

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: P546424

Luminaire Tested: **FMR-24-4-LD4-1HI-35-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: P546424  
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-24-4-LD4-1HI-35-UNV-80-85-EDD  
Description: 2X4 FMR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

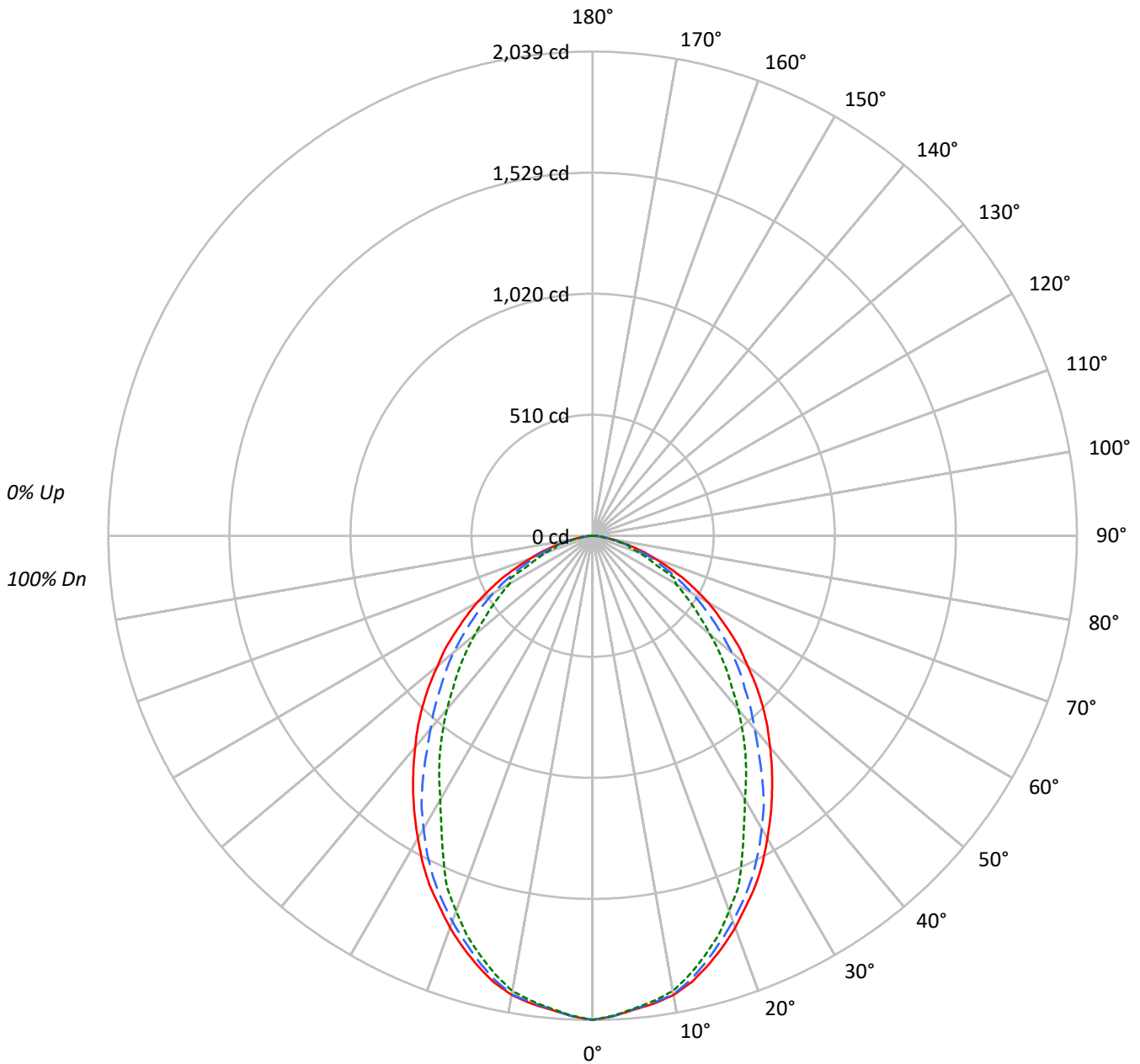
Lumens per Lamp: N/A  
Luminaire Lumens: 4002.0 lumens  
Efficiency: N/A  
Efficacy: 92.6 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

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°	2743	2743	2743
5°	2706	2702	2699
10°	2682	2679	2660
15°	2610	2584	2547
20°	2514	2474	2406
25°	2411	2358	2211
30°	2285	2212	1992
35°	2164	2044	1843
40°	2041	1863	1676
45°	1924	1722	1516
50°	1781	1598	1352
55°	1647	1449	1211
60°	1509	1294	1084
65°	1328	1133	961
70°	1094	992	816
75°	870	760	796
80°	584	548	511
85°	364	437	509



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	189.8	4.7
10°-20°	520.8	13.0
20°-30°	721.0	18.0
30°-40°	768.8	19.2
40°-50°	701.4	17.5
50°-60°	549.5	13.7
60°-70°	358.1	8.9
70°-80°	158.7	4.0
80°-90°	34.1	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°	1431.6	35.8
0°-40°	2200.3	55.0
0°-60°	3451.2	86.2
0°-90°	4002.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4002.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2039	2039	2039	2039	2039	
5°	2003	2001	2001	1998	1998	190
15°	1874	1874	1855	1836	1829	527
25°	1624	1614	1588	1532	1489	745
35°	1317	1308	1244	1150	1122	824
45°	1011	990	905	830	797	779
55°	702	681	618	544	516	630
65°	417	394	356	363	302	411
75°	167	156	146	139	153	179
85°	24	26	28	31	33	33
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2038.6	2038.6	2038.6	2038.6	2038.6
2.5°	2024.4	2024.4	2024.4	2022.1	2022.1
5°	2003.2	2000.9	2000.9	1998.5	1998.5
7.5°	1986.7	1984.4	1982.0	1979.6	1974.9
10°	1963.2	1963.2	1960.8	1949.0	1946.7
12.5°	1925.4	1923.1	1913.7	1897.2	1892.4
15°	1873.6	1873.6	1854.7	1835.9	1828.8
17.5°	1817.0	1814.7	1791.1	1772.3	1762.8
20°	1755.8	1751.0	1727.5	1696.8	1680.3
22.5°	1687.4	1687.4	1659.1	1619.1	1602.6
25°	1623.8	1614.4	1588.4	1531.9	1489.4
27.5°	1550.7	1536.6	1508.3	1428.2	1378.7
30°	1470.6	1463.5	1423.5	1319.8	1282.1
32.5°	1395.2	1383.4	1341.0	1232.6	1201.9
35°	1317.4	1308.0	1244.3	1150.1	1121.8
37.5°	1239.6	1227.9	1147.7	1072.3	1037.0
40°	1161.9	1147.7	1060.5	992.2	954.5
42.5°	1088.8	1070.0	985.1	912.1	869.6
45°	1011.0	989.8	905.0	829.6	796.6
47.5°	933.3	914.4	836.6	758.9	721.2
50°	850.8	834.3	763.6	685.8	645.7
52.5°	782.4	756.5	688.2	610.4	577.4
55°	702.3	681.1	617.5	544.4	516.1
57.5°	629.2	608.0	549.1	480.8	457.2
60°	560.9	530.3	480.8	421.9	403.0
62.5°	485.5	461.9	419.5	370.0	393.6
65°	417.1	393.6	355.9	362.9	301.7
67.5°	341.7	329.9	296.9	264.0	254.5
70°	278.1	264.0	252.2	216.8	207.4
72.5°	221.5	207.4	190.9	172.0	165.0
75°	167.3	155.5	146.1	139.0	153.2
77.5°	115.5	110.8	103.7	96.6	94.3
80°	75.4	73.1	70.7	68.3	66.0
82.5°	44.8	44.8	44.8	44.8	44.8
85°	23.6	25.9	28.3	30.6	33.0
87.5°	14.1	14.1	16.5	18.9	21.2
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)