

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: P546473

Luminaire Tested: **FMR-24-4-LD4-1HI-40-UNV-82-86-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: P546473
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-82-86-EDD
Description: 2X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

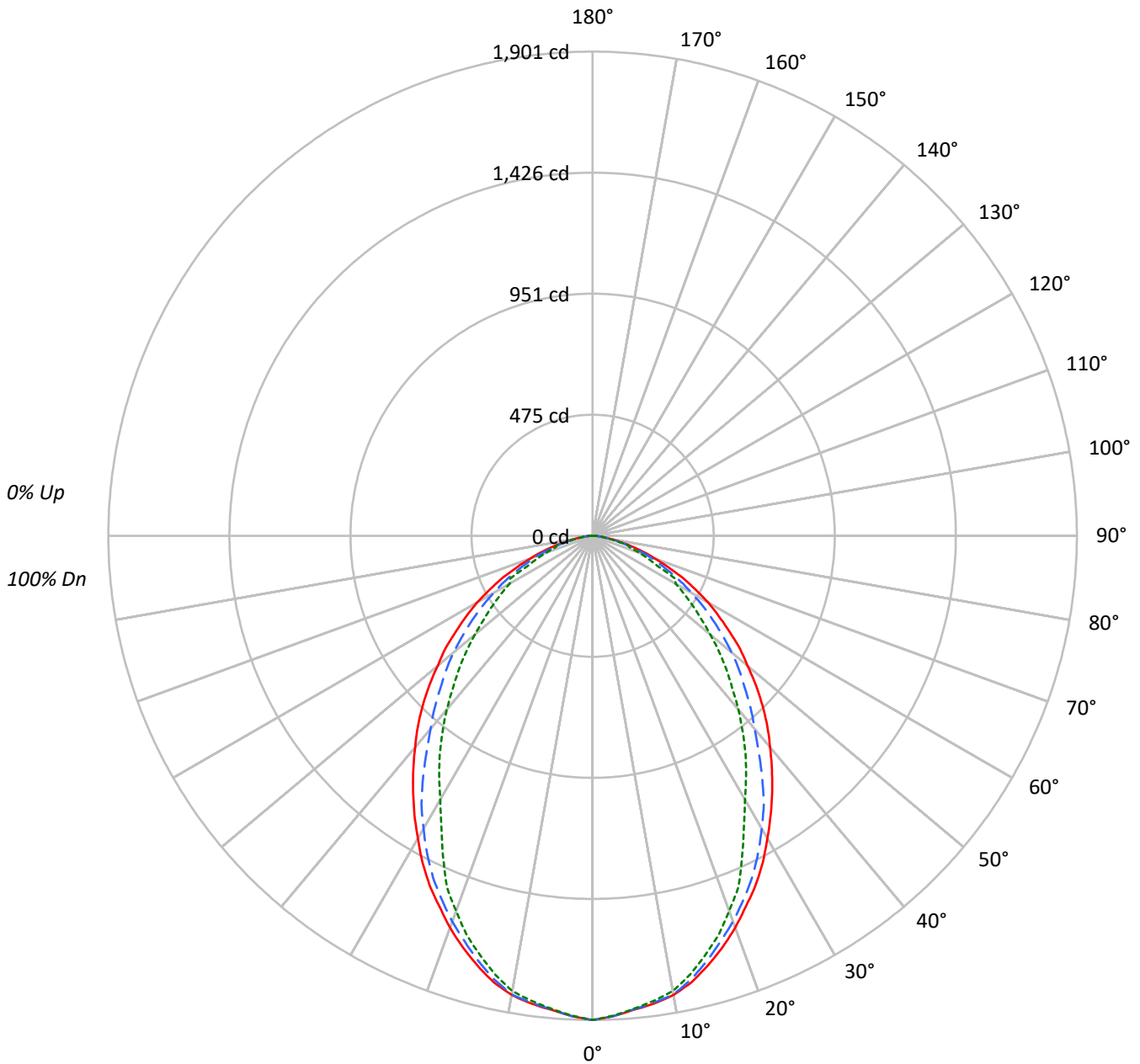
Lumens per Lamp: N/A
Luminaire Lumens: 3732.0 lumens
Efficiency: N/A
Efficacy: 86.4 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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°	2558	2558	2558
5°	2523	2520	2517
10°	2501	2498	2480
15°	2434	2409	2376
20°	2344	2307	2244
25°	2248	2199	2062
30°	2131	2062	1858
35°	2018	1906	1718
40°	1903	1737	1563
45°	1794	1606	1413
50°	1661	1491	1261
55°	1536	1351	1129
60°	1408	1206	1011
65°	1238	1057	896
70°	1020	925	761
75°	811	709	743
80°	545	511	477
85°	340	408	475



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	177.0	4.7
10°-20°	485.7	13.0
20°-30°	672.4	18.0
30°-40°	716.9	19.2
40°-50°	654.0	17.5
50°-60°	512.4	13.7
60°-70°	333.9	8.9
70°-80°	147.9	4.0
80°-90°	31.8	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°	1335.0	35.8
0°-40°	2051.9	55.0
0°-60°	3218.3	86.2
0°-90°	3732.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3732.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1901	1901	1901	1901	1901	
5°	1868	1866	1866	1864	1864	177
15°	1747	1747	1730	1712	1705	491
25°	1514	1505	1481	1428	1389	695
35°	1228	1220	1160	1072	1046	768
45°	943	923	844	774	743	726
55°	655	635	576	508	481	587
65°	389	367	332	338	281	383
75°	156	145	136	130	143	167
85°	22	24	26	29	31	31
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1901.0	1901.0	1901.0	1901.0	1901.0
2.5°	1887.8	1887.8	1887.8	1885.6	1885.6
5°	1868.1	1865.9	1865.9	1863.7	1863.7
7.5°	1852.7	1850.5	1848.3	1846.1	1841.7
10°	1830.7	1830.7	1828.5	1817.5	1815.3
12.5°	1795.5	1793.3	1784.6	1769.2	1764.8
15°	1747.2	1747.2	1729.6	1712.0	1705.4
17.5°	1694.4	1692.2	1670.3	1652.7	1643.9
20°	1637.3	1632.9	1610.9	1582.4	1567.0
22.5°	1573.6	1573.6	1547.2	1509.8	1494.5
25°	1514.2	1505.4	1481.3	1428.5	1389.0
27.5°	1446.1	1432.9	1406.5	1331.8	1285.7
30°	1371.4	1364.8	1327.4	1230.7	1195.6
32.5°	1301.1	1290.1	1250.5	1149.4	1120.8
35°	1228.5	1219.7	1160.4	1072.5	1046.1
37.5°	1156.0	1145.0	1070.3	1000.0	967.0
40°	1083.5	1070.3	989.0	925.2	890.1
42.5°	1015.3	997.8	918.6	850.5	811.0
45°	942.8	923.0	843.9	773.6	742.8
47.5°	870.3	852.7	780.2	707.7	672.5
50°	793.4	778.0	712.1	639.5	602.2
52.5°	729.6	705.5	641.7	569.2	538.4
55°	654.9	635.1	575.8	507.7	481.3
57.5°	586.8	567.0	512.1	448.3	426.4
60°	523.1	494.5	448.3	393.4	375.8
62.5°	452.7	430.8	391.2	345.0	367.0
65°	389.0	367.0	331.9	338.4	281.3
67.5°	318.7	307.7	276.9	246.1	237.4
70°	259.3	246.1	235.2	202.2	193.4
72.5°	206.6	193.4	178.0	160.4	153.8
75°	156.0	145.0	136.3	129.7	142.9
77.5°	107.7	103.3	96.7	90.1	87.9
80°	70.3	68.1	65.9	63.7	61.5
82.5°	41.8	41.8	41.8	41.8	41.8
85°	22.0	24.2	26.4	28.6	30.8
87.5°	13.2	13.2	15.4	17.6	19.8
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)