

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: P545892

Luminaire Tested: **FMR-12-4-LD4-1HI-50-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: P545892
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-12-4-LD4-1HI-50-UNV-81-94-EDD
Description: 1X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

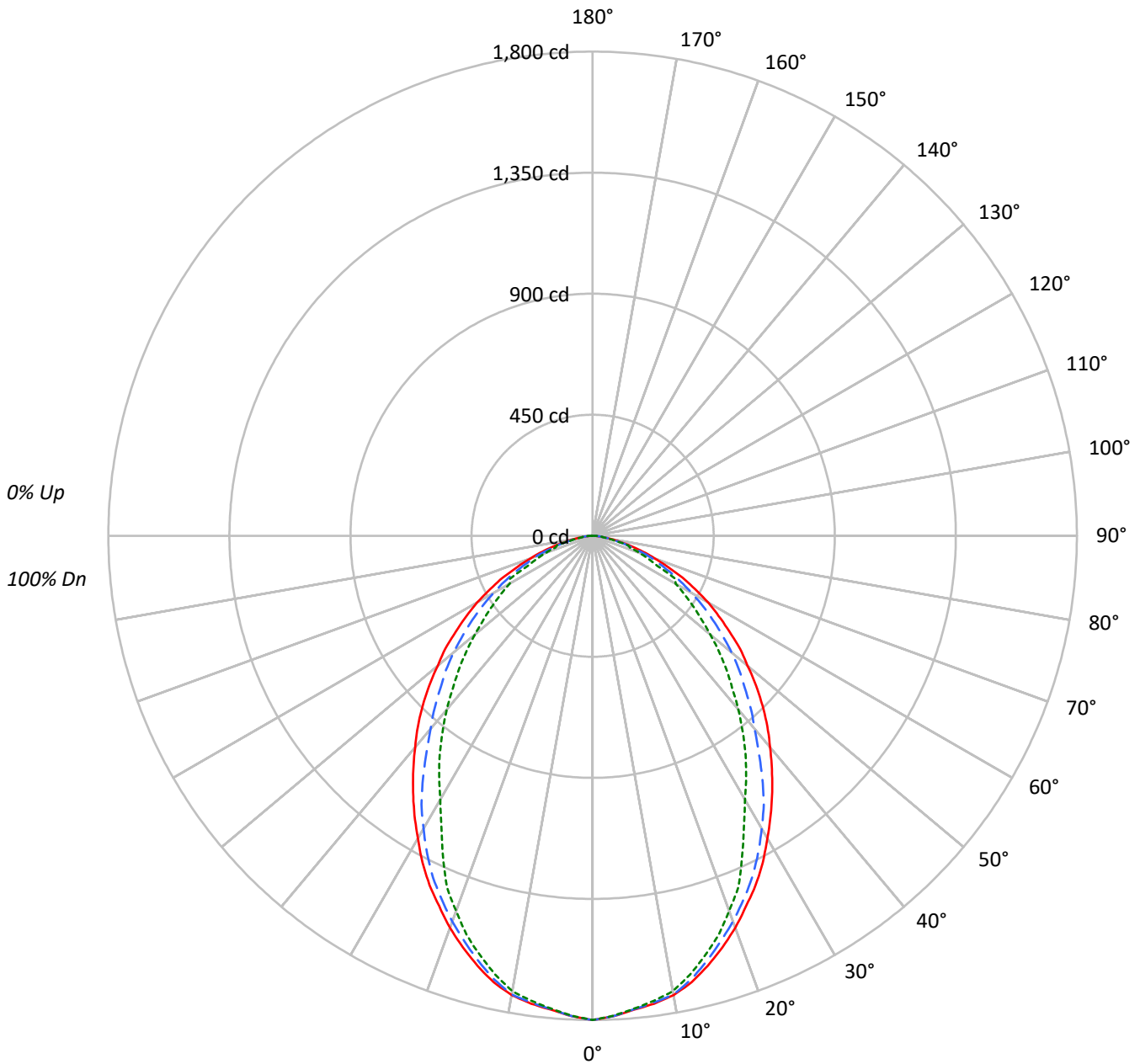
Lumens per Lamp: N/A
Luminaire Lumens: 3534.0 lumens
Efficiency: N/A
Efficacy: 81.8 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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°	4844	4844	4844
5°	4779	4773	4767
10°	4737	4731	4697
15°	4609	4563	4499
20°	4440	4369	4249
25°	4257	4165	3905
30°	4035	3906	3518
35°	3822	3610	3254
40°	3604	3290	2961
45°	3398	3041	2677
50°	3145	2823	2387
55°	2910	2558	2138
60°	2666	2285	1915
65°	2346	2001	1696
70°	1932	1752	1441
75°	1537	1341	1407
80°	1032	967	903
85°	642	772	898



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	167.6	4.7
10°-20°	459.9	13.0
20°-30°	636.7	18.0
30°-40°	678.9	19.2
40°-50°	619.3	17.5
50°-60°	485.2	13.7
60°-70°	316.2	8.9
70°-80°	140.1	4.0
80°-90°	30.1	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°	1264.1	35.8
0°-40°	1943.0	55.0
0°-60°	3047.6	86.2
0°-90°	3534.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3534.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1800	1800	1800	1800	1800	
5°	1769	1767	1767	1765	1765	168
15°	1654	1654	1638	1621	1615	465
25°	1434	1426	1403	1353	1315	658
35°	1163	1155	1099	1016	991	727
45°	893	874	799	733	703	688
55°	620	601	545	481	456	556
65°	368	348	314	320	266	363
75°	148	137	129	123	135	158
85°	21	23	25	27	29	29
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1800.2	1800.2	1800.2	1800.2	1800.2
2.5°	1787.7	1787.7	1787.7	1785.6	1785.6
5°	1769.0	1766.9	1766.9	1764.8	1764.8
7.5°	1754.4	1752.3	1750.2	1748.1	1744.0
10°	1733.6	1733.6	1731.5	1721.1	1719.0
12.5°	1700.3	1698.2	1689.9	1675.3	1671.1
15°	1654.5	1654.5	1637.8	1621.2	1615.0
17.5°	1604.5	1602.5	1581.7	1565.0	1556.7
20°	1550.4	1546.3	1525.5	1498.4	1483.8
22.5°	1490.1	1490.1	1465.1	1429.7	1415.2
25°	1433.9	1425.6	1402.7	1352.7	1315.3
27.5°	1369.4	1356.9	1331.9	1261.2	1217.5
30°	1298.6	1292.4	1257.0	1165.4	1132.1
32.5°	1232.0	1221.6	1184.2	1088.4	1061.4
35°	1163.3	1155.0	1098.8	1015.6	990.6
37.5°	1094.7	1084.3	1013.5	946.9	915.7
40°	1026.0	1013.5	936.5	876.2	842.9
42.5°	961.5	944.8	869.9	805.4	767.9
45°	892.8	874.1	799.2	732.6	703.4
47.5°	824.1	807.5	738.8	670.1	636.8
50°	751.3	736.7	674.3	605.6	570.2
52.5°	690.9	668.0	607.7	539.0	509.9
55°	620.2	601.4	545.3	480.7	455.8
57.5°	555.7	536.9	484.9	424.5	403.7
60°	495.3	468.3	424.5	372.5	355.9
62.5°	428.7	407.9	370.4	326.7	347.5
65°	368.4	347.5	314.2	320.5	266.4
67.5°	301.8	291.4	262.2	233.1	224.8
70°	245.6	233.1	222.7	191.5	183.1
72.5°	195.6	183.1	168.6	151.9	145.7
75°	147.8	137.4	129.0	122.8	135.3
77.5°	102.0	97.8	91.6	85.3	83.2
80°	66.6	64.5	62.4	60.4	58.3
82.5°	39.5	39.5	39.5	39.5	39.5
85°	20.8	22.9	25.0	27.1	29.1
87.5°	12.5	12.5	14.6	16.6	18.7
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)