

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: P546851

Luminaire Tested: **FMR-24-4-LD4-2LO-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: P546851
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-LD4-2LO-50-UNV-81-88-EDD
Description: 2X4 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

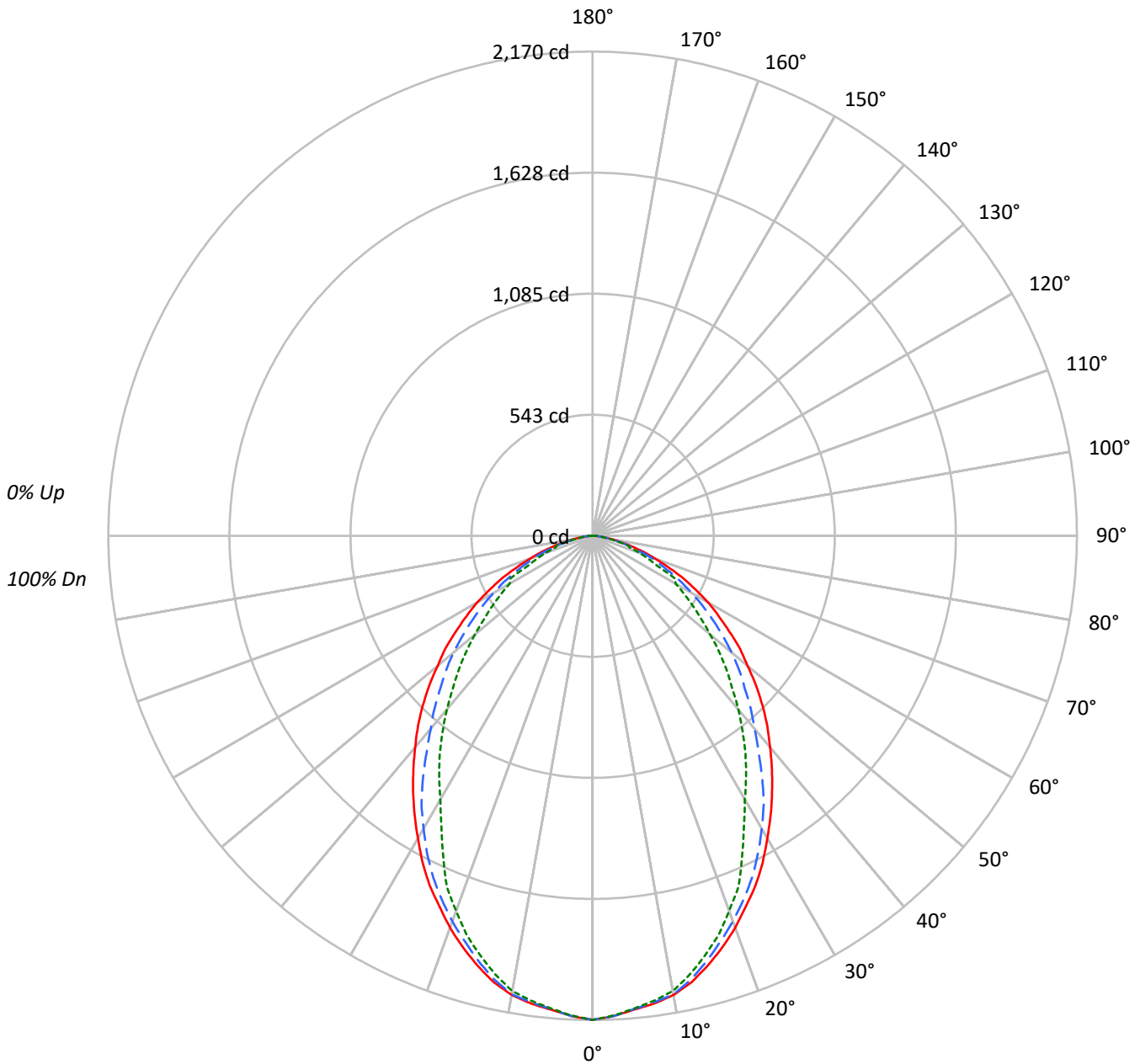
Lumens per Lamp: N/A
Luminaire Lumens: 4259.0 lumens
Efficiency: N/A
Efficacy: 91.0 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 46.8
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

TEST NUMBER: P546851

CATALOG NUMBER: FMR-24-4-LD4-2LO-50-UNV-81-88-EDD

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°	2919	2919	2919
5°	2879	2876	2873
10°	2854	2851	2830
15°	2777	2749	2711
20°	2675	2632	2561
25°	2566	2510	2353
30°	2431	2354	2120
35°	2303	2175	1961
40°	2172	1982	1784
45°	2047	1833	1613
50°	1895	1701	1438
55°	1753	1541	1289
60°	1606	1377	1154
65°	1413	1206	1022
70°	1164	1056	868
75°	926	808	847
80°	622	583	544
85°	387	465	542



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	201.9	4.7
10°-20°	554.2	13.0
20°-30°	767.3	18.0
30°-40°	818.2	19.2
40°-50°	746.4	17.5
50°-60°	584.8	13.7
60°-70°	381.1	8.9
70°-80°	168.9	4.0
80°-90°	36.3	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°	1523.5	35.8
0°-40°	2341.6	55.0
0°-60°	3672.8	86.2
0°-90°	4259.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4259.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2170	2170	2170	2170	2170	
5°	2132	2129	2129	2127	2127	202
15°	1994	1994	1974	1954	1946	561
25°	1728	1718	1690	1630	1585	793
35°	1402	1392	1324	1224	1194	877
45°	1076	1053	963	883	848	829
55°	747	725	657	579	549	670
65°	444	419	379	386	321	438
75°	178	166	156	148	163	191
85°	25	28	30	33	35	35
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2169.5	2169.5	2169.5	2169.5	2169.5
2.5°	2154.4	2154.4	2154.4	2151.9	2151.9
5°	2131.9	2129.3	2129.3	2126.8	2126.8
7.5°	2114.3	2111.8	2109.3	2106.8	2101.8
10°	2089.2	2089.2	2086.7	2074.2	2071.7
12.5°	2049.1	2046.6	2036.6	2019.0	2014.0
15°	1993.9	1993.9	1973.8	1953.8	1946.3
17.5°	1933.7	1931.2	1906.1	1886.1	1876.0
20°	1868.5	1863.5	1838.4	1805.8	1788.3
22.5°	1795.8	1795.8	1765.7	1723.0	1705.5
25°	1728.1	1718.0	1690.4	1630.2	1585.1
27.5°	1650.3	1635.3	1605.2	1519.9	1467.2
30°	1565.0	1557.5	1514.9	1404.5	1364.4
32.5°	1484.8	1472.2	1427.1	1311.7	1279.1
35°	1402.0	1392.0	1324.3	1223.9	1193.8
37.5°	1319.2	1306.7	1221.4	1141.2	1103.5
40°	1236.5	1221.4	1128.6	1055.9	1015.8
42.5°	1158.7	1138.7	1048.4	970.6	925.5
45°	1076.0	1053.4	963.1	882.8	847.7
47.5°	993.2	973.1	890.4	807.6	767.5
50°	905.4	887.9	812.6	729.8	687.2
52.5°	832.7	805.1	732.4	649.6	614.5
55°	747.4	724.8	657.1	579.4	549.3
57.5°	669.7	647.1	584.4	511.6	486.6
60°	596.9	564.3	511.6	448.9	428.9
62.5°	516.7	491.6	446.4	393.8	418.8
65°	443.9	418.8	378.7	386.2	321.0
67.5°	363.7	351.1	316.0	280.9	270.9
70°	296.0	280.9	268.4	230.7	220.7
72.5°	235.8	220.7	203.2	183.1	175.6
75°	178.1	165.5	155.5	148.0	163.0
77.5°	122.9	117.9	110.4	102.8	100.3
80°	80.3	77.8	75.2	72.7	70.2
82.5°	47.7	47.7	47.7	47.7	47.7
85°	25.1	27.6	30.1	32.6	35.1
87.5°	15.0	15.0	17.6	20.1	22.6
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)