

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: P546441

Luminaire Tested: **FMR-24-4-LD4-1HI-35-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: P546441
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-82-86-EDD
Description: 2X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

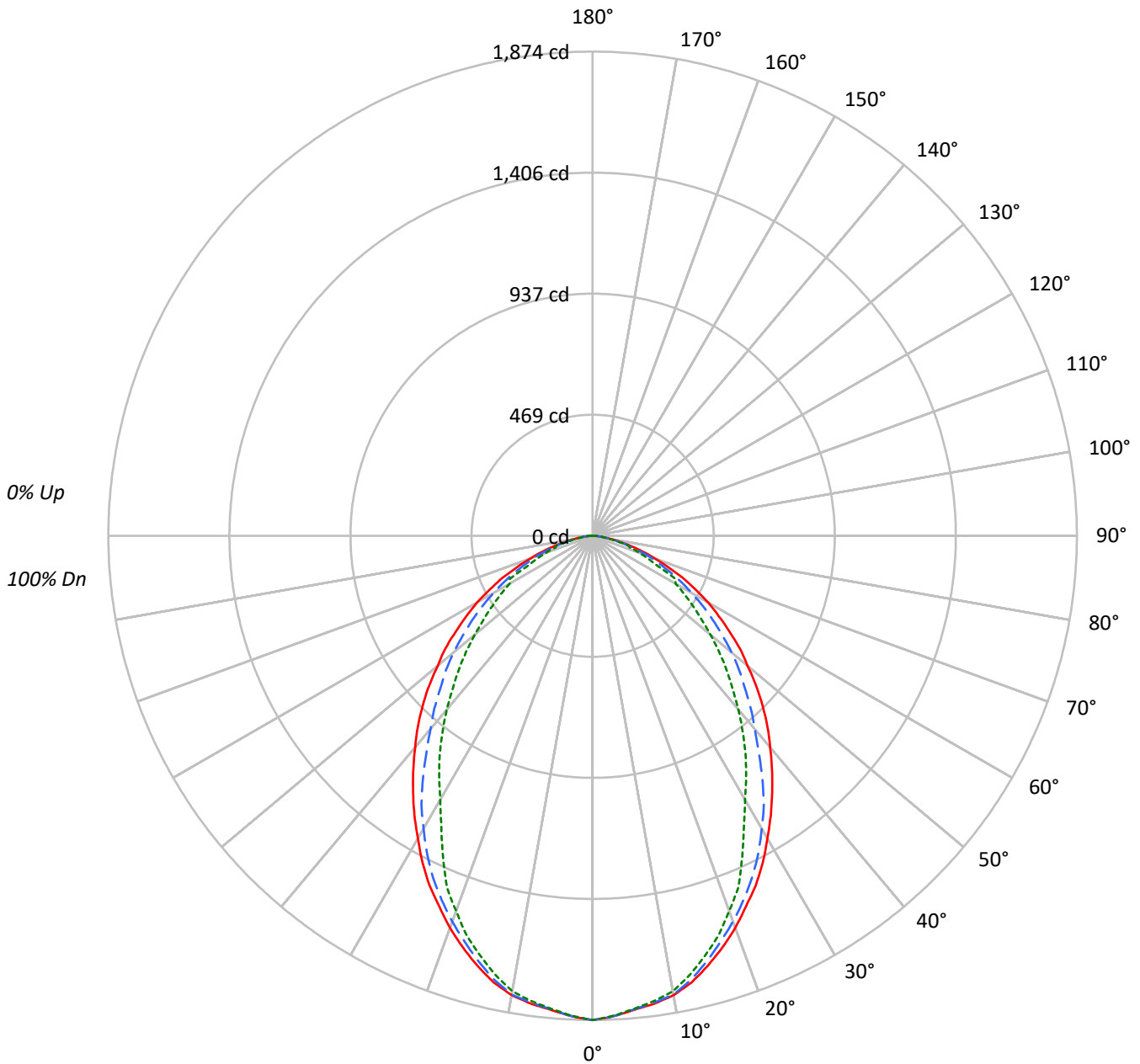
Lumens per Lamp: N/A
Luminaire Lumens: 3680.0 lumens
Efficiency: N/A
Efficacy: 85.2 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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

TEST NUMBER: P546441

CATALOG NUMBER: FMR-24-4-LD4-1HI-35-UNV-82-86-EDD

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°	2522	2522	2522
5°	2488	2485	2482
10°	2466	2463	2446
15°	2400	2376	2343
20°	2312	2274	2212
25°	2217	2168	2033
30°	2101	2034	1832
35°	1990	1879	1694
40°	1877	1713	1542
45°	1769	1584	1394
50°	1638	1470	1243
55°	1515	1332	1113
60°	1388	1190	997
65°	1221	1042	883
70°	1006	912	750
75°	800	699	732
80°	537	504	470
85°	335	401	468



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	174.5	4.7
10°-20°	478.9	13.0
20°-30°	663.0	18.0
30°-40°	706.9	19.2
40°-50°	644.9	17.5
50°-60°	505.2	13.7
60°-70°	329.3	8.9
70°-80°	145.9	4.0
80°-90°	31.3	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°	1316.4	35.8
0°-40°	2023.3	55.0
0°-60°	3173.5	86.2
0°-90°	3680.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3680.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1874	1874	1874	1874	1874	
5°	1842	1840	1840	1838	1838	175
15°	1723	1723	1706	1688	1682	484
25°	1493	1484	1461	1409	1370	685
35°	1211	1203	1144	1058	1032	757
45°	930	910	832	763	732	716
55°	646	626	568	501	475	579
65°	384	362	327	334	277	378
75°	154	143	134	128	141	165
85°	22	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°	1874.5	1874.5	1874.5	1874.5	1874.5
2.5°	1861.5	1861.5	1861.5	1859.4	1859.4
5°	1842.0	1839.9	1839.9	1837.7	1837.7
7.5°	1826.9	1824.7	1822.5	1820.4	1816.0
10°	1805.2	1805.2	1803.0	1792.2	1790.0
12.5°	1770.5	1768.4	1759.7	1744.5	1740.2
15°	1722.8	1722.8	1705.5	1688.2	1681.7
17.5°	1670.8	1668.7	1647.0	1629.7	1621.0
20°	1614.5	1610.2	1588.5	1560.3	1545.1
22.5°	1551.6	1551.6	1525.6	1488.8	1473.6
25°	1493.1	1484.5	1460.6	1408.6	1369.6
27.5°	1426.0	1413.0	1386.9	1313.3	1267.8
30°	1352.3	1345.8	1308.9	1213.6	1178.9
32.5°	1282.9	1272.1	1233.1	1133.4	1105.2
35°	1211.4	1202.7	1144.2	1057.5	1031.5
37.5°	1139.9	1129.1	1055.4	986.0	953.5
40°	1068.4	1055.4	975.2	912.3	877.7
42.5°	1001.2	983.9	905.8	838.7	799.7
45°	929.7	910.2	832.2	762.8	732.5
47.5°	858.2	840.8	769.3	697.8	663.1
50°	782.3	767.2	702.1	630.6	593.8
52.5°	719.5	695.6	632.8	561.3	530.9
55°	645.8	626.3	567.8	500.6	474.6
57.5°	578.6	559.1	504.9	442.1	420.4
60°	515.8	487.6	442.1	387.9	370.6
62.5°	446.4	424.8	385.7	340.2	361.9
65°	383.6	361.9	327.2	333.7	277.4
67.5°	314.2	303.4	273.1	242.7	234.0
70°	255.7	242.7	231.9	199.4	190.7
72.5°	203.7	190.7	175.5	158.2	151.7
75°	153.9	143.0	134.4	127.9	140.9
77.5°	106.2	101.9	95.4	88.9	86.7
80°	69.3	67.2	65.0	62.8	60.7
82.5°	41.2	41.2	41.2	41.2	41.2
85°	21.7	23.8	26.0	28.2	30.3
87.5°	13.0	13.0	15.2	17.3	19.5
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)