

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: P546440

Luminaire Tested: **FMR-24-4-LD4-1HI-35-UNV-82-85-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: P546440
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-82-85-EDD
Description: 2X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

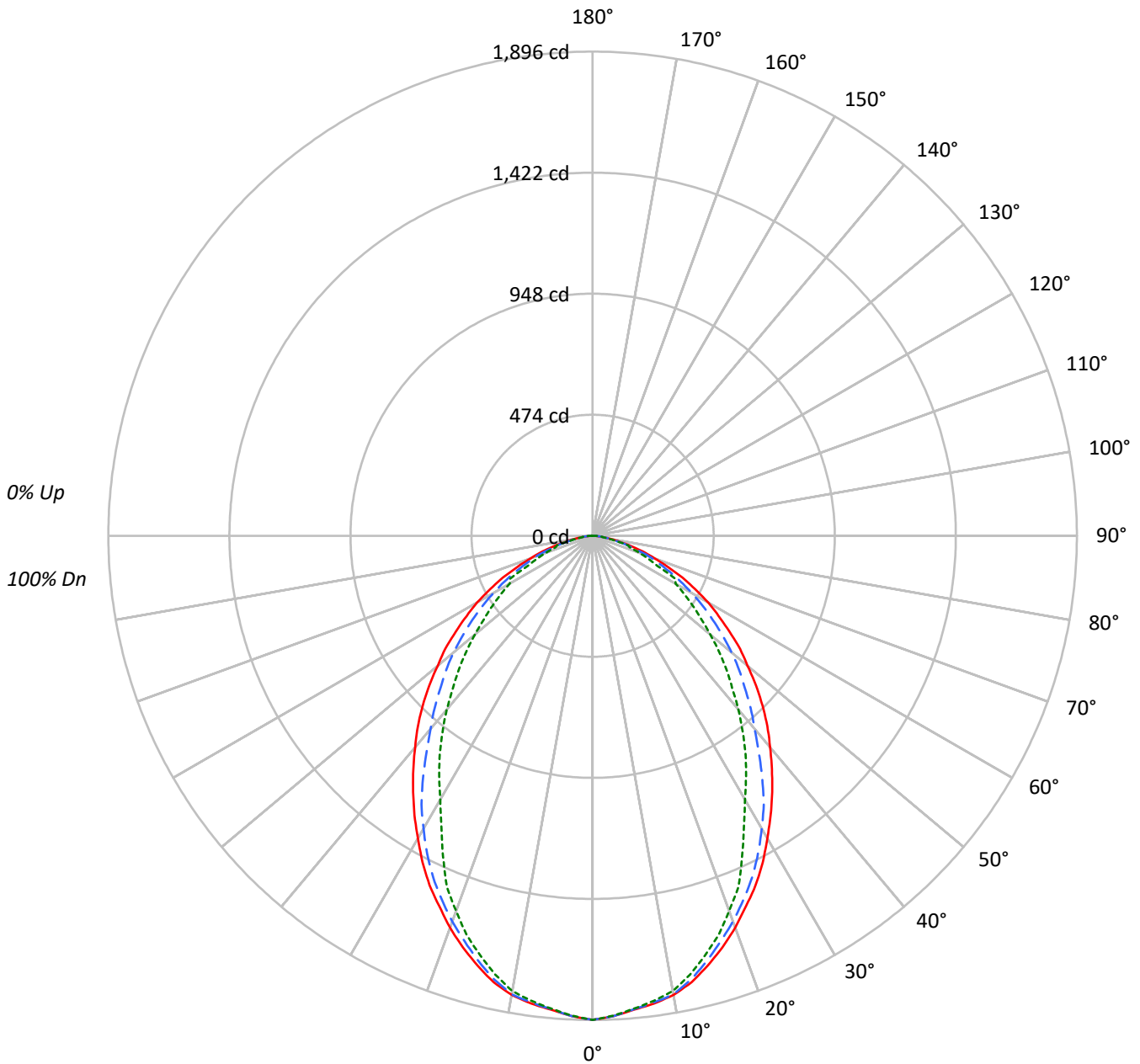
Lumens per Lamp: N/A
Luminaire Lumens: 3722.0 lumens
Efficiency: N/A
Efficacy: 86.2 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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°	2551	2551	2551
5°	2516	2513	2510
10°	2494	2491	2474
15°	2427	2403	2369
20°	2338	2300	2238
25°	2242	2193	2056
30°	2125	2057	1853
35°	2012	1901	1714
40°	1898	1732	1559
45°	1789	1602	1410
50°	1656	1487	1257
55°	1532	1347	1126
60°	1404	1203	1009
65°	1235	1054	893
70°	1017	923	759
75°	809	706	741
80°	543	510	476
85°	338	406	474



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	176.5	4.7
10°-20°	484.3	13.0
20°-30°	670.6	18.0
30°-40°	715.0	19.2
40°-50°	652.3	17.5
50°-60°	511.0	13.7
60°-70°	333.1	8.9
70°-80°	147.6	4.0
80°-90°	31.7	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°	1331.4	35.8
0°-40°	2046.4	55.0
0°-60°	3209.7	86.2
0°-90°	3722.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3722.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1896	1896	1896	1896	1896	
5°	1863	1861	1861	1859	1859	177
15°	1742	1742	1725	1707	1701	490
25°	1510	1501	1477	1425	1385	693
35°	1225	1216	1157	1070	1043	766
45°	940	921	842	772	741	724
55°	653	633	574	506	480	586
65°	388	366	331	338	281	382
75°	156	145	136	129	142	167
85°	22	24	26	28	31	30
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1895.9	1895.9	1895.9	1895.9	1895.9
2.5°	1882.8	1882.8	1882.8	1880.6	1880.6
5°	1863.1	1860.9	1860.9	1858.7	1858.7
7.5°	1847.7	1845.5	1843.3	1841.1	1836.8
10°	1825.8	1825.8	1823.6	1812.6	1810.5
12.5°	1790.7	1788.5	1779.8	1764.4	1760.0
15°	1742.5	1742.5	1725.0	1707.4	1700.9
17.5°	1689.9	1687.7	1665.8	1648.3	1639.5
20°	1632.9	1628.5	1606.6	1578.1	1562.8
22.5°	1569.4	1569.4	1543.1	1505.8	1490.4
25°	1510.2	1501.4	1477.3	1424.7	1385.2
27.5°	1442.2	1429.1	1402.8	1328.3	1282.2
30°	1367.7	1361.1	1323.9	1227.4	1192.4
32.5°	1297.6	1286.6	1247.2	1146.3	1117.8
35°	1225.2	1216.5	1157.3	1069.6	1043.3
37.5°	1152.9	1141.9	1067.4	997.3	964.4
40°	1080.6	1067.4	986.3	922.8	887.7
42.5°	1012.6	995.1	916.2	848.2	808.8
45°	940.3	920.6	841.7	771.5	740.8
47.5°	868.0	850.4	778.1	705.8	670.7
50°	791.3	775.9	710.2	637.8	600.6
52.5°	727.7	703.6	640.0	567.7	537.0
55°	653.2	633.4	574.3	506.3	480.0
57.5°	585.2	565.5	510.7	447.1	425.2
60°	521.7	493.2	447.1	392.3	374.8
62.5°	451.5	429.6	390.1	344.1	366.0
65°	388.0	366.0	331.0	337.5	280.6
67.5°	317.8	306.9	276.2	245.5	236.7
70°	258.6	245.5	234.5	201.6	192.9
72.5°	206.0	192.9	177.5	160.0	153.4
75°	155.6	144.7	135.9	129.3	142.5
77.5°	107.4	103.0	96.4	89.9	87.7
80°	70.1	67.9	65.8	63.6	61.4
82.5°	41.6	41.6	41.6	41.6	41.6
85°	21.9	24.1	26.3	28.5	30.7
87.5°	13.2	13.2	15.3	17.5	19.7
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)