

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: P546596

Luminaire Tested: **FMR-24-4-LD4-1STD-35-UNV-81-94-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: P546596  
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-LD4-1STD-35-UNV-81-94-EDD  
Description: 2X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR  
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

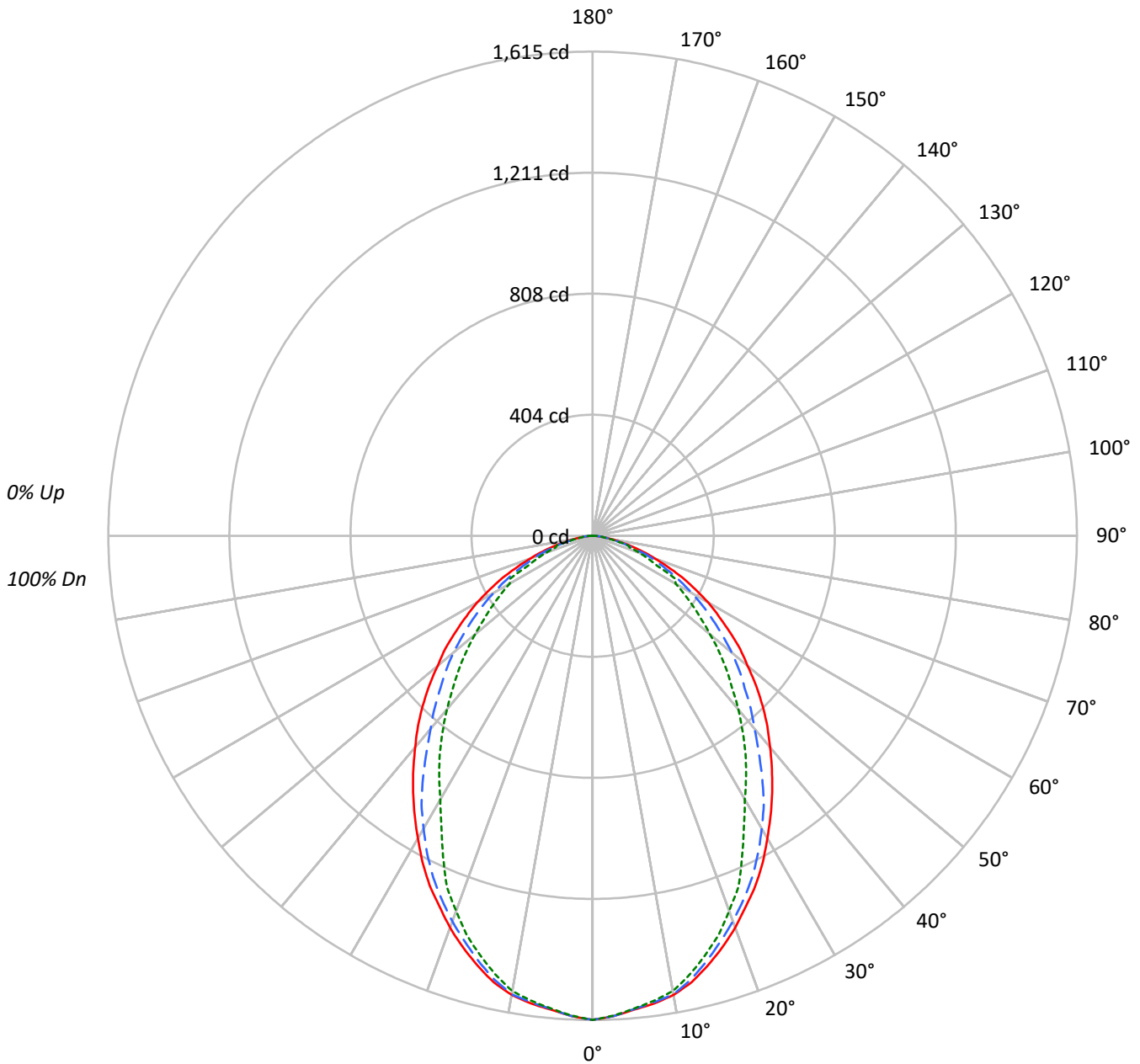
Lumens per Lamp: N/A  
Luminaire Lumens: 3170.0 lumens  
Efficiency: N/A  
Efficacy: 95.2 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 33.3  
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				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	50	30	10	0	
RCR																						
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100				100
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87				87
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75				75
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65				65
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56				56
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50				50
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44				44
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40				40
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36				36
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33				33
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30				30

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

	0°	45°	90°
0°	2173	2173	2173
5°	2143	2141	2138
10°	2125	2122	2107
15°	2067	2046	2018
20°	1991	1959	1906
25°	1909	1868	1752
30°	1810	1752	1578
35°	1714	1619	1460
40°	1616	1475	1328
45°	1524	1364	1201
50°	1411	1266	1071
55°	1305	1147	959
60°	1196	1025	859
65°	1052	897	761
70°	867	786	646
75°	689	601	631
80°	463	434	405
85°	289	346	403



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	150.3	4.7
10°-20°	412.5	13.0
20°-30°	571.1	18.0
30°-40°	609.0	19.2
40°-50°	555.5	17.5
50°-60°	435.2	13.7
60°-70°	283.7	8.9
70°-80°	125.7	4.0
80°-90°	27.0	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°	1133.9	35.8
0°-40°	1742.9	55.0
0°-60°	2733.7	86.2
0°-90°	3170.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3170.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1615	1615	1615	1615	1615	
5°	1587	1585	1585	1583	1583	151
15°	1484	1484	1469	1454	1449	417
25°	1286	1279	1258	1213	1180	590
35°	1044	1036	986	911	889	652
45°	801	784	717	657	631	617
55°	556	540	489	431	409	499
65°	330	312	282	288	239	326
75°	132	123	116	110	121	142
85°	19	20	22	24	26	26
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1614.8	1614.8	1614.8	1614.8	1614.8
2.5°	1603.6	1603.6	1603.6	1601.7	1601.7
5°	1586.8	1584.9	1584.9	1583.0	1583.0
7.5°	1573.7	1571.8	1570.0	1568.1	1564.4
10°	1555.0	1555.0	1553.2	1543.8	1542.0
12.5°	1525.2	1523.3	1515.8	1502.7	1499.0
15°	1484.1	1484.1	1469.1	1454.2	1448.6
17.5°	1439.3	1437.4	1418.7	1403.8	1396.3
20°	1390.7	1387.0	1368.3	1344.1	1331.0
22.5°	1336.6	1336.6	1314.2	1282.5	1269.4
25°	1286.2	1278.7	1258.2	1213.4	1179.8
27.5°	1228.3	1217.1	1194.7	1131.3	1092.1
30°	1164.9	1159.3	1127.5	1045.4	1015.5
32.5°	1105.1	1095.8	1062.2	976.3	952.1
35°	1043.5	1036.1	985.7	911.0	888.6
37.5°	981.9	972.6	909.1	849.4	821.4
40°	920.3	909.1	840.0	785.9	756.0
42.5°	862.4	847.5	780.3	722.4	688.8
45°	800.8	784.0	716.8	657.1	631.0
47.5°	739.2	724.3	662.7	601.1	571.2
50°	673.9	660.8	604.8	543.2	511.5
52.5°	619.8	599.2	545.1	483.5	457.4
55°	556.3	539.5	489.1	431.2	408.8
57.5°	498.4	481.6	435.0	380.8	362.2
60°	444.3	420.0	380.8	334.2	319.2
62.5°	384.6	365.9	332.3	293.1	311.8
65°	330.4	311.8	281.9	287.5	238.9
67.5°	270.7	261.3	235.2	209.1	201.6
70°	220.3	209.1	199.7	171.7	164.3
72.5°	175.5	164.3	151.2	136.3	130.7
75°	132.5	123.2	115.7	110.1	121.3
77.5°	91.5	87.7	82.1	76.5	74.7
80°	59.7	57.9	56.0	54.1	52.3
82.5°	35.5	35.5	35.5	35.5	35.5
85°	18.7	20.5	22.4	24.3	26.1
87.5°	11.2	11.2	13.1	14.9	16.8
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)