

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: P547287

Luminaire Tested: **FMR-24-4-LD4-4HI-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: P547287  
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-LD4-4HI-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**

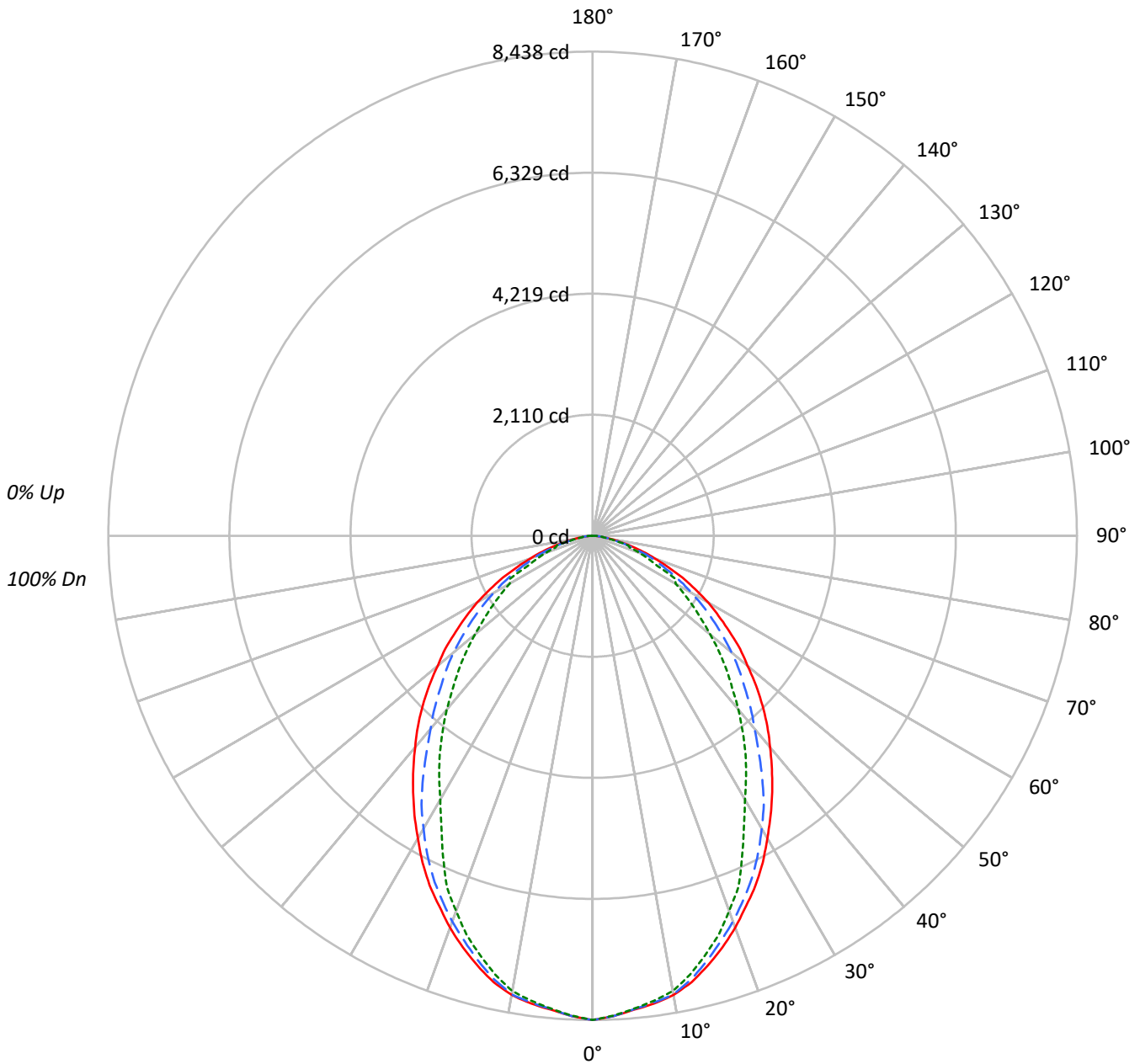
Lumens per Lamp: N/A  
Luminaire Lumens: 16565.0 lumens  
Efficiency: N/A  
Efficacy: 95.9 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 172.8  
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					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								
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°	11353	11353	11353
5°	11199	11186	11173
10°	11102	11089	11009
15°	10802	10694	10544
20°	10406	10238	9959
25°	9978	9761	9153
30°	9457	9154	8245
35°	8957	8460	7627
40°	8447	7710	6939
45°	7963	7128	6274
50°	7371	6616	5595
55°	6819	5995	5011
60°	6248	5355	4489
65°	5497	4690	3975
70°	4528	4106	3377
75°	3601	3144	3296
80°	2419	2267	2116
85°	1505	1808	2109



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	785.5	4.7
10°-20°	2155.6	13.0
20°-30°	2984.3	18.0
30°-40°	3182.2	19.2
40°-50°	2903.1	17.5
50°-60°	2274.3	13.7
60°-70°	1482.3	8.9
70°-80°	656.7	4.0
80°-90°	141.0	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°	5925.4	35.8
0°-40°	9107.6	55.0
0°-60°	14285.0	86.2
0°-90°	16565.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	16565.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	8438	8438	8438	8438	8438	
5°	8292	8282	8282	8272	8272	787
15°	7755	7755	7677	7599	7570	2180
25°	6721	6682	6575	6341	6165	3086
35°	5453	5414	5151	4760	4643	3409
45°	4185	4097	3746	3434	3297	3224
55°	2907	2819	2556	2253	2136	2607
65°	1727	1629	1473	1502	1249	1702
75°	693	644	605	576	634	742
85°	98	107	117	127	137	135
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	8438.0	8438.0	8438.0	8438.0	8438.0
2.5°	8379.5	8379.5	8379.5	8369.7	8369.7
5°	8291.7	8281.9	8281.9	8272.2	8272.2
7.5°	8223.4	8213.6	8203.9	8194.1	8174.6
10°	8125.8	8125.8	8116.1	8067.3	8057.5
12.5°	7969.8	7960.0	7921.0	7852.7	7833.2
15°	7755.1	7755.1	7677.1	7599.1	7569.8
17.5°	7521.0	7511.3	7413.7	7335.7	7296.7
20°	7267.4	7247.9	7150.3	7023.5	6955.2
22.5°	6984.5	6984.5	6867.5	6701.6	6633.3
25°	6721.1	6682.1	6574.8	6340.7	6165.1
27.5°	6418.7	6360.2	6243.1	5911.5	5706.6
30°	6087.1	6057.8	5892.0	5462.7	5306.7
32.5°	5774.9	5726.1	5550.5	5101.8	4975.0
35°	5453.0	5414.0	5150.6	4760.4	4643.3
37.5°	5131.1	5082.3	4750.6	4438.5	4292.2
40°	4809.2	4750.6	4389.7	4106.8	3950.7
42.5°	4506.8	4428.7	4077.5	3775.1	3599.6
45°	4184.9	4097.1	3745.9	3433.7	3297.2
47.5°	3862.9	3784.9	3463.0	3141.1	2985.0
50°	3521.5	3453.2	3160.6	2838.7	2672.8
52.5°	3238.6	3131.3	2848.4	2526.5	2390.0
55°	2907.0	2819.2	2555.8	2253.4	2136.3
57.5°	2604.6	2516.8	2272.9	1990.0	1892.5
60°	2321.7	2194.9	1990.0	1746.1	1668.1
62.5°	2009.5	1912.0	1736.4	1531.5	1629.1
65°	1726.6	1629.1	1473.0	1502.3	1248.6
67.5°	1414.5	1365.7	1229.1	1092.5	1053.5
70°	1151.1	1092.5	1043.8	897.5	858.4
72.5°	917.0	858.4	790.1	712.1	682.8
75°	692.6	643.8	604.8	575.5	634.1
77.5°	478.0	458.5	429.2	400.0	390.2
80°	312.2	302.4	292.6	282.9	273.1
82.5°	185.3	185.3	185.3	185.3	185.3
85°	97.5	107.3	117.1	126.8	136.6
87.5°	58.5	58.5	68.3	78.0	87.8
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)