

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: P546253

Luminaire Tested: **FMR-12-4-LD4-2LO-40-UNV-82-96-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: P546253
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-LD4-2LO-40-UNV-82-96-EDD
Description: 1X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

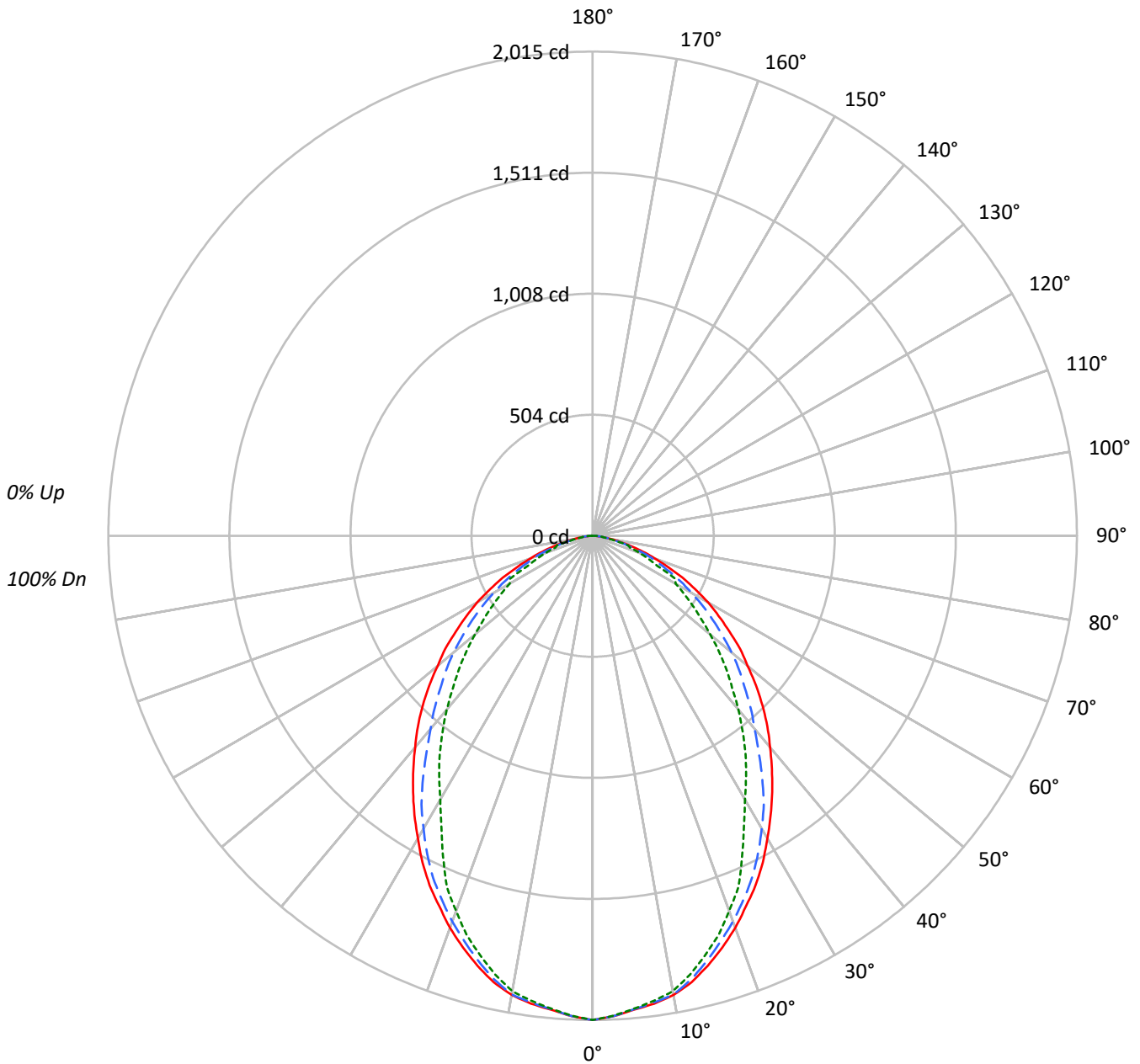
Lumens per Lamp: N/A
Luminaire Lumens: 3956.0 lumens
Efficiency: N/A
Efficacy: 84.5 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 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°	5423	5423	5423
5°	5349	5343	5336
10°	5303	5296	5258
15°	5160	5108	5036
20°	4970	4890	4757
25°	4766	4662	4372
30°	4517	4372	3938
35°	4278	4041	3643
40°	4034	3682	3314
45°	3803	3405	2997
50°	3521	3160	2672
55°	3257	2864	2394
60°	2984	2558	2144
65°	2625	2240	1899
70°	2163	1961	1613
75°	1720	1501	1574
80°	1155	1083	1010
85°	719	865	1007



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	187.6	4.7
10°-20°	514.8	13.0
20°-30°	712.7	18.0
30°-40°	760.0	19.2
40°-50°	693.3	17.5
50°-60°	543.1	13.7
60°-70°	354.0	8.9
70°-80°	156.8	4.0
80°-90°	33.7	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°	1415.1	35.8
0°-40°	2175.0	55.0
0°-60°	3411.5	86.2
0°-90°	3956.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3956.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2015	2015	2015	2015	2015	
5°	1980	1978	1978	1976	1976	188
15°	1852	1852	1833	1815	1808	521
25°	1605	1596	1570	1514	1472	737
35°	1302	1293	1230	1137	1109	814
45°	999	978	895	820	787	770
55°	694	673	610	538	510	623
65°	412	389	352	359	298	406
75°	165	154	144	137	151	177
85°	23	26	28	30	33	32
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2015.1	2015.1	2015.1	2015.1	2015.1
2.5°	2001.2	2001.2	2001.2	1998.8	1998.8
5°	1980.2	1977.9	1977.9	1975.5	1975.5
7.5°	1963.9	1961.6	1959.2	1956.9	1952.2
10°	1940.6	1940.6	1938.3	1926.6	1924.3
12.5°	1903.3	1901.0	1891.7	1875.4	1870.7
15°	1852.1	1852.1	1833.4	1814.8	1807.8
17.5°	1796.1	1793.8	1770.5	1751.9	1742.6
20°	1735.6	1730.9	1707.6	1677.3	1661.0
22.5°	1668.0	1668.0	1640.1	1600.5	1584.2
25°	1605.1	1595.8	1570.2	1514.3	1472.3
27.5°	1532.9	1518.9	1491.0	1411.8	1362.8
30°	1453.7	1446.7	1407.1	1304.6	1267.3
32.5°	1379.1	1367.5	1325.6	1218.4	1188.1
35°	1302.3	1292.9	1230.0	1136.9	1108.9
37.5°	1225.4	1213.7	1134.5	1060.0	1025.0
40°	1148.5	1134.5	1048.3	980.8	943.5
42.5°	1076.3	1057.7	973.8	901.6	859.6
45°	999.4	978.4	894.6	820.0	787.4
47.5°	922.5	903.9	827.0	750.1	712.9
50°	841.0	824.7	754.8	677.9	638.3
52.5°	773.4	747.8	680.3	603.4	570.8
55°	694.2	673.3	610.4	538.1	510.2
57.5°	622.0	601.0	542.8	475.2	451.9
60°	554.5	524.2	475.2	417.0	398.4
62.5°	479.9	456.6	414.7	365.8	389.0
65°	412.3	389.0	351.8	358.8	298.2
67.5°	337.8	326.1	293.5	260.9	251.6
70°	274.9	260.9	249.3	214.3	205.0
72.5°	219.0	205.0	188.7	170.1	163.1
75°	165.4	153.8	144.4	137.4	151.4
77.5°	114.2	109.5	102.5	95.5	93.2
80°	74.5	72.2	69.9	67.6	65.2
82.5°	44.3	44.3	44.3	44.3	44.3
85°	23.3	25.6	28.0	30.3	32.6
87.5°	14.0	14.0	16.3	18.6	21.0
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)