

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: P546484

Luminaire Tested: **FMR-24-4-LD4-1HI-40-UNV-93-94-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: P546484
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-LD4-1HI-40-UNV-93-94-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187
CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT
LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

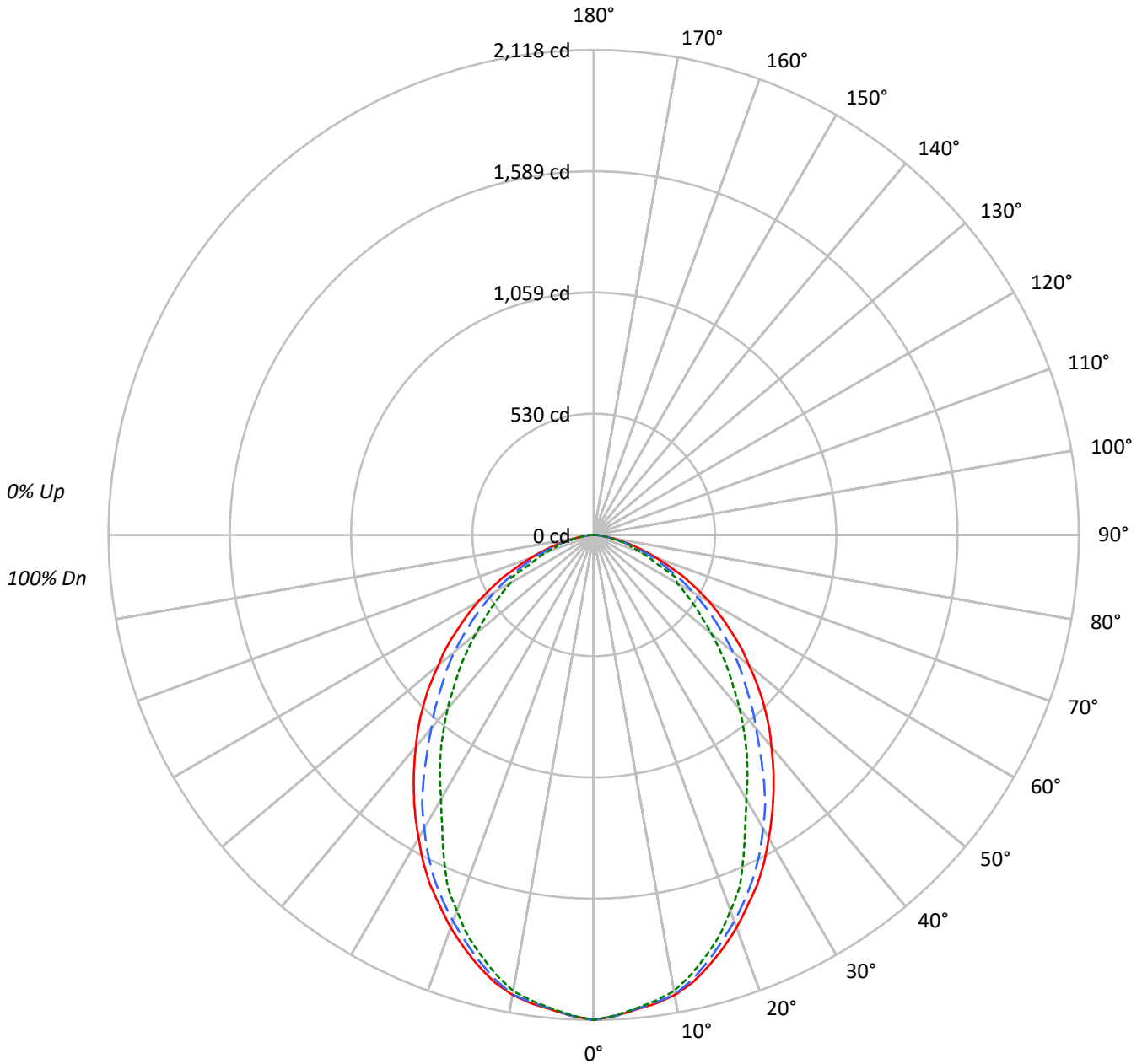
Lumens per Lamp: N/A
Luminaire Lumens: 4159.0 lumens
Efficiency: N/A
Efficacy: 96.3 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 43.2
Input Voltage (V): NR
Input Current (A_{in}): 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				20				20
RC	80				70				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	100	100	100
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87	87	87	87
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75	75	75	75
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65	65	65	65
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56	56	56	56
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50	50	50	50
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44	44	44	44
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40	40	40	40
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36	36	36	36
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33	33	33	33
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30	30	30	30

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2850	2850	2850
5°	2812	2808	2805
10°	2787	2784	2764
15°	2712	2685	2647
20°	2613	2570	2500
25°	2505	2451	2298
30°	2374	2298	2070
35°	2249	2124	1915
40°	2121	1936	1742
45°	1999	1790	1575
50°	1851	1661	1405
55°	1712	1505	1258
60°	1569	1344	1127
65°	1380	1177	998
70°	1137	1031	848
75°	904	789	828
80°	607	570	532
85°	378	454	530



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	197.2	4.7
10°-20°	541.2	13.0
20°-30°	749.3	18.0
30°-40°	798.9	19.2
40°-50°	728.9	17.5
50°-60°	571.0	13.7
60°-70°	372.2	8.9
70°-80°	164.9	4.0
80°-90°	35.4	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°	1487.7	35.8
0°-40°	2286.7	55.0
0°-60°	3586.6	86.2
0°-90°	4159.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4159.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2118	2118	2118	2118	2118	
5°	2082	2079	2079	2077	2077	198
15°	1947	1947	1928	1908	1901	547
25°	1688	1678	1651	1592	1548	775
35°	1369	1359	1293	1195	1166	856
45°	1051	1029	940	862	828	809
55°	730	708	642	566	536	655
65°	434	409	370	377	314	427
75°	174	162	152	144	159	186
85°	24	27	29	32	34	34
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2118.5	2118.5	2118.5	2118.5	2118.5
2.5°	2103.8	2103.8	2103.8	2101.4	2101.4
5°	2081.8	2079.4	2079.4	2076.9	2076.9
7.5°	2064.7	2062.2	2059.8	2057.3	2052.4
10°	2040.2	2040.2	2037.7	2025.5	2023.0
12.5°	2001.0	1998.5	1988.7	1971.6	1966.7
15°	1947.1	1947.1	1927.5	1907.9	1900.6
17.5°	1888.3	1885.9	1861.4	1841.8	1832.0
20°	1824.6	1819.7	1795.2	1763.4	1746.3
22.5°	1753.6	1753.6	1724.2	1682.6	1665.4
25°	1687.5	1677.7	1650.7	1592.0	1547.9
27.5°	1611.6	1596.9	1567.5	1484.2	1432.8
30°	1528.3	1520.9	1479.3	1371.5	1332.4
32.5°	1449.9	1437.7	1393.6	1280.9	1249.1
35°	1369.1	1359.3	1293.2	1195.2	1165.8
37.5°	1288.3	1276.0	1192.7	1114.4	1077.6
40°	1207.4	1192.7	1102.1	1031.1	991.9
42.5°	1131.5	1111.9	1023.8	947.8	903.7
45°	1050.7	1028.7	940.5	862.1	827.8
47.5°	969.9	950.3	869.5	788.6	749.4
50°	884.2	867.0	793.5	712.7	671.1
52.5°	813.1	786.2	715.2	634.3	600.0
55°	729.9	707.8	641.7	565.8	536.4
57.5°	653.9	631.9	570.7	499.6	475.1
60°	582.9	551.1	499.6	438.4	418.8
62.5°	504.5	480.0	436.0	384.5	409.0
65°	433.5	409.0	369.8	377.2	313.5
67.5°	355.1	342.9	308.6	274.3	264.5
70°	289.0	274.3	262.1	225.3	215.5
72.5°	230.2	215.5	198.4	178.8	171.4
75°	173.9	161.6	151.8	144.5	159.2
77.5°	120.0	115.1	107.8	100.4	98.0
80°	78.4	75.9	73.5	71.0	68.6
82.5°	46.5	46.5	46.5	46.5	46.5
85°	24.5	26.9	29.4	31.8	34.3
87.5°	14.7	14.7	17.1	19.6	22.0
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)