

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: P546471

Luminaire Tested: **FMR-24-4-LD4-1HI-40-UNV-82-84-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: P546471
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-40-UNV-82-84-EDD
Description: 2X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

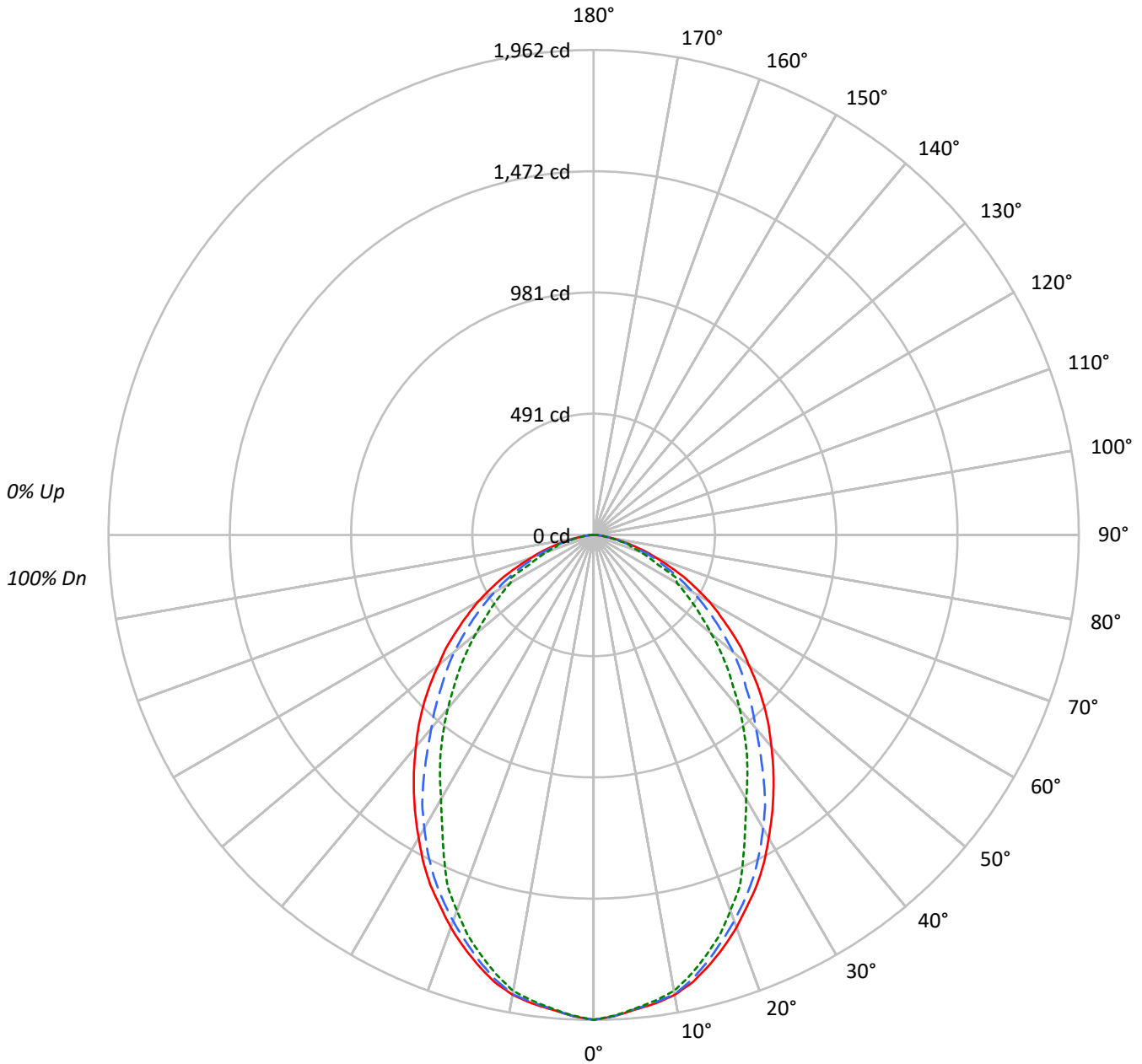
Lumens per Lamp: N/A
Luminaire Lumens: 3851.0 lumens
Efficiency: N/A
Efficacy: 89.1 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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°	2639	2639	2639
5°	2603	2601	2597
10°	2581	2578	2559
15°	2511	2486	2451
20°	2419	2380	2315
25°	2320	2269	2128
30°	2199	2128	1917
35°	2082	1967	1773
40°	1964	1792	1613
45°	1851	1657	1459
50°	1714	1538	1301
55°	1585	1394	1165
60°	1452	1245	1044
65°	1278	1090	924
70°	1053	955	785
75°	837	731	766
80°	563	527	492
85°	350	420	489



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	182.6	4.7
10°-20°	501.1	13.0
20°-30°	693.8	18.0
30°-40°	739.8	19.2
40°-50°	674.9	17.5
50°-60°	528.7	13.7
60°-70°	344.6	8.9
70°-80°	152.7	4.0
80°-90°	32.8	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°	1377.5	35.8
0°-40°	2117.3	55.0
0°-60°	3320.9	86.2
0°-90°	3851.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3851.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1962	1962	1962	1962	1962	
5°	1928	1925	1925	1923	1923	183
15°	1803	1803	1785	1767	1760	507
25°	1562	1553	1528	1474	1433	717
35°	1268	1259	1197	1107	1080	793
45°	973	952	871	798	766	749
55°	676	655	594	524	497	606
65°	401	379	342	349	290	396
75°	161	150	141	134	147	173
85°	23	25	27	30	32	31
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1961.6	1961.6	1961.6	1961.6	1961.6
2.5°	1948.0	1948.0	1948.0	1945.8	1945.8
5°	1927.6	1925.4	1925.4	1923.1	1923.1
7.5°	1911.8	1909.5	1907.2	1905.0	1900.4
10°	1889.1	1889.1	1886.8	1875.5	1873.2
12.5°	1852.8	1850.5	1841.5	1825.6	1821.0
15°	1802.9	1802.9	1784.8	1766.6	1759.8
17.5°	1748.5	1746.2	1723.5	1705.4	1696.3
20°	1689.5	1685.0	1662.3	1632.8	1616.9
22.5°	1623.7	1623.7	1596.5	1558.0	1542.1
25°	1562.5	1553.4	1528.5	1474.1	1433.3
27.5°	1492.2	1478.6	1451.4	1374.3	1326.7
30°	1415.1	1408.3	1369.8	1270.0	1233.7
32.5°	1342.5	1331.2	1290.4	1186.1	1156.6
35°	1267.7	1258.6	1197.4	1106.7	1079.5
37.5°	1192.9	1181.5	1104.4	1031.8	997.8
40°	1118.0	1104.4	1020.5	954.7	918.5
42.5°	1047.7	1029.6	947.9	877.6	836.8
45°	972.9	952.5	870.8	798.3	766.5
47.5°	898.0	879.9	805.1	730.2	693.9
50°	818.7	802.8	734.8	659.9	621.4
52.5°	752.9	728.0	662.2	587.4	555.6
55°	675.8	655.4	594.2	523.9	496.6
57.5°	605.5	585.1	528.4	462.6	440.0
60°	539.7	510.3	462.6	405.9	387.8
62.5°	467.2	444.5	403.7	356.0	378.7
65°	401.4	378.7	342.4	349.2	290.3
67.5°	328.8	317.5	285.7	254.0	244.9
70°	267.6	254.0	242.7	208.6	199.6
72.5°	213.2	199.6	183.7	165.5	158.7
75°	161.0	149.7	140.6	133.8	147.4
77.5°	111.1	106.6	99.8	93.0	90.7
80°	72.6	70.3	68.0	65.8	63.5
82.5°	43.1	43.1	43.1	43.1	43.1
85°	22.7	24.9	27.2	29.5	31.7
87.5°	13.6	13.6	15.9	18.1	20.4
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)