

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: P546502

Luminaire Tested: **FMR-24-4-LD4-1HI-50-UNV-81-97-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: P546502
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-50-UNV-81-97-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

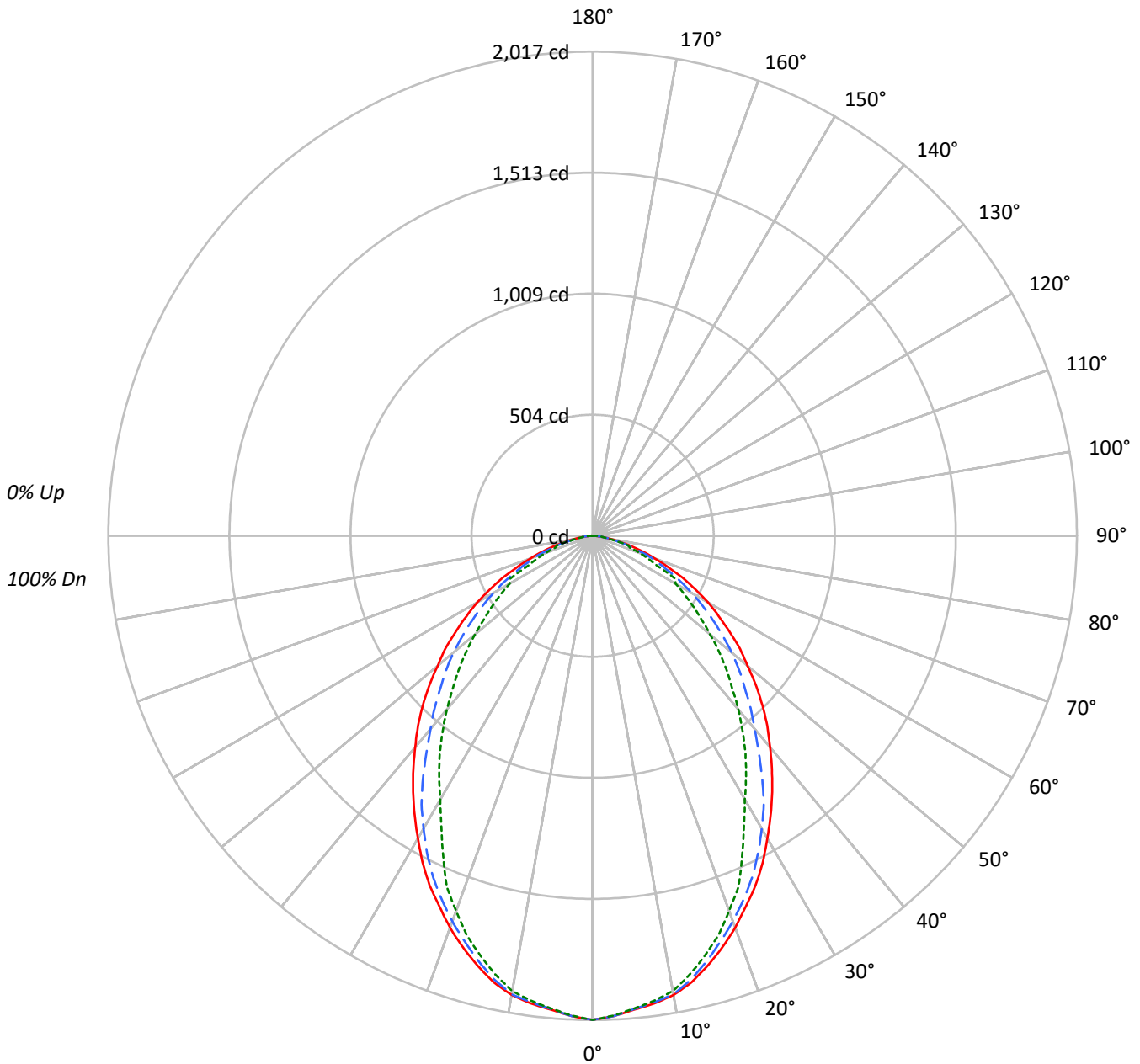
Lumens per Lamp: N/A
Luminaire Lumens: 3959.0 lumens
Efficiency: N/A
Efficacy: 91.6 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 43.2
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									
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			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°	2713	2713	2713
5°	2677	2673	2670
10°	2653	2650	2631
15°	2582	2556	2520
20°	2487	2447	2380
25°	2385	2333	2187
30°	2260	2188	1970
35°	2141	2022	1823
40°	2019	1843	1658
45°	1903	1704	1499
50°	1762	1581	1337
55°	1630	1433	1198
60°	1493	1280	1073
65°	1314	1121	950
70°	1082	982	807
75°	860	751	788
80°	578	542	506
85°	360	432	503



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	187.7	4.7
10°-20°	515.2	13.0
20°-30°	713.3	18.0
30°-40°	760.5	19.2
40°-50°	693.8	17.5
50°-60°	543.6	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°	1416.2	35.8
0°-40°	2176.7	55.0
0°-60°	3414.1	86.2
0°-90°	3959.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3959.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2017	2017	2017	2017	2017	
5°	1982	1979	1979	1977	1977	188
15°	1854	1854	1835	1816	1809	521
25°	1606	1597	1571	1515	1473	737
35°	1303	1294	1231	1138	1110	815
45°	1000	979	895	821	788	770
55°	695	674	611	539	511	623
65°	413	389	352	359	298	407
75°	166	154	144	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°	2016.7	2016.7	2016.7	2016.7	2016.7
2.5°	2002.7	2002.7	2002.7	2000.3	2000.3
5°	1981.7	1979.4	1979.4	1977.0	1977.0
7.5°	1965.4	1963.0	1960.7	1958.4	1953.7
10°	1942.1	1942.1	1939.7	1928.1	1925.7
12.5°	1904.8	1902.4	1893.1	1876.8	1872.1
15°	1853.5	1853.5	1834.8	1816.2	1809.2
17.5°	1797.5	1795.2	1771.9	1753.2	1743.9
20°	1736.9	1732.2	1708.9	1678.6	1662.3
22.5°	1669.3	1669.3	1641.3	1601.7	1585.4
25°	1606.3	1597.0	1571.4	1515.4	1473.4
27.5°	1534.1	1520.1	1492.1	1412.8	1363.9
30°	1454.8	1447.8	1408.2	1305.6	1268.3
32.5°	1380.2	1368.5	1326.6	1219.3	1189.0
35°	1303.3	1293.9	1231.0	1137.7	1109.7
37.5°	1226.3	1214.7	1135.4	1060.8	1025.8
40°	1149.4	1135.4	1049.1	981.5	944.2
42.5°	1077.1	1058.5	974.5	902.3	860.3
45°	1000.2	979.2	895.3	820.7	788.0
47.5°	923.2	904.6	827.6	750.7	713.4
50°	841.6	825.3	755.4	678.4	638.8
52.5°	774.0	748.4	680.8	603.8	571.2
55°	694.8	673.8	610.8	538.6	510.6
57.5°	622.5	601.5	543.2	475.6	452.3
60°	554.9	524.6	475.6	417.3	398.7
62.5°	480.3	457.0	415.0	366.0	389.3
65°	412.7	389.3	352.0	359.0	298.4
67.5°	338.1	326.4	293.8	261.1	251.8
70°	275.1	261.1	249.5	214.5	205.2
72.5°	219.2	205.2	188.8	170.2	163.2
75°	165.5	153.9	144.5	137.6	151.5
77.5°	114.2	109.6	102.6	95.6	93.3
80°	74.6	72.3	69.9	67.6	65.3
82.5°	44.3	44.3	44.3	44.3	44.3
85°	23.3	25.6	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)