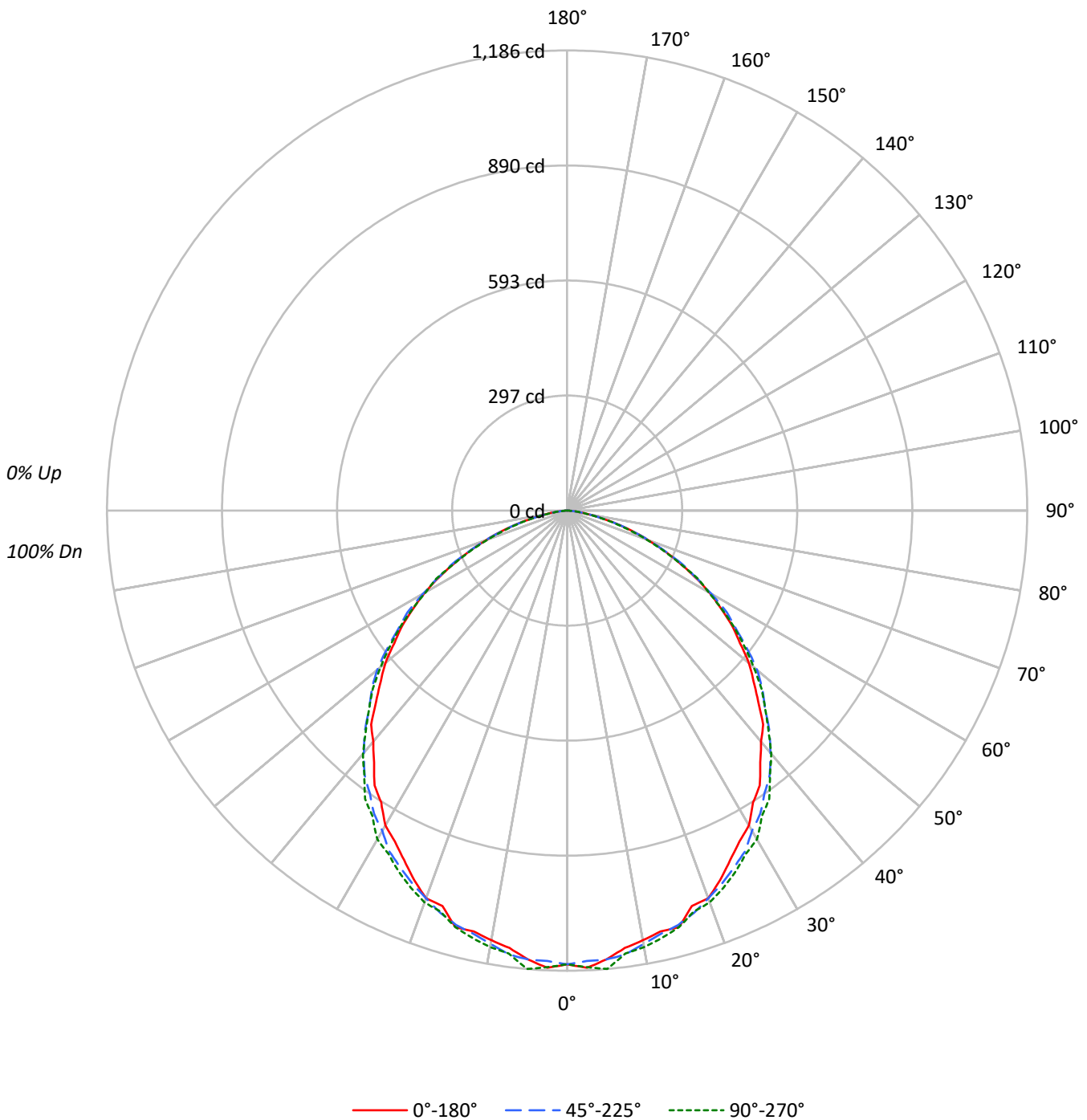
**Summary**

Lumens per Lamp: N/A  
Luminaire Lumens: 2947.0 lumens  
Efficiency: N/A  
Efficacy: 125.9 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): 23.4  
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°	3147	3147	3147
5°	3136	3137	3203
10°	3073	3099	3121
15°	3097	3080	3097
20°	3045	3045	3077
25°	2951	3015	3049
30°	2910	2962	3040
35°	2842	2916	2982
40°	2731	2863	2876
45°	2649	2743	2747
50°	2562	2677	2626
55°	2441	2488	2471
60°	2282	2305	2264
65°	2035	2087	2020
70°	1746	1752	1703
75°	1383	1380	1327
80°	927	900	866
85°	503	500	466



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	110.0	3.7
10°-20°	311.7	10.6
20°-30°	467.0	15.8
30°-40°	553.5	18.8
40°-50°	554.5	18.8
50°-60°	470.7	16.0
60°-70°	317.4	10.8
70°-80°	139.4	4.7
80°-90°	22.7	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°	888.7	30.2
0°-40°	1442.3	48.9
0°-60°	2467.5	83.7
0°-90°	2947.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2947.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1169	1169	1169	1169	1169	
5°	1161	1158	1161	1158	1186	109
15°	1112	1099	1106	1111	1112	310
25°	994	999	1016	1029	1027	459
35°	865	868	888	908	908	537
45°	696	709	721	739	722	538
55°	520	517	530	527	527	463
65°	320	315	328	315	317	318
75°	133	130	133	123	128	143
85°	16	16	16	16	15	24
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1169.3	1169.3	1169.3	1169.3	1169.3
2.5°	1179.4	1170.5	1162.2	1171.9	1177.7
5°	1161.0	1158.3	1161.4	1158.0	1185.9
7.5°	1137.1	1147.6	1153.6	1149.8	1151.5
10°	1124.5	1120.8	1134.3	1143.6	1142.3
12.5°	1110.9	1116.3	1117.1	1127.2	1128.1
15°	1111.6	1098.8	1105.6	1111.3	1111.8
17.5°	1068.4	1082.3	1087.0	1100.1	1083.8
20°	1063.2	1053.0	1063.2	1076.6	1074.5
22.5°	1030.7	1019.4	1041.1	1053.0	1052.3
25°	993.9	999.3	1015.6	1028.9	1026.8
27.5°	961.6	967.9	991.1	1009.4	997.6
30°	936.6	933.5	953.1	969.4	978.5
32.5°	892.1	903.6	926.5	942.7	934.1
35°	865.1	867.6	887.7	908.3	907.7
37.5°	817.8	829.8	858.0	863.7	858.4
40°	777.5	789.4	815.0	821.1	818.6
42.5°	747.8	749.9	771.8	778.9	767.6
45°	696.0	709.0	720.8	739.3	721.8
47.5°	651.9	657.9	683.3	688.3	679.1
50°	611.9	614.0	639.5	633.3	627.3
52.5°	561.6	570.5	584.9	583.7	576.6
55°	520.3	516.8	530.4	526.7	526.6
57.5°	470.6	476.6	487.8	482.1	472.9
60°	424.1	424.2	428.3	421.8	420.6
62.5°	372.3	374.1	375.0	367.0	380.0
65°	319.6	315.4	327.8	315.2	317.3
67.5°	271.1	273.3	272.1	264.2	267.2
70°	221.9	224.6	222.7	213.8	216.5
72.5°	176.9	173.6	175.7	164.6	169.7
75°	133.0	130.3	132.7	123.3	127.6
77.5°	90.6	92.7	91.2	86.2	89.1
80°	59.8	58.1	58.1	55.3	55.9
82.5°	34.9	33.2	32.8	31.9	33.2
85°	16.3	15.9	16.2	15.7	15.1
87.5°	5.9	6.0	6.0	5.7	5.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)