

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: P546434

Luminaire Tested: **FMR-24-4-LD4-1HI-35-UNV-81-87-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: P546434
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-81-87-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

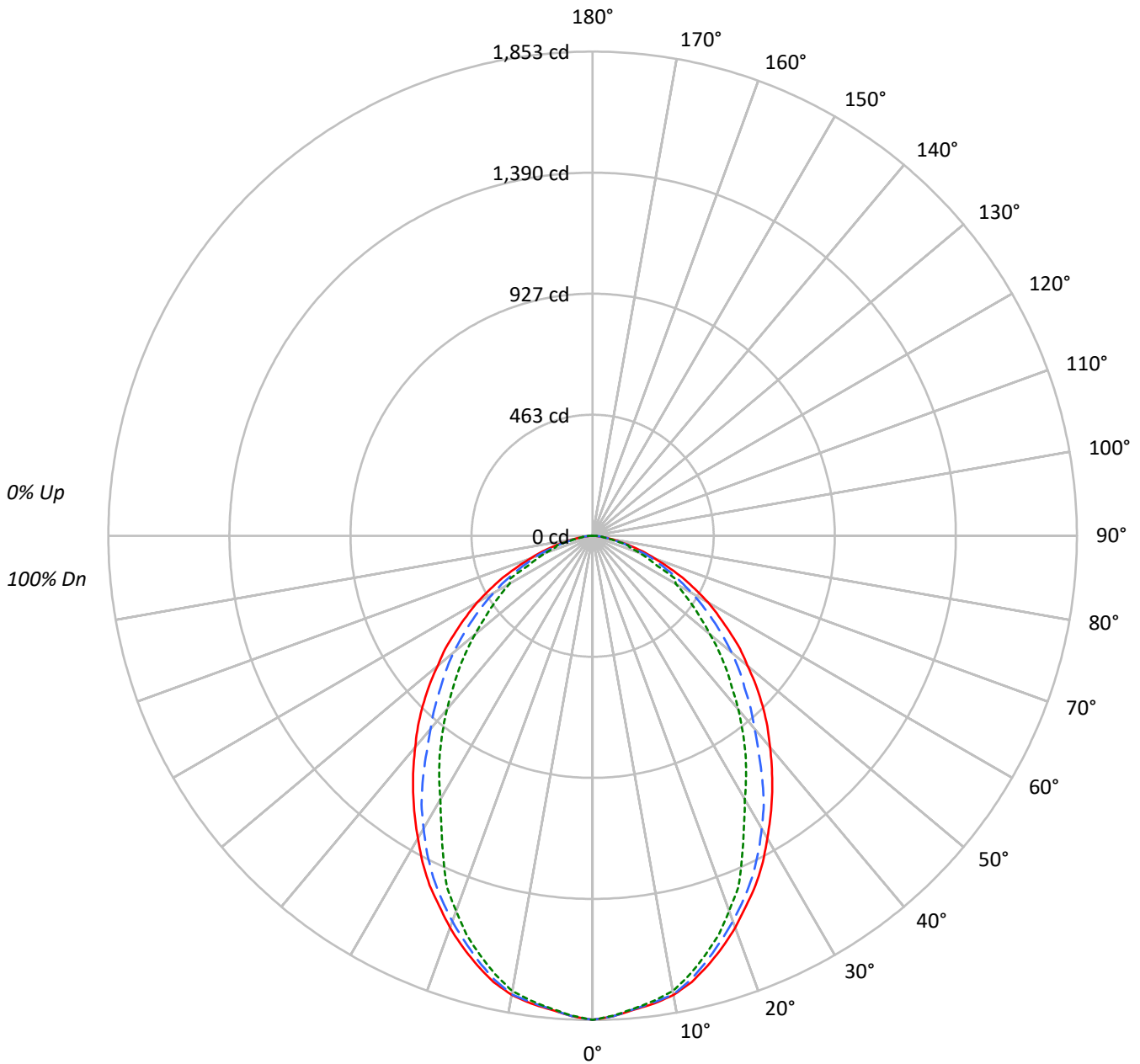
Lumens per Lamp: N/A
Luminaire Lumens: 3637.0 lumens
Efficiency: N/A
Efficacy: 84.2 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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°	2493	2493	2493
5°	2459	2456	2453
10°	2438	2435	2417
15°	2372	2348	2315
20°	2285	2248	2187
25°	2191	2143	2010
30°	2076	2010	1810
35°	1967	1858	1675
40°	1855	1693	1524
45°	1748	1565	1377
50°	1618	1452	1228
55°	1497	1316	1100
60°	1372	1176	985
65°	1207	1030	873
70°	994	902	742
75°	791	690	724
80°	531	498	465
85°	330	397	463



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	172.5	4.7
10°-20°	473.3	13.0
20°-30°	655.2	18.0
30°-40°	698.7	19.2
40°-50°	637.4	17.5
50°-60°	499.3	13.7
60°-70°	325.4	8.9
70°-80°	144.2	4.0
80°-90°	31.0	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°	1301.0	35.8
0°-40°	1999.7	55.0
0°-60°	3136.4	86.2
0°-90°	3637.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3637.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1853	1853	1853	1853	1853	
5°	1820	1818	1818	1816	1816	173
15°	1703	1703	1686	1668	1662	479
25°	1476	1467	1444	1392	1354	677
35°	1197	1189	1131	1045	1020	749
45°	919	900	822	754	724	708
55°	638	619	561	495	469	572
65°	379	358	323	330	274	374
75°	152	141	133	126	139	163
85°	21	24	26	28	30	30
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1852.6	1852.6	1852.6	1852.6	1852.6
2.5°	1839.8	1839.8	1839.8	1837.6	1837.6
5°	1820.5	1818.4	1818.4	1816.2	1816.2
7.5°	1805.5	1803.4	1801.2	1799.1	1794.8
10°	1784.1	1784.1	1782.0	1771.3	1769.1
12.5°	1749.8	1747.7	1739.1	1724.1	1719.8
15°	1702.7	1702.7	1685.6	1668.4	1662.0
17.5°	1651.3	1649.2	1627.8	1610.6	1602.1
20°	1595.6	1591.3	1569.9	1542.1	1527.1
22.5°	1533.5	1533.5	1507.8	1471.4	1456.4
25°	1475.7	1467.1	1443.6	1392.2	1353.6
27.5°	1409.3	1396.4	1370.7	1297.9	1252.9
30°	1336.5	1330.0	1293.6	1199.4	1165.1
32.5°	1267.9	1257.2	1218.7	1120.2	1092.3
35°	1197.3	1188.7	1130.9	1045.2	1019.5
37.5°	1126.6	1115.9	1043.0	974.5	942.4
40°	1055.9	1043.0	963.8	901.7	867.4
42.5°	989.5	972.4	895.3	828.9	790.3
45°	918.8	899.5	822.4	753.9	723.9
47.5°	848.1	831.0	760.3	689.7	655.4
50°	773.2	758.2	693.9	623.3	586.8
52.5°	711.1	687.5	625.4	554.7	524.7
55°	638.3	619.0	561.1	494.8	469.0
57.5°	571.9	552.6	499.0	436.9	415.5
60°	509.7	481.9	436.9	383.4	366.2
62.5°	441.2	419.8	381.2	336.3	357.7
65°	379.1	357.7	323.4	329.8	274.1
67.5°	310.6	299.8	269.9	239.9	231.3
70°	252.7	239.9	229.2	197.0	188.5
72.5°	201.3	188.5	173.5	156.3	149.9
75°	152.1	141.4	132.8	126.4	139.2
77.5°	104.9	100.7	94.2	87.8	85.7
80°	68.5	66.4	64.3	62.1	60.0
82.5°	40.7	40.7	40.7	40.7	40.7
85°	21.4	23.6	25.7	27.8	30.0
87.5°	12.9	12.9	15.0	17.1	19.3
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)