

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: P546515

Luminaire Tested: **FMR-24-4-LD4-1HI-50-UNV-93-88-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: P546515
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-93-88-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

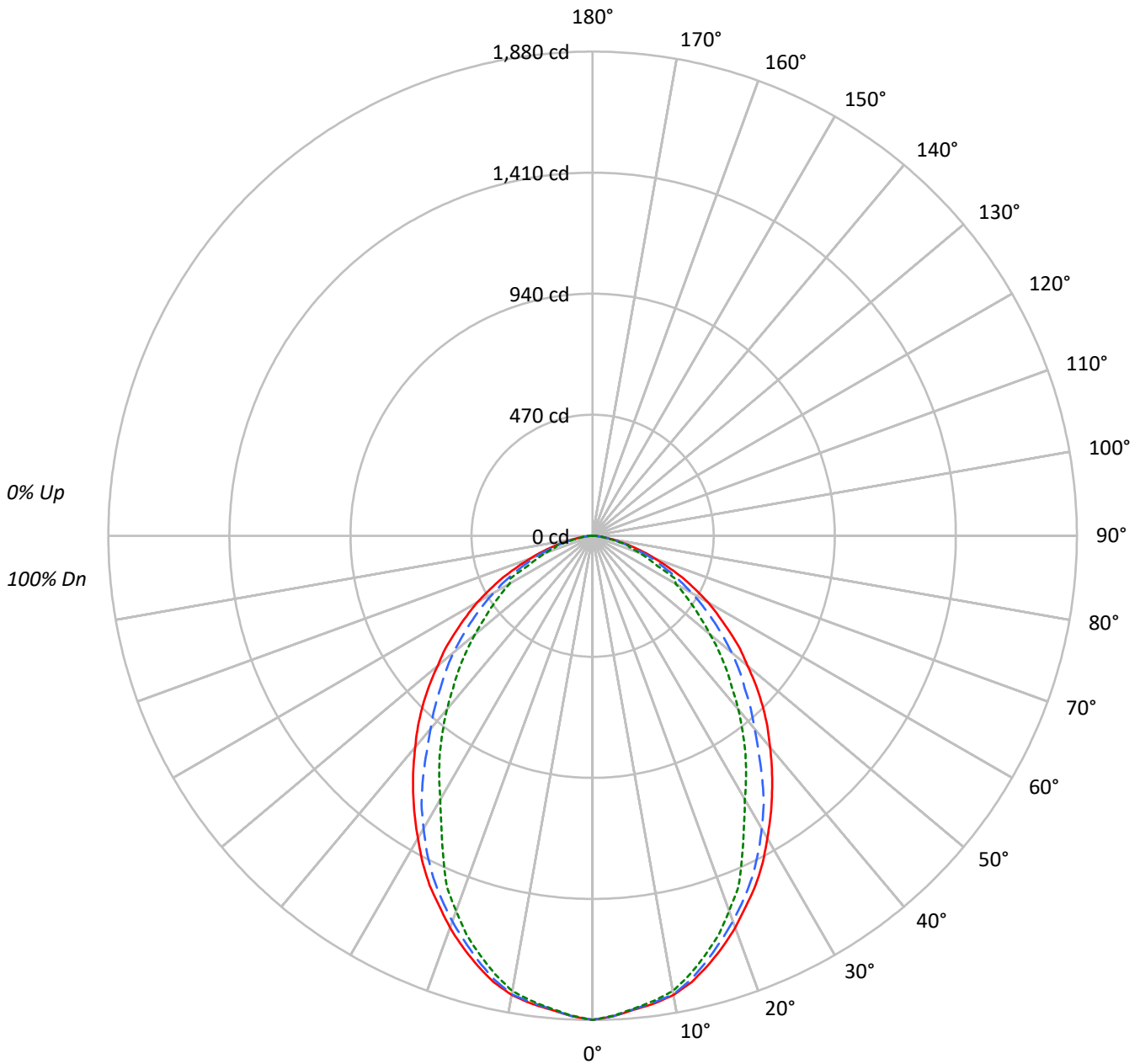
Lumens per Lamp: N/A
Luminaire Lumens: 3690.0 lumens
Efficiency: N/A
Efficacy: 85.4 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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				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°	2529	2529	2529
5°	2495	2492	2489
10°	2473	2470	2452
15°	2406	2382	2349
20°	2318	2281	2218
25°	2223	2174	2039
30°	2107	2039	1837
35°	1995	1884	1699
40°	1882	1717	1546
45°	1774	1588	1398
50°	1642	1474	1246
55°	1519	1335	1116
60°	1392	1193	1000
65°	1224	1045	885
70°	1009	915	752
75°	802	700	734
80°	539	505	471
85°	335	403	469



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	175.0	4.7
10°-20°	480.2	13.0
20°-30°	664.8	18.0
30°-40°	708.8	19.2
40°-50°	646.7	17.5
50°-60°	506.6	13.7
60°-70°	330.2	8.9
70°-80°	146.3	4.0
80°-90°	31.4	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°	1319.9	35.8
0°-40°	2028.8	55.0
0°-60°	3182.1	86.2
0°-90°	3690.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3690.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1880	1880	1880	1880	1880	
5°	1847	1845	1845	1843	1843	175
15°	1728	1728	1710	1693	1686	486
25°	1497	1488	1465	1412	1373	687
35°	1215	1206	1147	1060	1034	759
45°	932	913	834	765	734	718
55°	648	628	569	502	476	581
65°	385	363	328	335	278	379
75°	154	143	135	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°	1879.6	1879.6	1879.6	1879.6	1879.6
2.5°	1866.6	1866.6	1866.6	1864.4	1864.4
5°	1847.0	1844.9	1844.9	1842.7	1842.7
7.5°	1831.8	1829.7	1827.5	1825.3	1821.0
10°	1810.1	1810.1	1807.9	1797.1	1794.9
12.5°	1775.3	1773.2	1764.5	1749.3	1744.9
15°	1727.5	1727.5	1710.1	1692.8	1686.2
17.5°	1675.4	1673.2	1651.5	1634.1	1625.4
20°	1618.9	1614.5	1592.8	1564.6	1549.3
22.5°	1555.9	1555.9	1529.8	1492.8	1477.6
25°	1497.2	1488.5	1464.6	1412.4	1373.3
27.5°	1429.8	1416.8	1390.7	1316.8	1271.2
30°	1355.9	1349.4	1312.5	1216.9	1182.1
32.5°	1286.4	1275.5	1236.4	1136.5	1108.2
35°	1214.7	1206.0	1147.3	1060.4	1034.3
37.5°	1143.0	1132.1	1058.2	988.7	956.1
40°	1071.3	1058.2	977.8	914.8	880.1
42.5°	1003.9	986.5	908.3	840.9	801.8
45°	932.2	912.7	834.4	764.9	734.5
47.5°	860.5	843.1	771.4	699.7	664.9
50°	784.4	769.2	704.0	632.3	595.4
52.5°	721.4	697.5	634.5	562.8	532.4
55°	647.6	628.0	569.3	502.0	475.9
57.5°	580.2	560.6	506.3	443.3	421.6
60°	517.2	488.9	443.3	389.0	371.6
62.5°	447.6	425.9	386.8	341.2	362.9
65°	384.6	362.9	328.1	334.6	278.1
67.5°	315.1	304.2	273.8	243.4	234.7
70°	256.4	243.4	232.5	199.9	191.2
72.5°	204.3	191.2	176.0	158.6	152.1
75°	154.3	143.4	134.7	128.2	141.2
77.5°	106.5	102.1	95.6	89.1	86.9
80°	69.5	67.4	65.2	63.0	60.8
82.5°	41.3	41.3	41.3	41.3	41.3
85°	21.7	23.9	26.1	28.2	30.4
87.5°	13.0	13.0	15.2	17.4	19.6
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)