

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: P546313

Luminaire Tested: **FMR-12-4-LD4-2STD-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: P546313
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-12-4-LD4-2STD-35-UNV-82-86-EDD
Description: 1X4 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

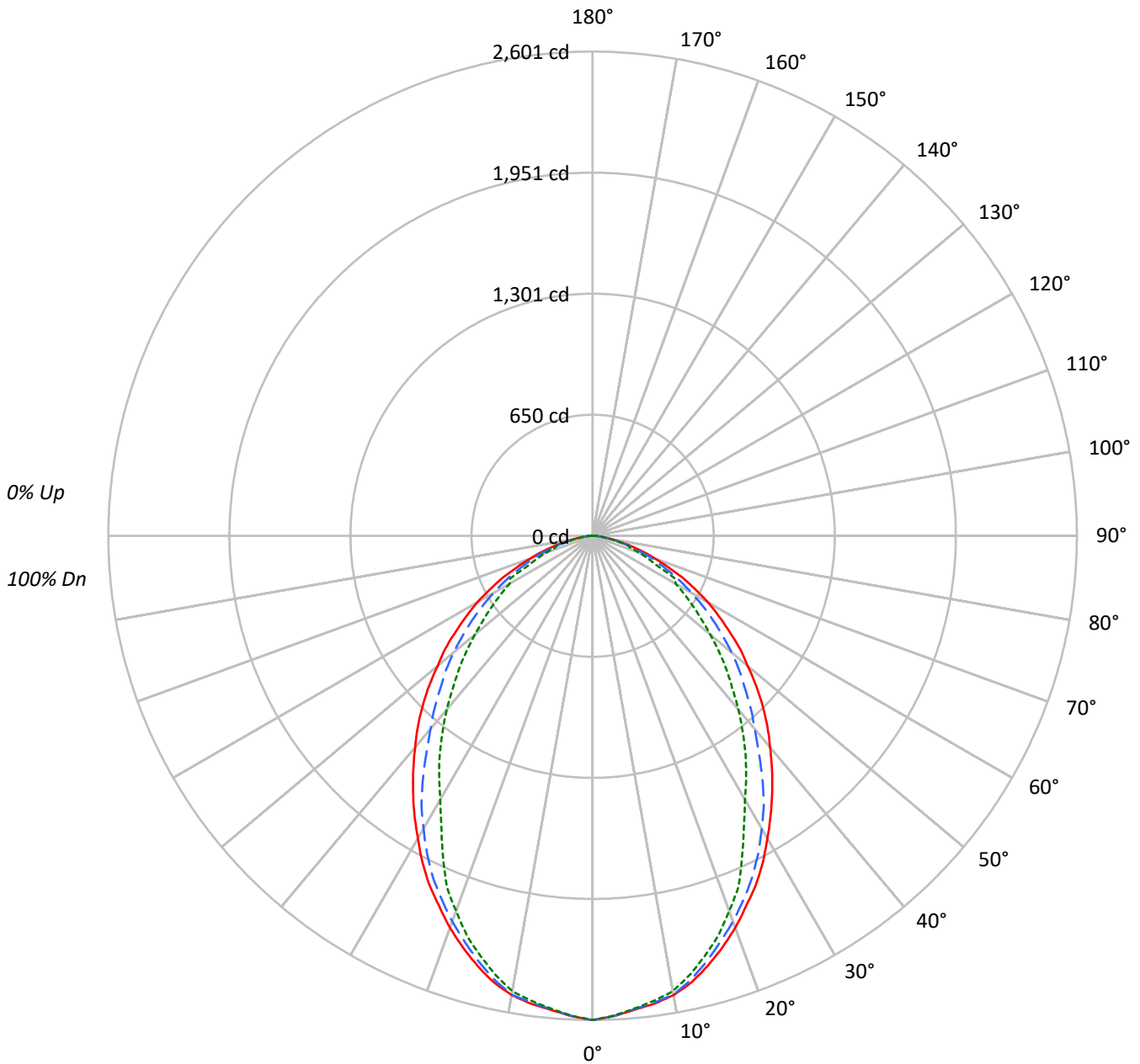
Lumens per Lamp: N/A
Luminaire Lumens: 5107.0 lumens
Efficiency: N/A
Efficacy: 76.7 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 66.6
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°	7000	7000	7000
5°	6905	6897	6889
10°	6845	6837	6788
15°	6661	6594	6502
20°	6416	6313	6141
25°	6152	6019	5643
30°	5831	5644	5084
35°	5523	5216	4703
40°	5208	4754	4279
45°	4910	4395	3868
50°	4545	4079	3450
55°	4205	3696	3090
60°	3852	3302	2768
65°	3389	2891	2451
70°	2792	2532	2083
75°	2220	1939	2033
80°	1491	1398	1305
85°	929	1115	1300



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	242.2	4.7
10°-20°	664.6	13.0
20°-30°	920.1	18.0
30°-40°	981.1	19.2
40°-50°	895.0	17.5
50°-60°	701.2	13.7
60°-70°	457.0	8.9
70°-80°	202.5	4.0
80°-90°	43.5	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°	1826.8	35.8
0°-40°	2807.9	55.0
0°-60°	4404.1	86.2
0°-90°	5107.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5107.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2601	2601	2601	2601	2601	
5°	2556	2553	2553	2550	2550	243
15°	2391	2391	2367	2343	2334	672
25°	2072	2060	2027	1955	1901	951
35°	1681	1669	1588	1468	1432	1051
45°	1290	1263	1155	1059	1016	994
55°	896	869	788	695	659	804
65°	532	502	454	463	385	525
75°	214	198	186	177	196	229
85°	30	33	36	39	42	42
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2601.4	2601.4	2601.4	2601.4	2601.4
2.5°	2583.4	2583.4	2583.4	2580.4	2580.4
5°	2556.3	2553.3	2553.3	2550.3	2550.3
7.5°	2535.3	2532.3	2529.3	2526.3	2520.2
10°	2505.2	2505.2	2502.2	2487.2	2484.1
12.5°	2457.1	2454.1	2442.0	2421.0	2415.0
15°	2390.9	2390.9	2366.9	2342.8	2333.8
17.5°	2318.7	2315.7	2285.7	2261.6	2249.6
20°	2240.5	2234.5	2204.5	2165.4	2144.3
22.5°	2153.3	2153.3	2117.2	2066.1	2045.1
25°	2072.1	2060.1	2027.0	1954.8	1900.7
27.5°	1978.9	1960.9	1924.8	1822.5	1759.4
30°	1876.6	1867.6	1816.5	1684.2	1636.0
32.5°	1780.4	1765.4	1711.2	1572.9	1533.8
35°	1681.2	1669.1	1587.9	1467.6	1431.5
37.5°	1581.9	1566.9	1464.6	1368.4	1323.3
40°	1482.7	1464.6	1353.3	1266.1	1218.0
42.5°	1389.4	1365.4	1257.1	1163.9	1109.7
45°	1290.2	1263.1	1154.9	1058.6	1016.5
47.5°	1190.9	1166.9	1067.6	968.4	920.3
50°	1085.7	1064.6	974.4	875.2	824.0
52.5°	998.5	965.4	878.2	778.9	736.8
55°	896.2	869.2	787.9	694.7	658.6
57.5°	803.0	775.9	700.7	613.5	583.4
60°	715.8	676.7	613.5	538.3	514.3
62.5°	619.5	589.5	535.3	472.2	502.2
65°	532.3	502.2	454.1	463.1	385.0
67.5°	436.1	421.0	378.9	336.8	324.8
70°	354.9	336.8	321.8	276.7	264.7
72.5°	282.7	264.7	243.6	219.5	210.5
75°	213.5	198.5	186.5	177.4	195.5
77.5°	147.4	141.3	132.3	123.3	120.3
80°	96.2	93.2	90.2	87.2	84.2
82.5°	57.1	57.1	57.1	57.1	57.1
85°	30.1	33.1	36.1	39.1	42.1
87.5°	18.0	18.0	21.1	24.1	27.1
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)