

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: P546439

Luminaire Tested: **FMR-24-4-LD4-1HI-35-UNV-82-84-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: P546439
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-35-UNV-82-84-EDD
Description: 2X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

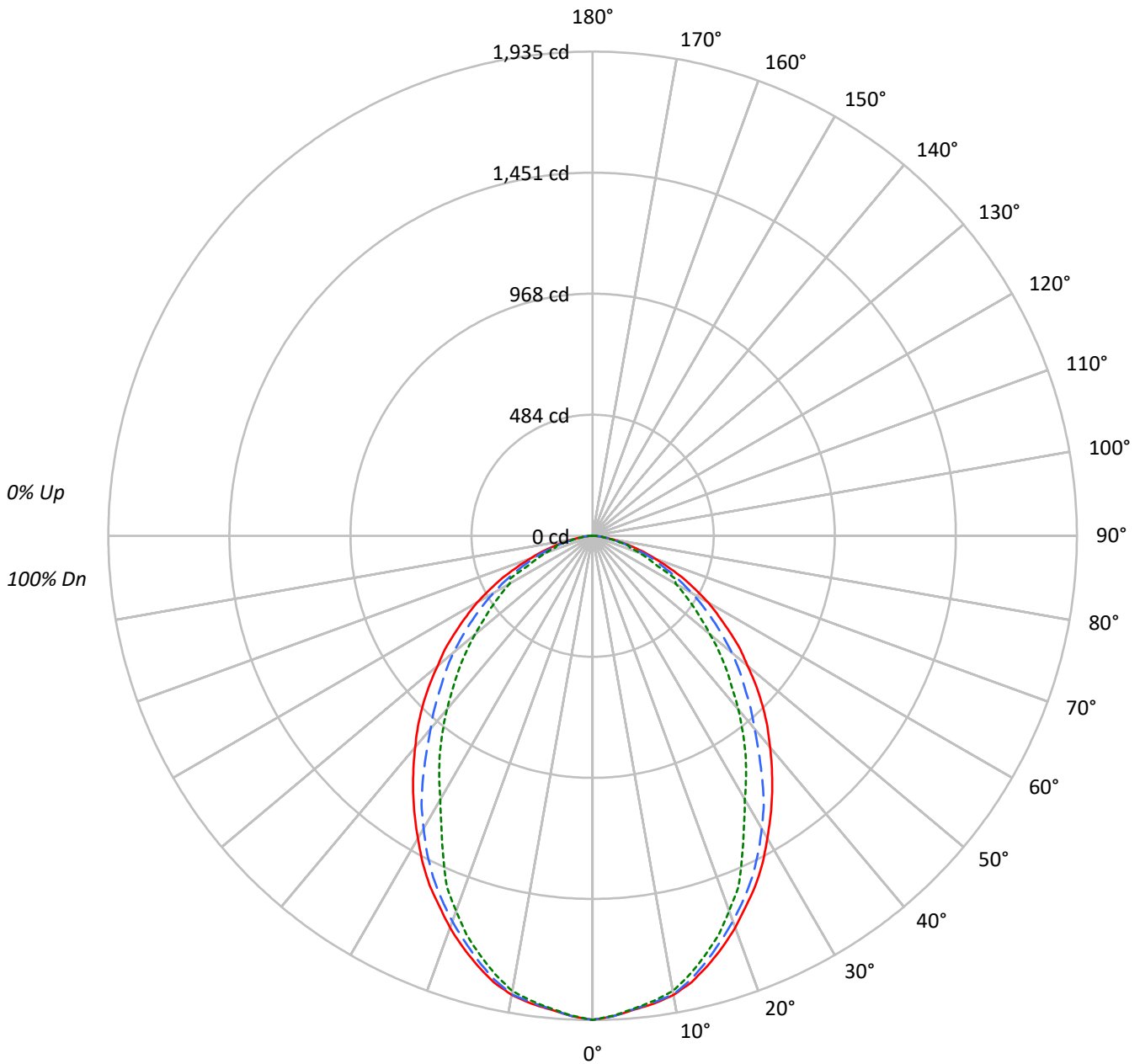
Lumens per Lamp: N/A
Luminaire Lumens: 3798.0 lumens
Efficiency: N/A
Efficacy: 87.9 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 43.2
Input Voltage (V): NR
Input Current (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°	2603	2603	2603
5°	2568	2565	2562
10°	2545	2542	2524
15°	2477	2452	2418
20°	2386	2347	2283
25°	2288	2238	2098
30°	2168	2099	1890
35°	2054	1940	1749
40°	1937	1768	1591
45°	1826	1634	1439
50°	1690	1517	1283
55°	1563	1375	1149
60°	1432	1228	1029
65°	1260	1075	911
70°	1038	941	774
75°	826	721	756
80°	555	520	485
85°	346	414	483



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	180.1	4.7
10°-20°	494.2	13.0
20°-30°	684.2	18.0
30°-40°	729.6	19.2
40°-50°	665.6	17.5
50°-60°	521.5	13.7
60°-70°	339.8	8.9
70°-80°	150.6	4.0
80°-90°	32.3	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°	1358.6	35.8
0°-40°	2088.2	55.0
0°-60°	3275.3	86.2
0°-90°	3798.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3798.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1935	1935	1935	1935	1935	
5°	1901	1899	1899	1897	1897	180
15°	1778	1778	1760	1742	1736	500
25°	1541	1532	1508	1454	1414	707
35°	1250	1241	1181	1092	1065	782
45°	960	939	859	787	756	739
55°	666	646	586	517	490	598
65°	396	374	338	344	286	390
75°	159	148	139	132	145	170
85°	22	25	27	29	31	31
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1934.7	1934.7	1934.7	1934.7	1934.7
2.5°	1921.2	1921.2	1921.2	1919.0	1919.0
5°	1901.1	1898.9	1898.9	1896.6	1896.6
7.5°	1885.4	1883.2	1881.0	1878.7	1874.3
10°	1863.1	1863.1	1860.8	1849.7	1847.4
12.5°	1827.3	1825.1	1816.1	1800.5	1796.0
15°	1778.1	1778.1	1760.2	1742.3	1735.6
17.5°	1724.4	1722.2	1699.8	1681.9	1673.0
20°	1666.3	1661.8	1639.4	1610.3	1594.7
22.5°	1601.4	1601.4	1574.6	1536.5	1520.9
25°	1541.0	1532.1	1507.5	1453.8	1413.5
27.5°	1471.7	1458.3	1431.4	1355.4	1308.4
30°	1395.6	1388.9	1350.9	1252.5	1216.7
32.5°	1324.1	1312.9	1272.6	1169.7	1140.7
35°	1250.3	1241.3	1180.9	1091.5	1064.6
37.5°	1176.4	1165.3	1089.2	1017.6	984.1
40°	1102.6	1089.2	1006.5	941.6	905.8
42.5°	1033.3	1015.4	934.9	865.6	825.3
45°	959.5	939.4	858.9	787.3	756.0
47.5°	885.7	867.8	794.0	720.2	684.4
50°	807.4	791.8	724.7	650.8	612.8
52.5°	742.5	717.9	653.1	579.3	548.0
55°	666.5	646.4	586.0	516.7	489.8
57.5°	597.2	577.0	521.1	456.3	433.9
60°	532.3	503.2	456.3	400.3	382.5
62.5°	460.7	438.4	398.1	351.1	373.5
65°	395.9	373.5	337.7	344.4	286.3
67.5°	324.3	313.1	281.8	250.5	241.6
70°	263.9	250.5	239.3	205.8	196.8
72.5°	210.2	196.8	181.2	163.3	156.6
75°	158.8	147.6	138.7	132.0	145.4
77.5°	109.6	105.1	98.4	91.7	89.5
80°	71.6	69.3	67.1	64.9	62.6
82.5°	42.5	42.5	42.5	42.5	42.5
85°	22.4	24.6	26.8	29.1	31.3
87.5°	13.4	13.4	15.7	17.9	20.1
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)