

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: P545880

Luminaire Tested: **FMR-12-4-LD4-1HI-50-UNV-80-85-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: P545880  
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-LD4-1HI-50-UNV-80-85-EDD  
Description: 1X4 FMR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

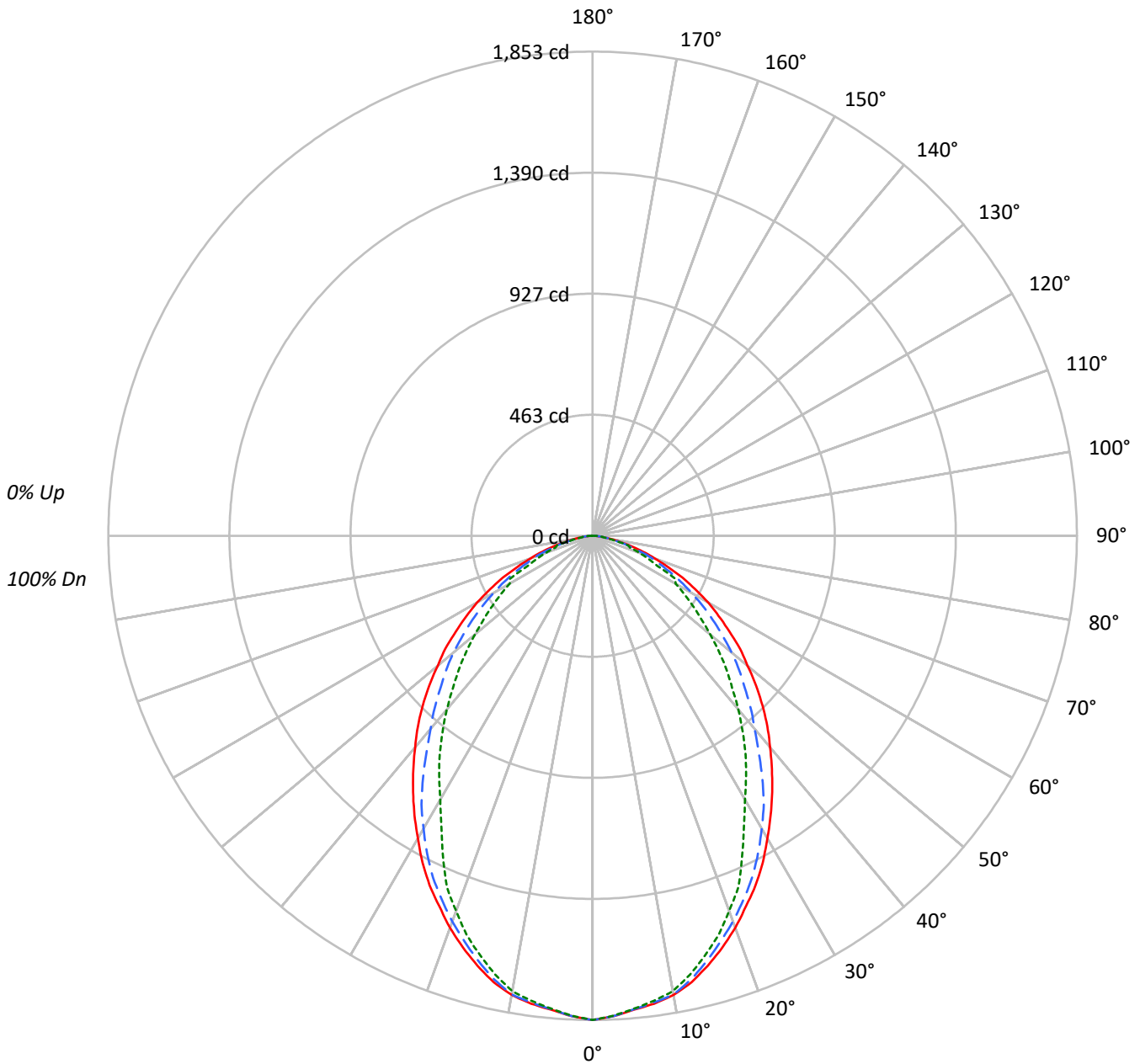
Lumens per Lamp: N/A  
Luminaire Lumens: 3638.0 lumens  
Efficiency: N/A  
Efficacy: 84.2 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 43.2  
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°	4987	4987	4987
5°	4919	4913	4907
10°	4876	4871	4835
15°	4745	4697	4632
20°	4571	4497	4374
25°	4383	4287	4020
30°	4154	4021	3621
35°	3934	3716	3350
40°	3710	3387	3048
45°	3498	3131	2756
50°	3238	2906	2457
55°	2995	2633	2201
60°	2744	2352	1971
65°	2415	2060	1746
70°	1989	1803	1483
75°	1581	1381	1448
80°	1063	996	930
85°	661	794	926



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	172.5	4.7
10°-20°	473.4	13.0
20°-30°	655.4	18.0
30°-40°	698.9	19.2
40°-50°	637.6	17.5
50°-60°	499.5	13.7
60°-70°	325.5	8.9
70°-80°	144.2	4.0
80°-90°	31.0	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°	1301.3	35.8
0°-40°	2000.2	55.0
0°-60°	3137.3	86.2
0°-90°	3638.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3638.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1853	1853	1853	1853	1853	
5°	1821	1819	1819	1817	1817	173
15°	1703	1703	1686	1669	1662	479
25°	1476	1468	1444	1392	1354	678
35°	1198	1189	1131	1046	1020	749
45°	919	900	823	754	724	708
55°	638	619	561	495	469	573
65°	379	358	324	330	274	374
75°	152	141	133	126	139	163
85°	21	24	26	28	30	30
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1853.1	1853.1	1853.1	1853.1	1853.1
2.5°	1840.3	1840.3	1840.3	1838.2	1838.2
5°	1821.0	1818.9	1818.9	1816.7	1816.7
7.5°	1806.0	1803.9	1801.7	1799.6	1795.3
10°	1784.6	1784.6	1782.5	1771.7	1769.6
12.5°	1750.3	1748.2	1739.6	1724.6	1720.3
15°	1703.2	1703.2	1686.0	1668.9	1662.5
17.5°	1651.8	1649.6	1628.2	1611.1	1602.5
20°	1596.1	1591.8	1570.4	1542.5	1527.5
22.5°	1533.9	1533.9	1508.2	1471.8	1456.8
25°	1476.1	1467.5	1444.0	1392.5	1354.0
27.5°	1409.7	1396.8	1371.1	1298.3	1253.3
30°	1336.8	1330.4	1294.0	1199.7	1165.4
32.5°	1268.3	1257.6	1219.0	1120.5	1092.6
35°	1197.6	1189.0	1131.2	1045.5	1019.8
37.5°	1126.9	1116.2	1043.3	974.8	942.6
40°	1056.2	1043.3	964.1	901.9	867.7
42.5°	989.8	972.6	895.5	829.1	790.5
45°	919.1	899.8	822.7	754.1	724.1
47.5°	848.4	831.2	760.5	689.8	655.6
50°	773.4	758.4	694.1	623.4	587.0
52.5°	711.3	687.7	625.6	554.9	524.9
55°	638.4	619.1	561.3	494.9	469.2
57.5°	572.0	552.7	499.2	437.0	415.6
60°	509.9	482.0	437.0	383.5	366.3
62.5°	441.3	419.9	381.3	336.4	357.8
65°	379.2	357.8	323.5	329.9	274.2
67.5°	310.6	299.9	269.9	239.9	231.4
70°	252.8	239.9	229.2	197.1	188.5
72.5°	201.4	188.5	173.5	156.4	150.0
75°	152.1	141.4	132.8	126.4	139.3
77.5°	105.0	100.7	94.3	87.8	85.7
80°	68.6	66.4	64.3	62.1	60.0
82.5°	40.7	40.7	40.7	40.7	40.7
85°	21.4	23.6	25.7	27.9	30.0
87.5°	12.9	12.9	15.0	17.1	19.3
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)