

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: P546467

Luminaire Tested: **FMR-24-4-LD4-1HI-40-UNV-81-88-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: P546467
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-81-88-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

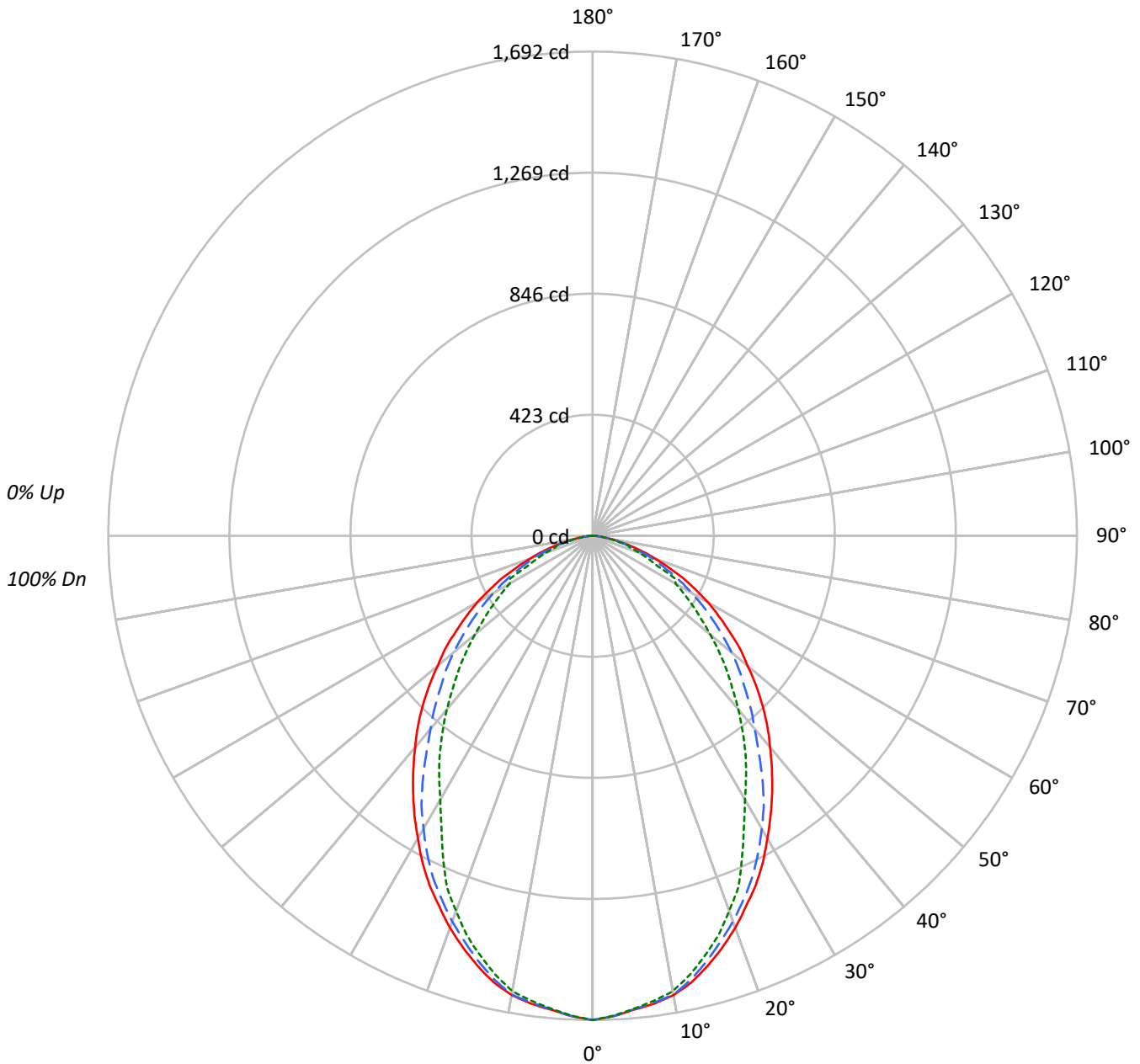
Lumens per Lamp: N/A
Luminaire Lumens: 3322.0 lumens
Efficiency: N/A
Efficacy: 76.9 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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°	2277	2277	2277
5°	2246	2243	2241
10°	2226	2224	2208
15°	2166	2145	2115
20°	2087	2053	1997
25°	2001	1957	1836
30°	1897	1836	1653
35°	1796	1697	1530
40°	1694	1546	1392
45°	1597	1429	1258
50°	1478	1327	1122
55°	1368	1202	1005
60°	1253	1074	900
65°	1103	940	797
70°	908	823	677
75°	722	631	661
80°	485	455	425
85°	303	363	423



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	157.5	4.7
10°-20°	432.3	13.0
20°-30°	598.5	18.0
30°-40°	638.2	19.2
40°-50°	582.2	17.5
50°-60°	456.1	13.7
60°-70°	297.3	8.9
70°-80°	131.7	4.0
80°-90°	28.3	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°	1188.3	35.8
0°-40°	1826.5	55.0
0°-60°	2864.7	86.2
0°-90°	3322.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3322.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1692	1692	1692	1692	1692	
5°	1663	1661	1661	1659	1659	158
15°	1555	1555	1540	1524	1518	437
25°	1348	1340	1318	1272	1236	619
35°	1094	1086	1033	955	931	684
45°	839	822	751	689	661	646
55°	583	565	512	452	428	523
65°	346	327	295	301	250	341
75°	139	129	121	115	127	149
85°	20	22	24	25	27	27
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1692.2	1692.2	1692.2	1692.2	1692.2
2.5°	1680.4	1680.4	1680.4	1678.5	1678.5
5°	1662.8	1660.9	1660.9	1658.9	1658.9
7.5°	1649.1	1647.2	1645.2	1643.3	1639.4
10°	1629.6	1629.6	1627.6	1617.8	1615.9
12.5°	1598.3	1596.3	1588.5	1574.8	1570.9
15°	1555.2	1555.2	1539.6	1523.9	1518.1
17.5°	1508.3	1506.3	1486.8	1471.1	1463.3
20°	1457.4	1453.5	1434.0	1408.5	1394.8
22.5°	1400.7	1400.7	1377.2	1344.0	1330.3
25°	1347.9	1340.1	1318.5	1271.6	1236.4
27.5°	1287.2	1275.5	1252.0	1185.5	1144.4
30°	1220.7	1214.9	1181.6	1095.5	1064.2
32.5°	1158.1	1148.3	1113.1	1023.1	997.7
35°	1093.6	1085.7	1032.9	954.7	931.2
37.5°	1029.0	1019.2	952.7	890.1	860.8
40°	964.4	952.7	880.3	823.6	792.3
42.5°	903.8	888.2	817.7	757.1	721.9
45°	839.2	821.6	751.2	688.6	661.2
47.5°	774.7	759.0	694.5	629.9	598.6
50°	706.2	692.5	633.8	569.3	536.0
52.5°	649.5	628.0	571.2	506.7	479.3
55°	583.0	565.4	512.5	451.9	428.4
57.5°	522.3	504.7	455.8	399.1	379.5
60°	465.6	440.2	399.1	350.2	334.5
62.5°	403.0	383.4	348.2	307.1	326.7
65°	346.3	326.7	295.4	301.3	250.4
67.5°	283.7	273.9	246.5	219.1	211.3
70°	230.8	219.1	209.3	180.0	172.2
72.5°	183.9	172.2	158.5	142.8	136.9
75°	138.9	129.1	121.3	115.4	127.2
77.5°	95.9	91.9	86.1	80.2	78.3
80°	62.6	60.6	58.7	56.7	54.8
82.5°	37.2	37.2	37.2	37.2	37.2
85°	19.6	21.5	23.5	25.4	27.4
87.5°	11.7	11.7	13.7	15.7	17.6
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)