

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: P546615

Luminaire Tested: **FMR-24-4-LD4-1STD-40-UNV-80-84-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: P546615  
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-40-UNV-80-84-EDD  
Description: 2X4 FMR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

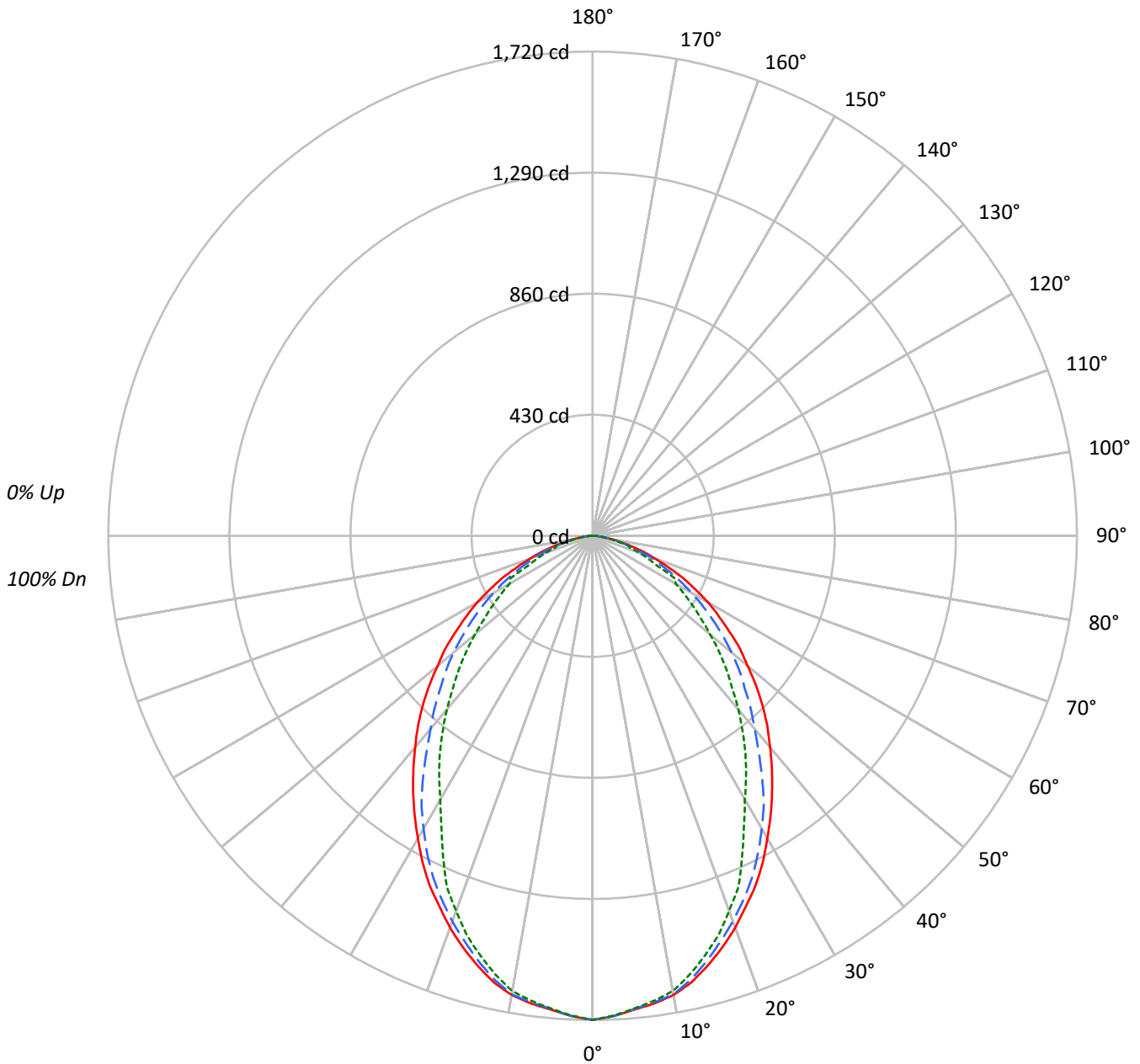
Lumens per Lamp: N/A  
Luminaire Lumens: 3376.0 lumens  
Efficiency: N/A  
Efficacy: 101.4 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

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									
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°	2314	2314	2314
5°	2282	2280	2277
10°	2263	2260	2244
15°	2202	2179	2149
20°	2121	2087	2030
25°	2034	1989	1865
30°	1927	1866	1680
35°	1825	1724	1554
40°	1721	1571	1414
45°	1623	1453	1279
50°	1502	1348	1140
55°	1390	1222	1021
60°	1273	1091	915
65°	1120	956	810
70°	923	837	688
75°	734	641	672
80°	493	462	432
85°	307	369	429



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	160.1	4.7
10°-20°	439.3	13.0
20°-30°	608.2	18.0
30°-40°	648.5	19.2
40°-50°	591.7	17.5
50°-60°	463.5	13.7
60°-70°	302.1	8.9
70°-80°	133.8	4.0
80°-90°	28.7	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°	1207.6	35.8
0°-40°	1856.2	55.0
0°-60°	2911.3	86.2
0°-90°	3376.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3376.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1720	1720	1720	1720	1720	
5°	1690	1688	1688	1686	1686	160
15°	1580	1580	1565	1549	1543	444
25°	1370	1362	1340	1292	1256	629
35°	1111	1103	1050	970	946	695
45°	853	835	763	700	672	657
55°	592	575	521	459	435	531
65°	352	332	300	306	254	347
75°	141	131	123	117	129	151
85°	20	22	24	26	28	28
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1719.7	1719.7	1719.7	1719.7	1719.7
2.5°	1707.8	1707.8	1707.8	1705.8	1705.8
5°	1689.9	1687.9	1687.9	1685.9	1685.9
7.5°	1676.0	1674.0	1672.0	1670.0	1666.0
10°	1656.1	1656.1	1654.1	1644.1	1642.2
12.5°	1624.3	1622.3	1614.3	1600.4	1596.4
15°	1580.5	1580.5	1564.6	1548.7	1542.8
17.5°	1532.8	1530.8	1510.9	1495.0	1487.1
20°	1481.1	1477.1	1457.3	1431.4	1417.5
22.5°	1423.5	1423.5	1399.6	1365.8	1351.9
25°	1369.8	1361.8	1340.0	1292.3	1256.5
27.5°	1308.2	1296.2	1272.4	1204.8	1163.0
30°	1240.6	1234.6	1200.8	1113.3	1081.5
32.5°	1176.9	1167.0	1131.2	1039.8	1013.9
35°	1111.3	1103.4	1049.7	970.2	946.3
37.5°	1045.7	1035.8	968.2	904.6	874.8
40°	980.1	968.2	894.6	837.0	805.2
42.5°	918.5	902.6	831.0	769.4	733.6
45°	852.9	835.0	763.4	699.8	672.0
47.5°	787.3	771.4	705.8	640.2	608.4
50°	717.7	703.8	644.1	578.5	544.7
52.5°	660.0	638.2	580.5	514.9	487.1
55°	592.4	574.6	520.9	459.2	435.4
57.5°	530.8	512.9	463.2	405.6	385.7
60°	473.2	447.3	405.6	355.9	340.0
62.5°	409.5	389.7	353.9	312.1	332.0
65°	351.9	332.0	300.2	306.2	254.5
67.5°	288.3	278.3	250.5	222.7	214.7
70°	234.6	222.7	212.7	182.9	175.0
72.5°	186.9	175.0	161.0	145.1	139.2
75°	141.2	131.2	123.3	117.3	129.2
77.5°	97.4	93.4	87.5	81.5	79.5
80°	63.6	61.6	59.6	57.7	55.7
82.5°	37.8	37.8	37.8	37.8	37.8
85°	19.9	21.9	23.9	25.8	27.8
87.5°	11.9	11.9	13.9	15.9	17.9
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)