

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: P546337

Luminaire Tested: **FMR-12-4-LD4-2STD-40-UNV-81-86-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: P546337
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-40-UNV-81-86-EDD
Description: 1X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

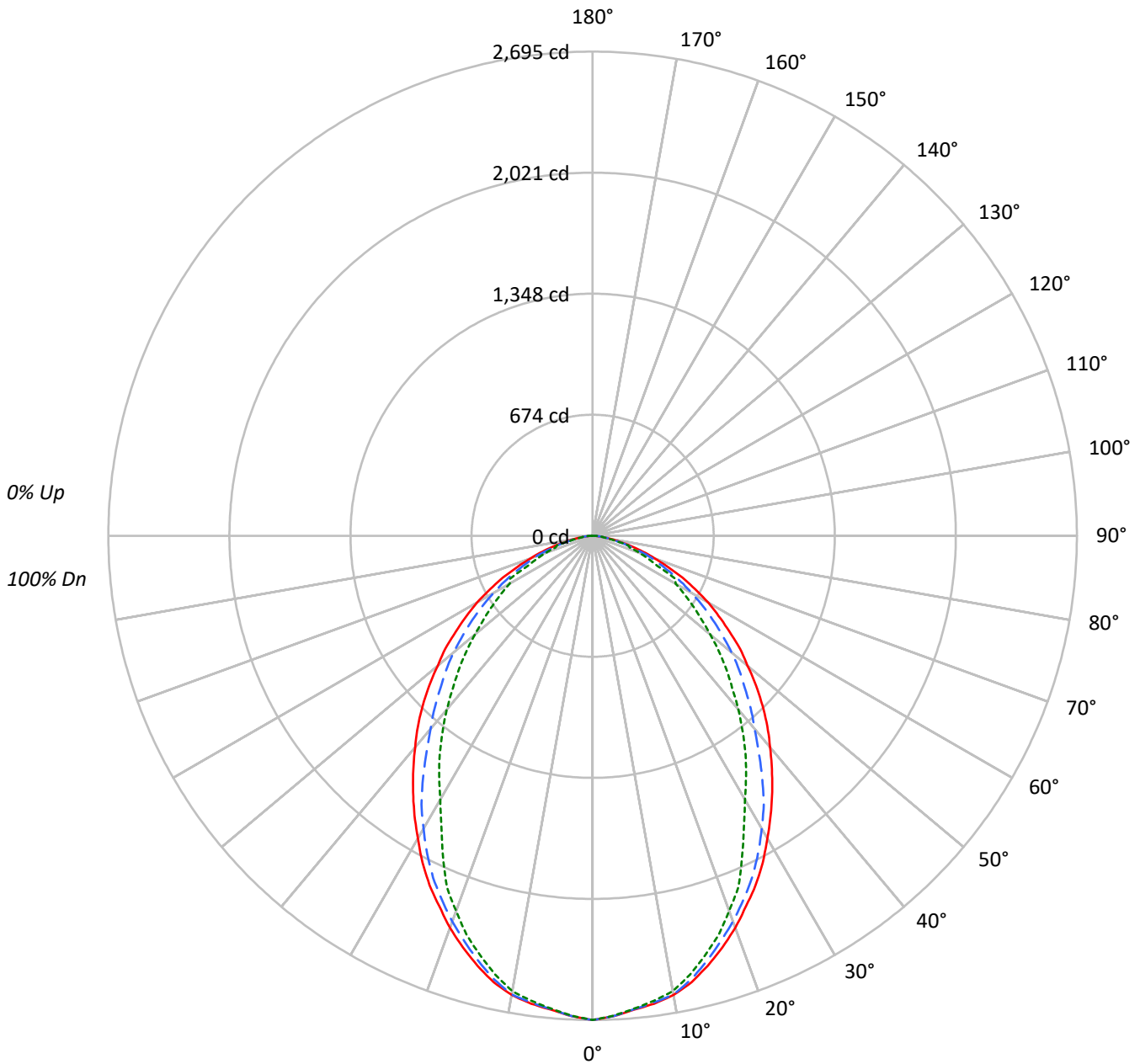
Lumens per Lamp: N/A
Luminaire Lumens: 5291.0 lumens
Efficiency: N/A
Efficacy: 79.4 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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°	7253	7253	7253
5°	7154	7146	7137
10°	7092	7083	7032
15°	6901	6831	6736
20°	6647	6540	6362
25°	6374	6235	5847
30°	6041	5848	5267
35°	5722	5404	4872
40°	5396	4925	4433
45°	5087	4553	4008
50°	4709	4226	3574
55°	4356	3830	3202
60°	3991	3421	2868
65°	3512	2996	2539
70°	2893	2623	2157
75°	2300	2009	2105
80°	1545	1449	1351
85°	963	1155	1346



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	250.9	4.7
10°-20°	688.5	13.0
20°-30°	953.2	18.0
30°-40°	1016.4	19.2
40°-50°	927.3	17.5
50°-60°	726.4	13.7
60°-70°	473.5	8.9
70°-80°	209.8	4.0
80°-90°	45.0	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°	1892.6	35.8
0°-40°	2909.0	55.0
0°-60°	4562.8	86.2
0°-90°	5291.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5291.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2695	2695	2695	2695	2695	
5°	2648	2645	2645	2642	2642	251
15°	2477	2477	2452	2427	2418	696
25°	2147	2134	2100	2025	1969	986
35°	1742	1729	1645	1520	1483	1089
45°	1337	1309	1196	1097	1053	1030
55°	928	900	816	720	682	833
65°	552	520	470	480	399	544
75°	221	206	193	184	202	237
85°	31	34	37	40	44	43
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2695.2	2695.2	2695.2	2695.2	2695.2
2.5°	2676.5	2676.5	2676.5	2673.4	2673.4
5°	2648.4	2645.3	2645.3	2642.2	2642.2
7.5°	2626.6	2623.5	2620.4	2617.3	2611.0
10°	2595.5	2595.5	2592.3	2576.8	2573.6
12.5°	2545.6	2542.5	2530.0	2508.2	2502.0
15°	2477.1	2477.1	2452.1	2427.2	2417.9
17.5°	2402.3	2399.2	2368.0	2343.1	2330.6
20°	2321.3	2315.0	2283.9	2243.4	2221.6
22.5°	2230.9	2230.9	2193.5	2140.6	2118.7
25°	2146.8	2134.3	2100.0	2025.3	1969.2
27.5°	2050.2	2031.5	1994.1	1888.2	1822.7
30°	1944.3	1934.9	1881.9	1744.8	1695.0
32.5°	1844.6	1829.0	1772.9	1629.6	1589.1
35°	1741.7	1729.3	1645.1	1520.5	1483.1
37.5°	1638.9	1623.3	1517.4	1417.7	1371.0
40°	1536.1	1517.4	1402.1	1311.8	1261.9
42.5°	1439.5	1414.6	1302.4	1205.8	1149.7
45°	1336.7	1308.6	1196.5	1096.8	1053.1
47.5°	1233.9	1208.9	1106.1	1003.3	953.4
50°	1124.8	1103.0	1009.5	906.7	853.7
52.5°	1034.4	1000.2	909.8	807.0	763.4
55°	928.5	900.5	816.3	719.7	682.4
57.5°	831.9	803.9	726.0	635.6	604.5
60°	741.6	701.1	635.6	557.7	532.8
62.5°	641.9	610.7	554.6	489.2	520.3
65°	551.5	520.3	470.5	479.8	398.8
67.5°	451.8	436.2	392.6	349.0	336.5
70°	367.7	349.0	333.4	286.7	274.2
72.5°	292.9	274.2	252.4	227.5	218.1
75°	221.2	205.6	193.2	183.8	202.5
77.5°	152.7	146.4	137.1	127.7	124.6
80°	99.7	96.6	93.5	90.4	87.2
82.5°	59.2	59.2	59.2	59.2	59.2
85°	31.2	34.3	37.4	40.5	43.6
87.5°	18.7	18.7	21.8	24.9	28.0
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)