

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: P546817

Luminaire Tested: **FMR-24-4-LD4-2LO-40-UNV-81-86-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: P546817
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-40-UNV-81-86-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

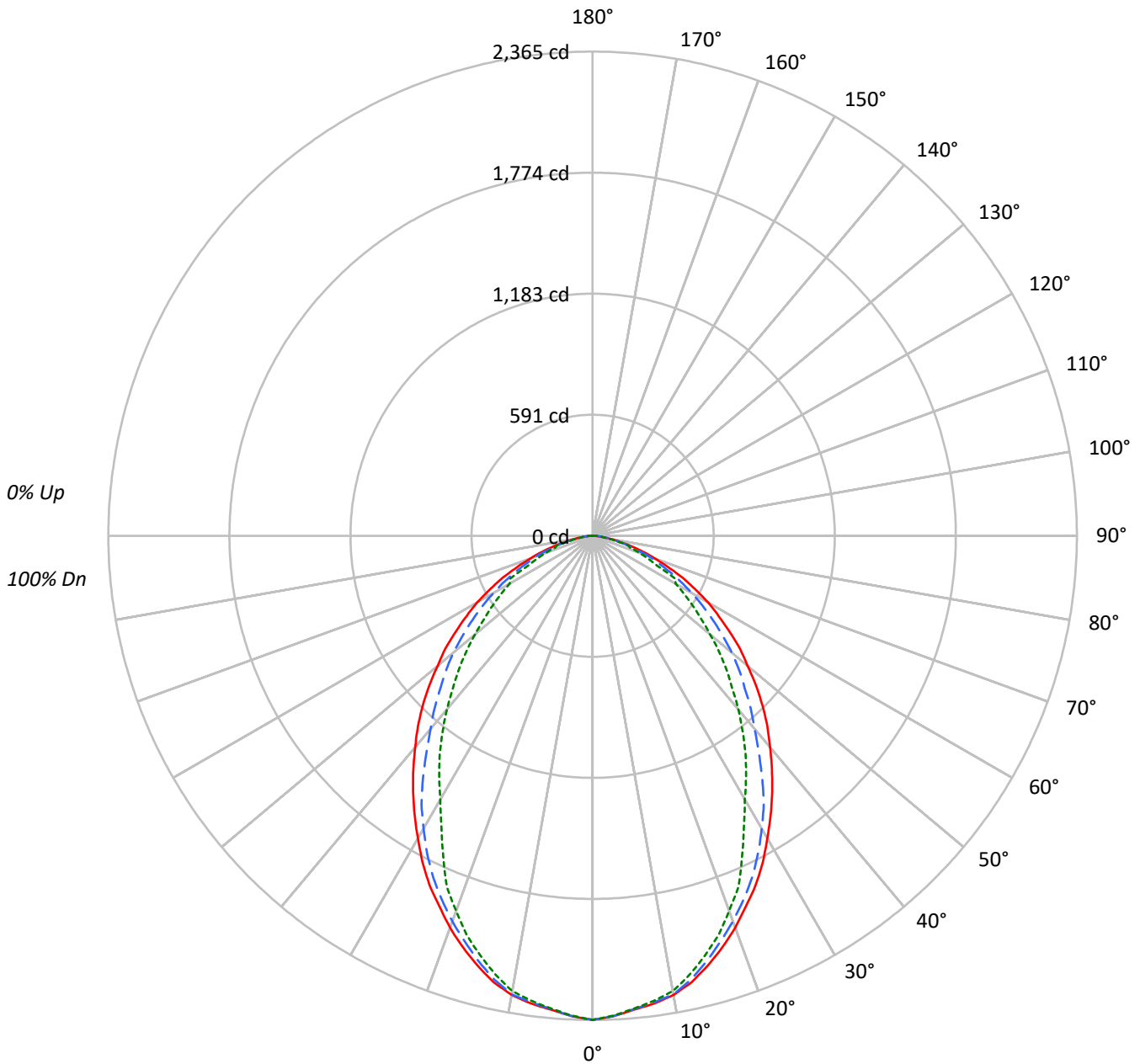
Lumens per Lamp: N/A
Luminaire Lumens: 4642.0 lumens
Efficiency: N/A
Efficacy: 99.2 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 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

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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°	3182	3182	3182
5°	3138	3135	3131
10°	3111	3107	3085
15°	3027	2997	2955
20°	2916	2869	2791
25°	2796	2735	2565
30°	2650	2565	2310
35°	2510	2371	2137
40°	2367	2161	1945
45°	2231	1997	1758
50°	2066	1854	1568
55°	1911	1680	1404
60°	1751	1501	1258
65°	1540	1314	1114
70°	1269	1151	947
75°	1009	881	924
80°	678	635	593
85°	421	506	591



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	220.1	4.7
10°-20°	604.1	13.0
20°-30°	836.3	18.0
30°-40°	891.7	19.2
40°-50°	813.5	17.5
50°-60°	637.3	13.7
60°-70°	415.4	8.9
70°-80°	184.0	4.0
80°-90°	39.5	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°	1660.5	35.8
0°-40°	2552.2	55.0
0°-60°	4003.1	86.2
0°-90°	4642.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4642.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2365	2365	2365	2365	2365	
5°	2324	2321	2321	2318	2318	221
15°	2173	2173	2151	2130	2121	611
25°	1884	1872	1842	1777	1728	865
35°	1528	1517	1443	1334	1301	955
45°	1173	1148	1050	962	924	903
55°	815	790	716	632	599	731
65°	484	456	413	421	350	477
75°	194	180	170	161	178	208
85°	27	30	33	36	38	38
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2364.6	2364.6	2364.6	2364.6	2364.6
2.5°	2348.2	2348.2	2348.2	2345.4	2345.4
5°	2323.6	2320.8	2320.8	2318.1	2318.1
7.5°	2304.4	2301.7	2299.0	2296.2	2290.8
10°	2277.1	2277.1	2274.4	2260.7	2258.0
12.5°	2233.4	2230.6	2219.7	2200.6	2195.1
15°	2173.2	2173.2	2151.4	2129.5	2121.3
17.5°	2107.6	2104.9	2077.5	2055.7	2044.7
20°	2036.5	2031.1	2003.7	1968.2	1949.1
22.5°	1957.3	1957.3	1924.5	1878.0	1858.9
25°	1883.5	1872.5	1842.5	1776.8	1727.6
27.5°	1798.7	1782.3	1749.5	1656.6	1599.2
30°	1705.8	1697.6	1651.1	1530.8	1487.1
32.5°	1618.3	1604.6	1555.4	1429.7	1394.1
35°	1528.1	1517.2	1443.3	1334.0	1301.2
37.5°	1437.9	1424.2	1331.3	1243.8	1202.8
40°	1347.7	1331.3	1230.1	1150.8	1107.1
42.5°	1262.9	1241.1	1142.6	1057.9	1008.7
45°	1172.7	1148.1	1049.7	962.2	924.0
47.5°	1082.5	1060.6	970.4	880.2	836.5
50°	986.8	967.7	885.7	795.5	749.0
52.5°	907.6	877.5	798.2	708.0	669.7
55°	814.6	790.0	716.2	631.5	598.7
57.5°	729.9	705.3	636.9	557.7	530.3
60°	650.6	615.1	557.7	489.3	467.4
62.5°	563.1	535.8	486.6	429.2	456.5
65°	483.8	456.5	412.8	421.0	349.9
67.5°	396.4	382.7	344.4	306.2	295.2
70°	322.6	306.2	292.5	251.5	240.6
72.5°	257.0	240.6	221.4	199.6	191.4
75°	194.1	180.4	169.5	161.3	177.7
77.5°	133.9	128.5	120.3	112.1	109.3
80°	87.5	84.7	82.0	79.3	76.5
82.5°	51.9	51.9	51.9	51.9	51.9
85°	27.3	30.1	32.8	35.5	38.3
87.5°	16.4	16.4	19.1	21.9	24.6
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)