

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: P546827

Luminaire Tested: **FMR-24-4-LD4-2LO-40-UNV-82-88-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: P546827
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-LD4-2LO-40-UNV-82-88-EDD
Description: 2X4 FMR TROFFER WITH .187 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

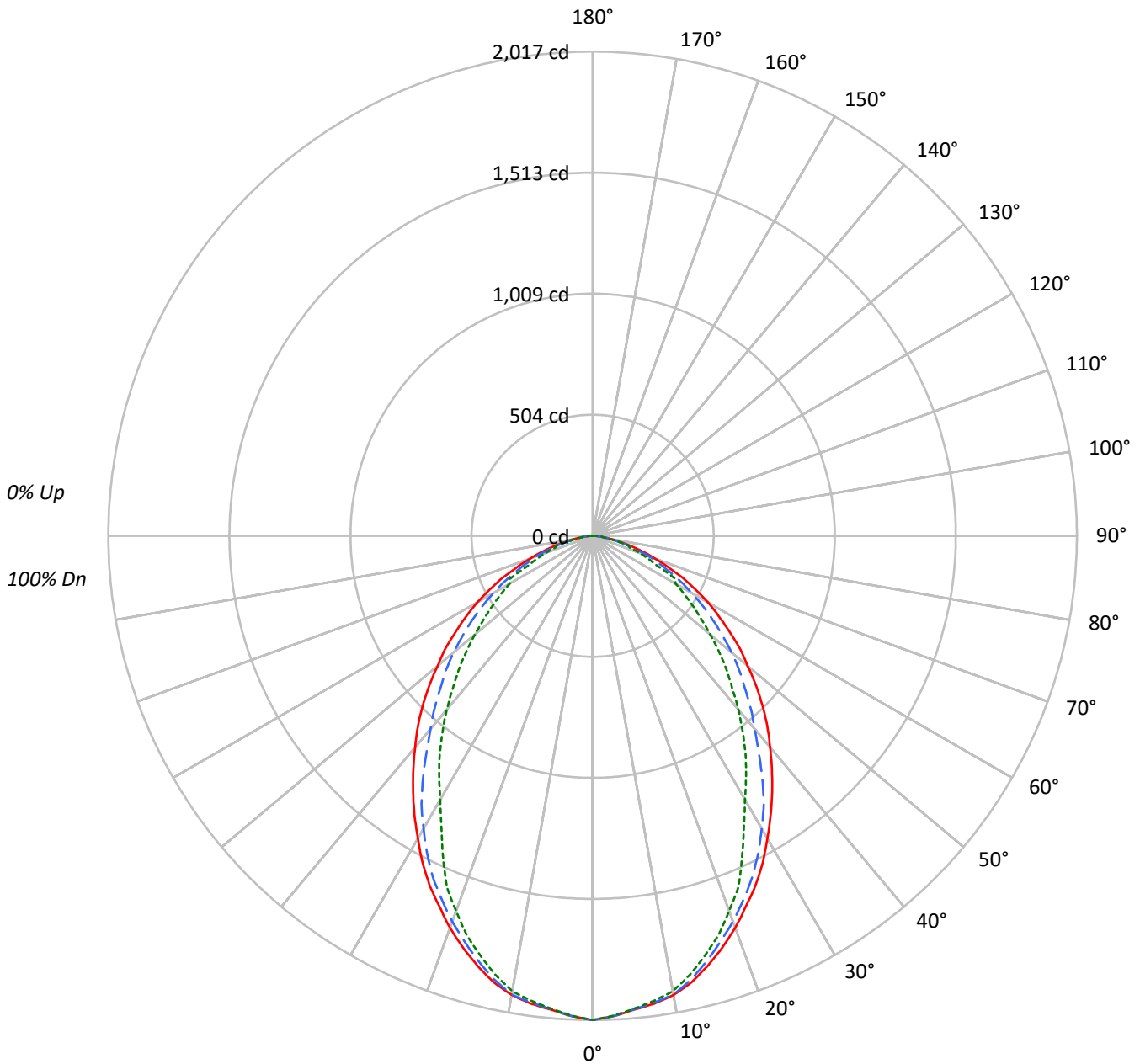
Lumens per Lamp: N/A
Luminaire Lumens: 3960.0 lumens
Efficiency: N/A
Efficacy: 84.6 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 46.8
Input Voltage (V): NR
Input Current (A_{in}): 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				20				20	
RC	80				70				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				100
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87				87
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75				75
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65				65
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56				56
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50				50
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44				44
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40				40
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36				36
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33				33
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30				30

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2714	2714	2714
5°	2677	2674	2671
10°	2654	2651	2632
15°	2582	2556	2521
20°	2488	2447	2381
25°	2385	2333	2188
30°	2261	2188	1971
35°	2141	2022	1823
40°	2019	1843	1659
45°	1904	1704	1500
50°	1762	1582	1338
55°	1630	1433	1198
60°	1493	1280	1073
65°	1314	1121	950
70°	1083	982	807
75°	861	752	788
80°	578	542	506
85°	360	432	503



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	187.8	4.7
10°-20°	515.3	13.0
20°-30°	713.4	18.0
30°-40°	760.7	19.2
40°-50°	694.0	17.5
50°-60°	543.7	13.7
60°-70°	354.3	8.9
70°-80°	157.0	4.0
80°-90°	33.7	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°	1416.5	35.8
0°-40°	2177.3	55.0
0°-60°	3415.0	86.2
0°-90°	3960.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3960.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2017	2017	2017	2017	2017	
5°	1982	1980	1980	1978	1978	188
15°	1854	1854	1835	1817	1810	521
25°	1607	1597	1572	1516	1474	738
35°	1304	1294	1231	1138	1110	815
45°	1000	979	896	821	788	771
55°	695	674	611	539	511	623
65°	413	389	352	359	298	407
75°	166	154	145	138	152	177
85°	23	26	28	30	33	32
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2017.2	2017.2	2017.2	2017.2	2017.2
2.5°	2003.2	2003.2	2003.2	2000.8	2000.8
5°	1982.2	1979.9	1979.9	1977.5	1977.5
7.5°	1965.9	1963.5	1961.2	1958.9	1954.2
10°	1942.5	1942.5	1940.2	1928.6	1926.2
12.5°	1905.2	1902.9	1893.6	1877.3	1872.6
15°	1853.9	1853.9	1835.3	1816.6	1809.6
17.5°	1798.0	1795.6	1772.3	1753.7	1744.3
20°	1737.3	1732.7	1709.3	1679.0	1662.7
22.5°	1669.7	1669.7	1641.7	1602.1	1585.8
25°	1606.7	1597.4	1571.8	1515.8	1473.8
27.5°	1534.4	1520.5	1492.5	1413.2	1364.2
30°	1455.2	1448.2	1408.5	1305.9	1268.6
32.5°	1380.5	1368.9	1326.9	1219.6	1189.3
35°	1303.6	1294.3	1231.3	1138.0	1110.0
37.5°	1226.6	1215.0	1135.7	1061.1	1026.1
40°	1149.7	1135.7	1049.4	981.8	944.5
42.5°	1077.4	1058.7	974.8	902.5	860.5
45°	1000.4	979.4	895.5	820.9	788.2
47.5°	923.5	904.8	827.9	750.9	713.6
50°	841.8	825.5	755.6	678.6	639.0
52.5°	774.2	748.6	680.9	604.0	571.3
55°	694.9	673.9	611.0	538.7	510.7
57.5°	622.6	601.7	543.4	475.7	452.4
60°	555.0	524.7	475.7	417.4	398.8
62.5°	480.4	457.1	415.1	366.1	389.4
65°	412.8	389.4	352.1	359.1	298.5
67.5°	338.1	326.5	293.8	261.2	251.9
70°	275.2	261.2	249.5	214.5	205.2
72.5°	219.2	205.2	188.9	170.2	163.2
75°	165.6	153.9	144.6	137.6	151.6
77.5°	114.3	109.6	102.6	95.6	93.3
80°	74.6	72.3	70.0	67.6	65.3
82.5°	44.3	44.3	44.3	44.3	44.3
85°	23.3	25.7	28.0	30.3	32.6
87.5°	14.0	14.0	16.3	18.7	21.0
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)