

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: P546229

Luminaire Tested: **FMR-12-4-LD4-2LO-35-UNV-93-96-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: P546229
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-35-UNV-93-96-EDD
Description: 1X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

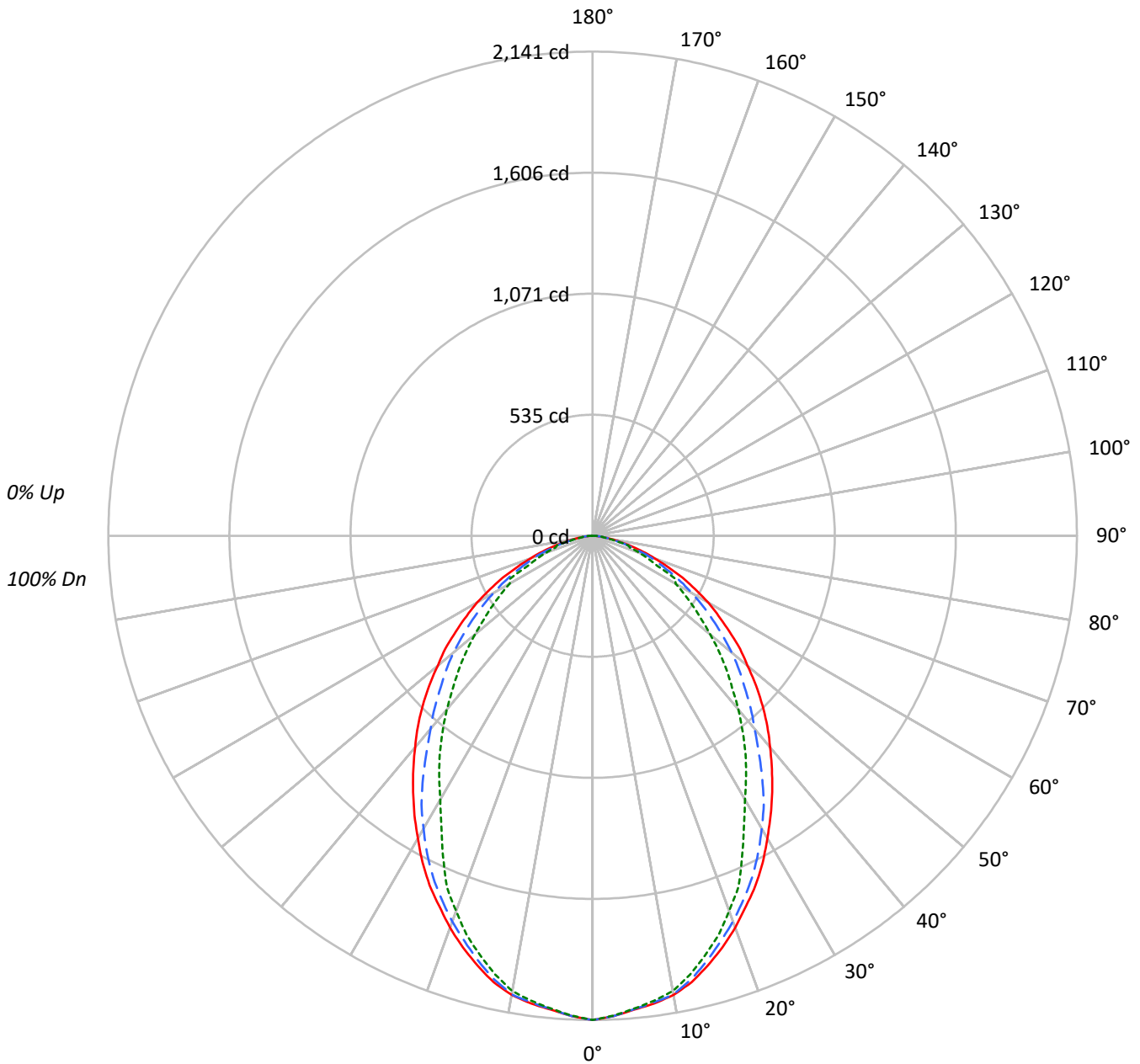
Lumens per Lamp: N/A
Luminaire Lumens: 4203.0 lumens
Efficiency: N/A
Efficacy: 89.8 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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°	5761	5761	5761
5°	5683	5676	5670
10°	5634	5627	5586
15°	5482	5427	5351
20°	5280	5195	5054
25°	5063	4953	4645
30°	4799	4645	4184
35°	4545	4293	3870
40°	4286	3913	3521
45°	4041	3617	3184
50°	3741	3357	2839
55°	3461	3042	2543
60°	3171	2717	2278
65°	2790	2379	2017
70°	2298	2083	1714
75°	1827	1596	1673
80°	1227	1151	1074
85°	766	917	1071



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	199.3	4.7
10°-20°	546.9	13.0
20°-30°	757.2	18.0
30°-40°	807.4	19.2
40°-50°	736.6	17.5
50°-60°	577.1	13.7
60°-70°	376.1	8.9
70°-80°	166.6	4.0
80°-90°	35.8	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°	1503.5	35.8
0°-40°	2310.9	55.0
0°-60°	3624.5	86.2
0°-90°	4203.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4203.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2141	2141	2141	2141	2141	
5°	2104	2101	2101	2099	2099	200
15°	1968	1968	1948	1928	1921	553
25°	1705	1695	1668	1609	1564	783
35°	1384	1374	1307	1208	1178	865
45°	1062	1040	950	871	837	818
55°	738	715	648	572	542	662
65°	438	413	374	381	317	432
75°	176	163	154	146	161	188
85°	25	27	30	32	35	34
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2141.0	2141.0	2141.0	2141.0	2141.0
2.5°	2126.1	2126.1	2126.1	2123.6	2123.6
5°	2103.8	2101.4	2101.4	2098.9	2098.9
7.5°	2086.5	2084.0	2081.5	2079.1	2074.1
10°	2061.7	2061.7	2059.3	2046.9	2044.4
12.5°	2022.1	2019.7	2009.8	1992.4	1987.5
15°	1967.7	1967.7	1947.9	1928.1	1920.7
17.5°	1908.3	1905.8	1881.1	1861.3	1851.4
20°	1843.9	1839.0	1814.2	1782.1	1764.7
22.5°	1772.2	1772.2	1742.5	1700.4	1683.1
25°	1705.3	1695.4	1668.2	1608.8	1564.3
27.5°	1628.6	1613.8	1584.1	1499.9	1447.9
30°	1544.5	1537.0	1495.0	1386.0	1346.4
32.5°	1465.3	1452.9	1408.3	1294.5	1262.3
35°	1383.6	1373.7	1306.8	1207.8	1178.1
37.5°	1301.9	1289.5	1205.4	1126.2	1089.0
40°	1220.2	1205.4	1113.8	1042.0	1002.4
42.5°	1143.5	1123.7	1034.6	957.9	913.3
45°	1061.8	1039.5	950.4	871.2	836.6
47.5°	980.1	960.3	878.7	797.0	757.4
50°	893.5	876.2	801.9	720.3	678.2
52.5°	821.7	794.5	722.7	641.0	606.4
55°	737.6	715.3	648.5	571.7	542.0
57.5°	660.8	638.6	576.7	504.9	480.2
60°	589.1	556.9	504.9	443.0	423.2
62.5°	509.9	485.1	440.6	388.6	413.3
65°	438.1	413.3	373.7	381.2	316.8
67.5°	358.9	346.5	311.9	277.2	267.3
70°	292.1	277.2	264.8	227.7	217.8
72.5°	232.7	217.8	200.5	180.7	173.3
75°	175.7	163.4	153.5	146.0	160.9
77.5°	121.3	116.3	108.9	101.5	99.0
80°	79.2	76.7	74.3	71.8	69.3
82.5°	47.0	47.0	47.0	47.0	47.0
85°	24.8	27.2	29.7	32.2	34.7
87.5°	14.9	14.9	17.3	19.8	22.3
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)