

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: P546267

Luminaire Tested: **FMR-12-4-LD4-2LO-50-UNV-80-88-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: P546267  
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-LD4-2LO-50-UNV-80-88-EDD  
Description: 1X4 FMR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

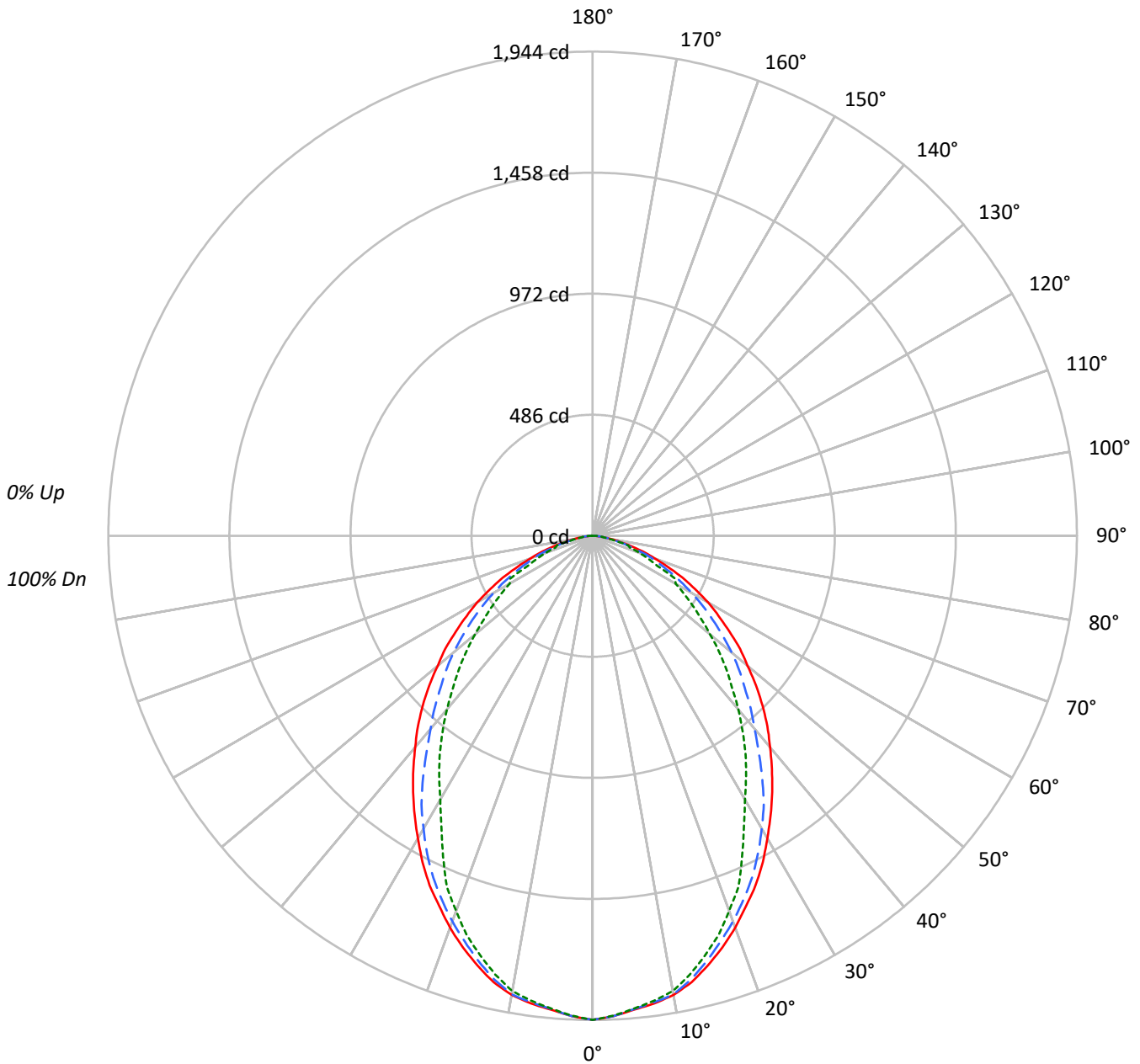
Lumens per Lamp: N/A  
Luminaire Lumens: 3816.0 lumens  
Efficiency: N/A  
Efficacy: 81.5 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 46.8  
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									
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°	5231	5231	5231
5°	5160	5154	5148
10°	5115	5109	5072
15°	4977	4927	4858
20°	4794	4717	4588
25°	4597	4497	4217
30°	4357	4218	3799
35°	4127	3898	3514
40°	3892	3552	3197
45°	3669	3284	2891
50°	3396	3048	2578
55°	3142	2762	2309
60°	2878	2467	2068
65°	2533	2160	1831
70°	2087	1891	1556
75°	1659	1448	1519
80°	1114	1044	975
85°	695	834	973



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	180.9	4.7
10°-20°	496.6	13.0
20°-30°	687.5	18.0
30°-40°	733.1	19.2
40°-50°	668.8	17.5
50°-60°	523.9	13.7
60°-70°	341.5	8.9
70°-80°	151.3	4.0
80°-90°	32.5	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°	1365.0	35.8
0°-40°	2098.1	55.0
0°-60°	3290.8	86.2
0°-90°	3816.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3816.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1944	1944	1944	1944	1944	
5°	1910	1908	1908	1906	1906	181
15°	1786	1786	1768	1751	1744	502
25°	1548	1539	1515	1461	1420	711
35°	1256	1247	1186	1097	1070	785
45°	964	944	863	791	760	743
55°	670	649	589	519	492	601
65°	398	375	339	346	288	392
75°	160	148	139	133	146	171
85°	22	25	27	29	32	31
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1943.8	1943.8	1943.8	1943.8	1943.8
2.5°	1930.3	1930.3	1930.3	1928.1	1928.1
5°	1910.1	1907.9	1907.9	1905.6	1905.6
7.5°	1894.4	1892.1	1889.9	1887.6	1883.1
10°	1871.9	1871.9	1869.7	1858.4	1856.2
12.5°	1836.0	1833.7	1824.7	1809.0	1804.5
15°	1786.5	1786.5	1768.5	1750.6	1743.8
17.5°	1732.6	1730.3	1707.9	1689.9	1680.9
20°	1674.2	1669.7	1647.2	1618.0	1602.2
22.5°	1609.0	1609.0	1582.0	1543.8	1528.1
25°	1548.3	1539.3	1514.6	1460.7	1420.2
27.5°	1478.7	1465.2	1438.2	1361.8	1314.6
30°	1402.2	1395.5	1357.3	1258.4	1222.5
32.5°	1330.3	1319.1	1278.7	1175.3	1146.1
35°	1256.2	1247.2	1186.5	1096.6	1069.7
37.5°	1182.0	1170.8	1094.4	1022.5	988.8
40°	1107.9	1094.4	1011.2	946.1	910.1
42.5°	1038.2	1020.2	939.3	869.7	829.2
45°	964.0	943.8	862.9	791.0	759.6
47.5°	889.9	871.9	797.8	723.6	687.6
50°	811.2	795.5	728.1	653.9	615.7
52.5°	746.1	721.3	656.2	582.0	550.6
55°	669.7	649.4	588.8	519.1	492.1
57.5°	600.0	579.8	523.6	458.4	436.0
60°	534.8	505.6	458.4	402.2	384.3
62.5°	462.9	440.4	400.0	352.8	375.3
65°	397.8	375.3	339.3	346.1	287.6
67.5°	325.8	314.6	283.1	251.7	242.7
70°	265.2	251.7	240.4	206.7	197.8
72.5°	211.2	197.8	182.0	164.0	157.3
75°	159.6	148.3	139.3	132.6	146.1
77.5°	110.1	105.6	98.9	92.1	89.9
80°	71.9	69.7	67.4	65.2	62.9
82.5°	42.7	42.7	42.7	42.7	42.7
85°	22.5	24.7	27.0	29.2	31.5
87.5°	13.5	13.5	15.7	18.0	20.2
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)