

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: P546371

Luminaire Tested: **FMR-12-4-LD4-2STD-50-UNV-81-88-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: P546371  
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-LD4-2STD-50-UNV-81-88-EDD  
Description: 1X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

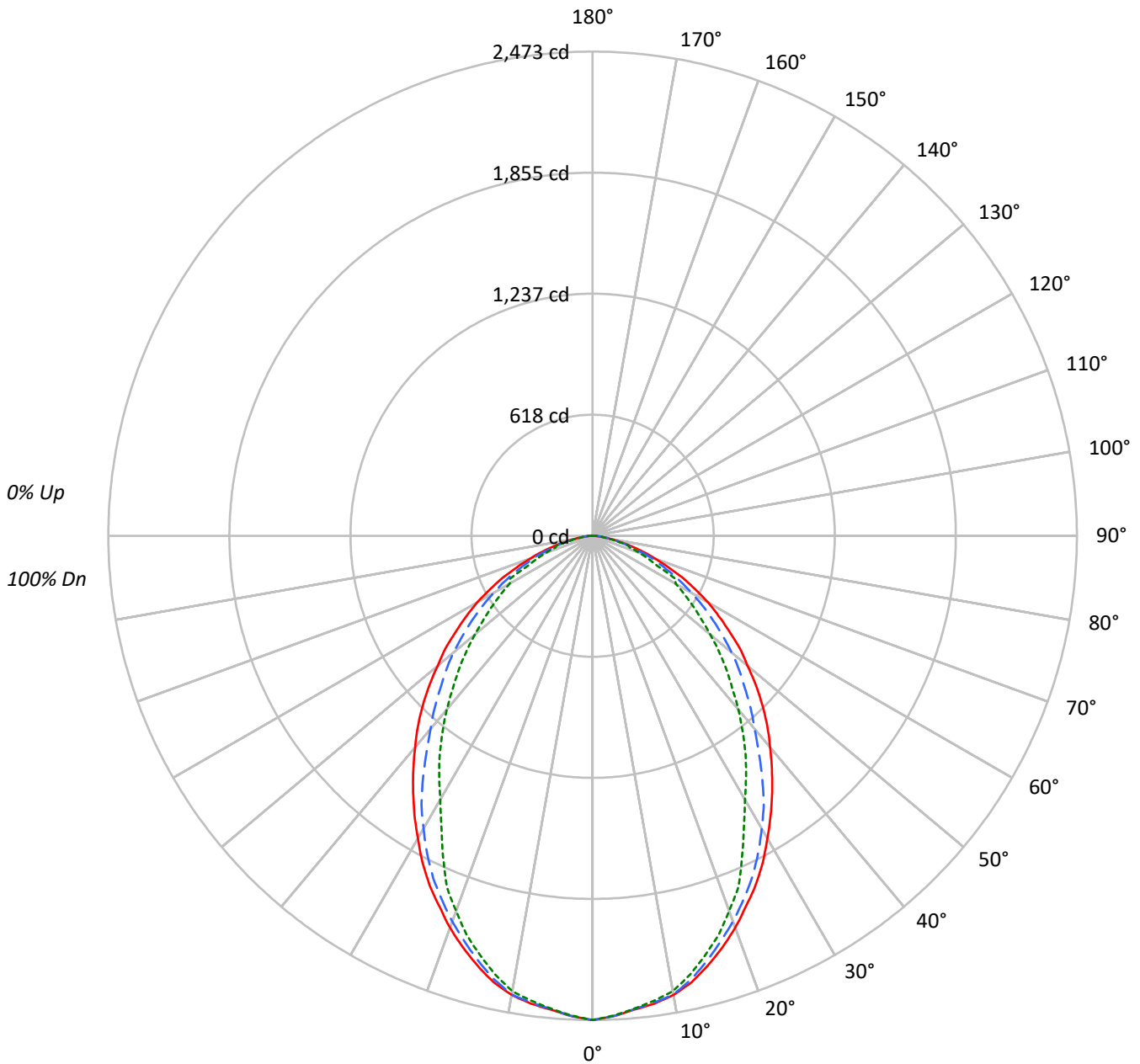
Lumens per Lamp: N/A  
Luminaire Lumens: 4855.0 lumens  
Efficiency: N/A  
Efficacy: 72.9 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 66.6  
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

TEST NUMBER: P546371

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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°	6655	6655	6655
5°	6565	6557	6549
10°	6508	6500	6453
15°	6332	6269	6181
20°	6100	6001	5838
25°	5849	5722	5365
30°	5543	5366	4833
35°	5250	4959	4471
40°	4951	4520	4067
45°	4668	4178	3678
50°	4321	3878	3280
55°	3997	3514	2937
60°	3662	3139	2631
65°	3223	2749	2330
70°	2655	2407	1980
75°	2111	1843	1932
80°	1418	1330	1241
85°	883	1059	1235



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	230.2	4.7
10°-20°	631.8	13.0
20°-30°	874.7	18.0
30°-40°	932.7	19.2
40°-50°	850.9	17.5
50°-60°	666.6	13.7
60°-70°	434.5	8.9
70°-80°	192.5	4.0
80°-90°	41.3	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°	1736.7	35.8
0°-40°	2669.3	55.0
0°-60°	4186.8	86.2
0°-90°	4855.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4855.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2473	2473	2473	2473	2473	
5°	2430	2427	2427	2424	2424	231
15°	2273	2273	2250	2227	2219	639
25°	1970	1958	1927	1858	1807	904
35°	1598	1587	1510	1395	1361	999
45°	1226	1201	1098	1006	966	945
55°	852	826	749	660	626	764
65°	506	478	432	440	366	499
75°	203	189	177	169	186	218
85°	29	31	34	37	40	40
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2473.1	2473.1	2473.1	2473.1	2473.1
2.5°	2455.9	2455.9	2455.9	2453.1	2453.1
5°	2430.2	2427.3	2427.3	2424.5	2424.5
7.5°	2410.2	2407.3	2404.5	2401.6	2395.9
10°	2381.6	2381.6	2378.7	2364.4	2361.6
12.5°	2335.8	2333.0	2321.5	2301.5	2295.8
15°	2272.9	2272.9	2250.1	2227.2	2218.6
17.5°	2204.3	2201.5	2172.9	2150.0	2138.6
20°	2130.0	2124.3	2095.7	2058.5	2038.5
22.5°	2047.1	2047.1	2012.8	1964.2	1944.1
25°	1969.9	1958.4	1927.0	1858.4	1806.9
27.5°	1881.3	1864.1	1829.8	1732.6	1672.5
30°	1784.0	1775.5	1726.9	1601.1	1555.3
32.5°	1692.6	1678.3	1626.8	1495.3	1458.1
35°	1598.2	1586.8	1509.6	1395.2	1360.9
37.5°	1503.9	1489.6	1392.4	1300.9	1258.0
40°	1409.5	1392.4	1286.6	1203.7	1157.9
42.5°	1320.9	1298.0	1195.1	1106.4	1055.0
45°	1226.5	1200.8	1097.9	1006.4	966.4
47.5°	1132.2	1109.3	1015.0	920.6	874.9
50°	1032.1	1012.1	926.3	832.0	783.4
52.5°	949.2	917.8	834.8	740.5	700.5
55°	852.0	826.3	749.1	660.4	626.1
57.5°	763.4	737.6	666.2	583.2	554.7
60°	680.5	643.3	583.2	511.8	488.9
62.5°	589.0	560.4	508.9	448.9	477.5
65°	506.1	477.5	431.7	440.3	366.0
67.5°	414.6	400.3	360.2	320.2	308.8
70°	337.4	320.2	305.9	263.0	251.6
72.5°	268.8	251.6	231.6	208.7	200.1
75°	203.0	188.7	177.3	168.7	185.8
77.5°	140.1	134.4	125.8	117.2	114.4
80°	91.5	88.6	85.8	82.9	80.1
82.5°	54.3	54.3	54.3	54.3	54.3
85°	28.6	31.4	34.3	37.2	40.0
87.5°	17.2	17.2	20.0	22.9	25.7
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)