

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: P546361

Luminaire Tested: **FMR-12-4-LD4-2STD-50-UNV-80-86-EDD**

Issue Date: 6/15/2021

This test was performed under the Supervised Manufacturer's Testing Program. The results of this test have not been influenced by sources from within Cooper Lighting Solutions or from external interests.



**Test Information**

Test Method: LM-79-08  
Report Number: P546361  
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-5)  
Test Lab: INNOVATION CENTER  
Issue Date: 6/15/2021  
Manufacturer: COOPER LIGHTING SOLUTIONS (FORMERLY EATON)  
Product Line: FAIL-SAFE  
Catalog Number: FMR-12-4-LD4-2STD-50-UNV-80-86-EDD  
Description: 1X4 FMR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

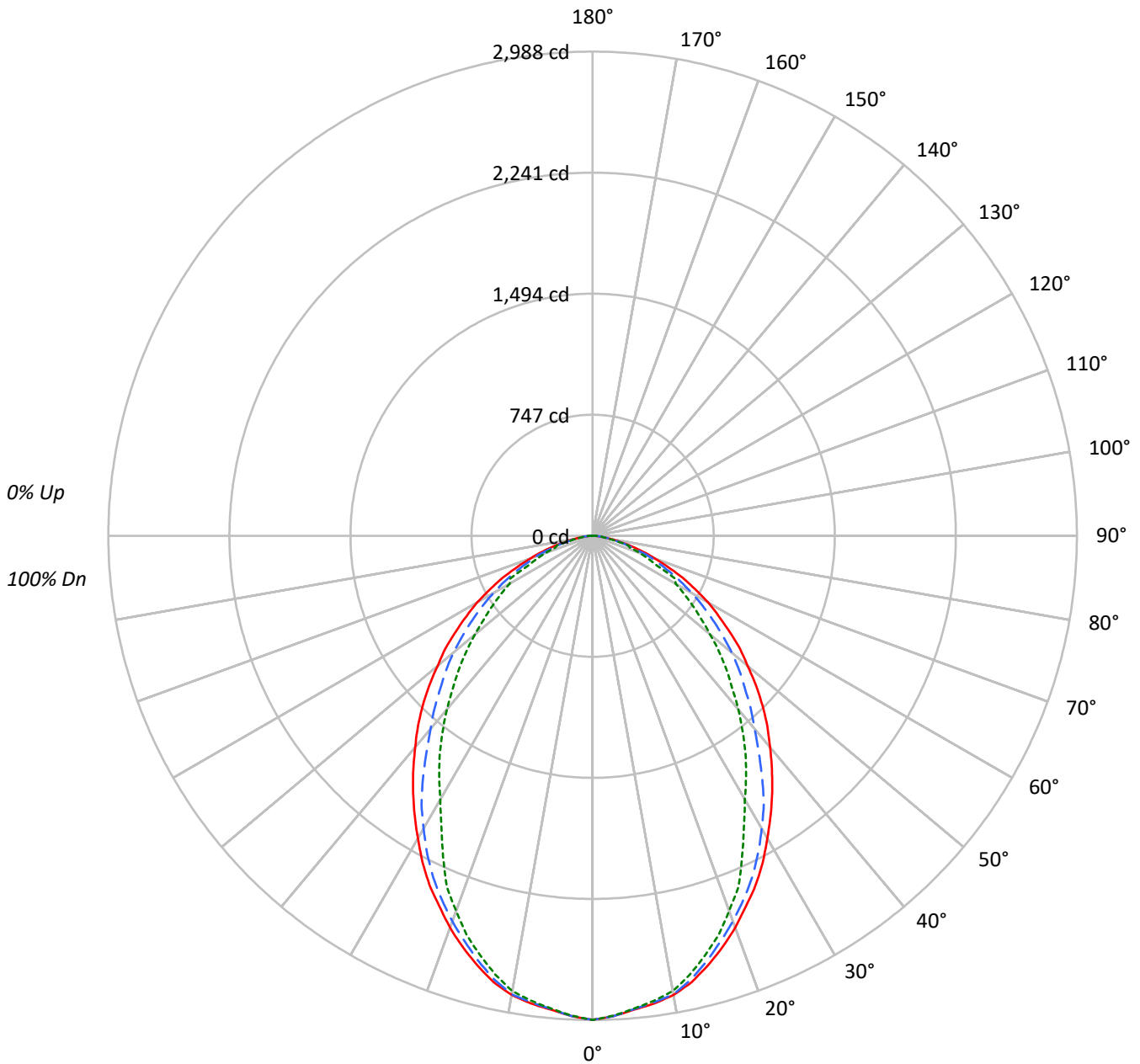
Lumens per Lamp: N/A  
Luminaire Lumens: 5865.0 lumens  
Efficiency: N/A  
Efficacy: 88.1 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 66.6  
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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CATALOG NUMBER: FMR-12-4-LD4-2STD-50-UNV-80-86-EDD

### Luminous Intensity Polar Plot





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**COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:**

RF	20									20									20									20									
RC	80									50									30									10									0
RW	70	50	30	10	70	50	30	10	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	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87																			
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75																			
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65																			
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56																			
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50																			
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44																			
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40																			
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36																			
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33																			
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30																			

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	8040	8040	8040
5°	7930	7921	7911
10°	7861	7852	7796
15°	7650	7573	7467
20°	7369	7250	7052
25°	7066	6912	6481
30°	6697	6482	5838
35°	6343	5991	5401
40°	5981	5460	4914
45°	5639	5047	4443
50°	5220	4685	3962
55°	4829	4245	3549
60°	4424	3792	3179
65°	3892	3321	2815
70°	3207	2908	2391
75°	2549	2226	2334
80°	1712	1605	1499
85°	1065	1278	1494



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	278.1	4.7
10°-20°	763.2	13.0
20°-30°	1056.6	18.0
30°-40°	1126.7	19.2
40°-50°	1027.9	17.5
50°-60°	805.2	13.7
60°-70°	524.8	8.9
70°-80°	232.5	4.0
80°-90°	49.9	0.9
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°	2098.0	35.8
0°-40°	3224.6	55.0
0°-60°	5057.7	86.2
0°-90°	5865.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5865.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2988	2988	2988	2988	2988	
5°	2936	2932	2932	2929	2929	279
15°	2746	2746	2718	2690	2680	772
25°	2380	2366	2328	2245	2183	1093
35°	1931	1917	1824	1686	1644	1207
45°	1482	1451	1326	1216	1167	1141
55°	1029	998	905	798	756	923
65°	611	577	522	532	442	602
75°	245	228	214	204	224	263
85°	34	38	41	45	48	48
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2987.6	2987.6	2987.6	2987.6	2987.6
2.5°	2966.8	2966.8	2966.8	2963.4	2963.4
5°	2935.7	2932.3	2932.3	2928.8	2928.8
7.5°	2911.6	2908.1	2904.7	2901.2	2894.3
10°	2877.0	2877.0	2873.6	2856.3	2852.9
12.5°	2821.8	2818.3	2804.5	2780.3	2773.4
15°	2745.8	2745.8	2718.2	2690.5	2680.2
17.5°	2662.9	2659.4	2624.9	2597.3	2583.5
20°	2573.1	2566.2	2531.6	2486.7	2462.6
22.5°	2472.9	2472.9	2431.5	2372.8	2348.6
25°	2379.7	2365.9	2327.9	2245.0	2182.8
27.5°	2272.6	2251.9	2210.4	2093.0	2020.5
30°	2155.2	2144.8	2086.1	1934.1	1878.9
32.5°	2044.7	2027.4	1965.2	1806.3	1761.4
35°	1930.7	1916.9	1823.6	1685.5	1644.0
37.5°	1816.7	1799.4	1682.0	1571.5	1519.7
40°	1702.7	1682.0	1554.2	1454.1	1398.8
42.5°	1595.7	1568.0	1443.7	1336.6	1274.5
45°	1481.7	1450.6	1326.3	1215.7	1167.4
47.5°	1367.7	1340.1	1226.1	1112.1	1056.9
50°	1246.8	1222.7	1119.0	1005.1	946.3
52.5°	1146.7	1108.7	1008.5	894.5	846.2
55°	1029.2	998.2	904.9	797.8	756.4
57.5°	922.2	891.1	804.7	704.6	670.0
60°	822.0	777.1	704.6	618.2	590.6
62.5°	711.5	676.9	614.8	542.2	576.8
65°	611.3	576.8	521.5	531.9	442.1
67.5°	500.8	483.5	435.2	386.8	373.0
70°	407.6	386.8	369.6	317.8	303.9
72.5°	324.7	303.9	279.8	252.1	241.8
75°	245.2	228.0	214.1	203.8	224.5
77.5°	169.2	162.3	152.0	141.6	138.2
80°	110.5	107.1	103.6	100.2	96.7
82.5°	65.6	65.6	65.6	65.6	65.6
85°	34.5	38.0	41.4	44.9	48.4
87.5°	20.7	20.7	24.2	27.6	31.1
90°	0.0	0.0	0.0	0.0	0.0



Report Generated By 670246072 / DESKTOP-MV3F9LC







— 0°-180°    - - 45°-225°    - - - - 90°-270°







(END OF REPORT)