

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: P546468

Luminaire Tested: **FMR-24-4-LD4-1HI-40-UNV-81-94-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: P546468
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-81-94-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR PC 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

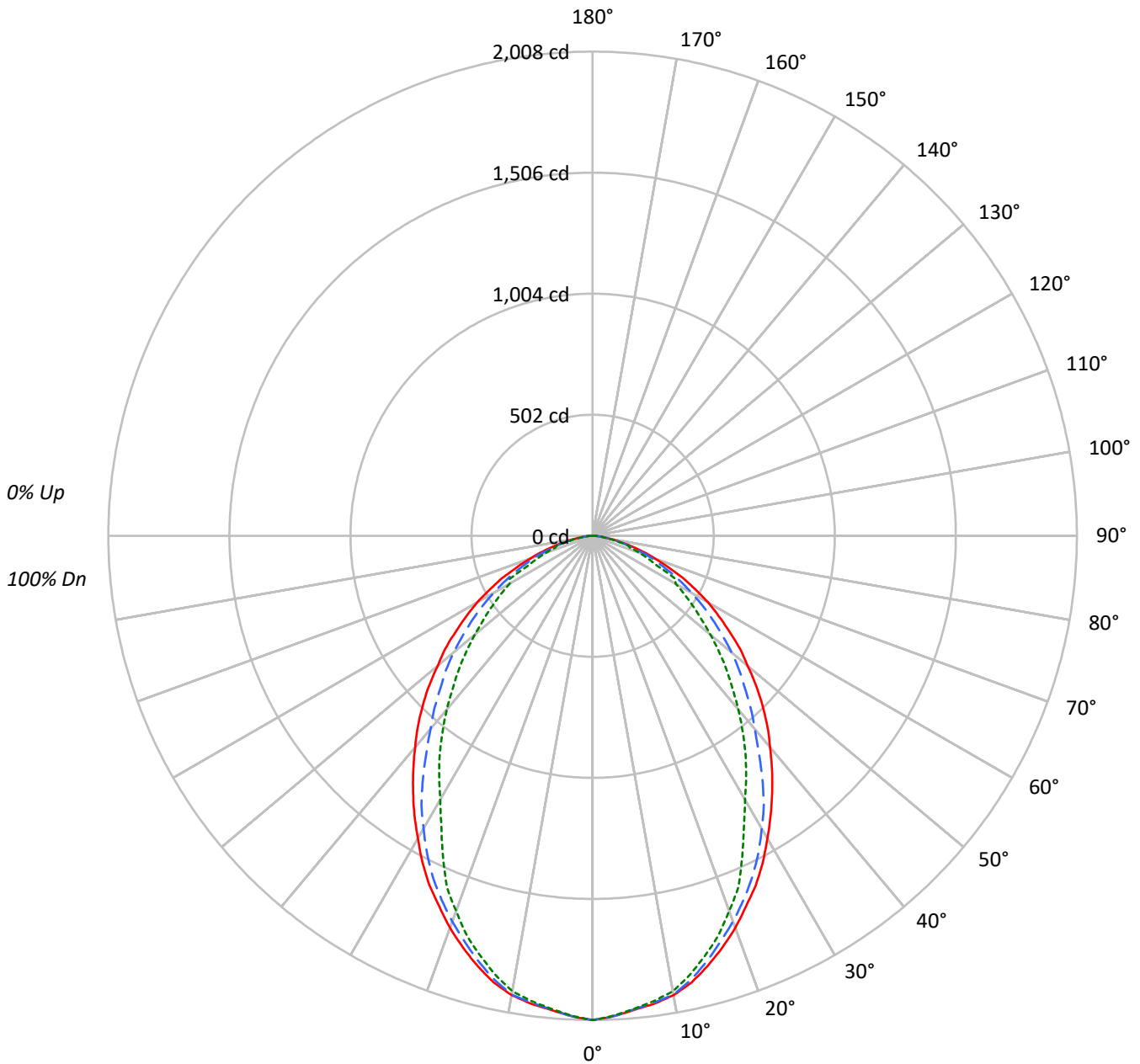
Lumens per Lamp: N/A
Luminaire Lumens: 3943.0 lumens
Efficiency: N/A
Efficacy: 91.3 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 43.2
Input Voltage (V): NR
Input Current (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°	2702	2702	2702
5°	2666	2663	2659
10°	2643	2639	2620
15°	2571	2545	2510
20°	2477	2437	2371
25°	2375	2323	2179
30°	2251	2179	1963
35°	2132	2014	1815
40°	2011	1835	1652
45°	1895	1697	1493
50°	1755	1575	1332
55°	1623	1427	1193
60°	1487	1275	1069
65°	1309	1116	946
70°	1078	978	804
75°	857	749	784
80°	576	540	504
85°	358	431	502



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	187.0	4.7
10°-20°	513.1	13.0
20°-30°	710.4	18.0
30°-40°	757.5	19.2
40°-50°	691.0	17.5
50°-60°	541.4	13.7
60°-70°	352.8	8.9
70°-80°	156.3	4.0
80°-90°	33.6	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°	1410.4	35.8
0°-40°	2167.9	55.0
0°-60°	3400.3	86.2
0°-90°	3943.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3943.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2008	2008	2008	2008	2008	
5°	1974	1971	1971	1969	1969	187
15°	1846	1846	1827	1809	1802	519
25°	1600	1591	1565	1509	1468	734
35°	1298	1289	1226	1133	1105	811
45°	996	975	892	817	785	767
55°	692	671	608	536	508	621
65°	411	388	351	358	297	405
75°	165	153	144	137	151	177
85°	23	26	28	30	32	32
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2008.5	2008.5	2008.5	2008.5	2008.5
2.5°	1994.6	1994.6	1994.6	1992.3	1992.3
5°	1973.7	1971.4	1971.4	1969.0	1969.0
7.5°	1957.4	1955.1	1952.8	1950.5	1945.8
10°	1934.2	1934.2	1931.9	1920.3	1918.0
12.5°	1897.1	1894.7	1885.4	1869.2	1864.5
15°	1846.0	1846.0	1827.4	1808.8	1801.9
17.5°	1790.2	1787.9	1764.7	1746.1	1736.8
20°	1729.9	1725.2	1702.0	1671.8	1655.6
22.5°	1662.5	1662.5	1634.7	1595.2	1578.9
25°	1599.8	1590.6	1565.0	1509.3	1467.5
27.5°	1527.9	1513.9	1486.1	1407.1	1358.4
30°	1448.9	1441.9	1402.5	1300.3	1263.2
32.5°	1374.6	1363.0	1321.2	1214.4	1184.2
35°	1298.0	1288.7	1226.0	1133.1	1105.3
37.5°	1221.4	1209.8	1130.8	1056.5	1021.7
40°	1144.7	1130.8	1044.9	977.6	940.4
42.5°	1072.8	1054.2	970.6	898.6	856.8
45°	996.1	975.2	891.6	817.3	784.8
47.5°	919.5	900.9	824.3	747.7	710.5
50°	838.2	822.0	752.3	675.7	636.2
52.5°	770.9	745.4	678.0	601.4	568.9
55°	691.9	671.1	608.4	536.4	508.5
57.5°	620.0	599.1	541.0	473.7	450.5
60°	552.6	522.4	473.7	415.6	397.1
62.5°	478.3	455.1	413.3	364.6	387.8
65°	411.0	387.8	350.6	357.6	297.2
67.5°	336.7	325.1	292.6	260.1	250.8
70°	274.0	260.1	248.5	213.6	204.3
72.5°	218.3	204.3	188.1	169.5	162.5
75°	164.9	153.3	144.0	137.0	150.9
77.5°	113.8	109.1	102.2	95.2	92.9
80°	74.3	72.0	69.7	67.3	65.0
82.5°	44.1	44.1	44.1	44.1	44.1
85°	23.2	25.5	27.9	30.2	32.5
87.5°	13.9	13.9	16.3	18.6	20.9
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)