

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: P547303

Luminaire Tested: **FMR-24-4-LD4-4HI-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: P547303
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-LD4-4HI-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

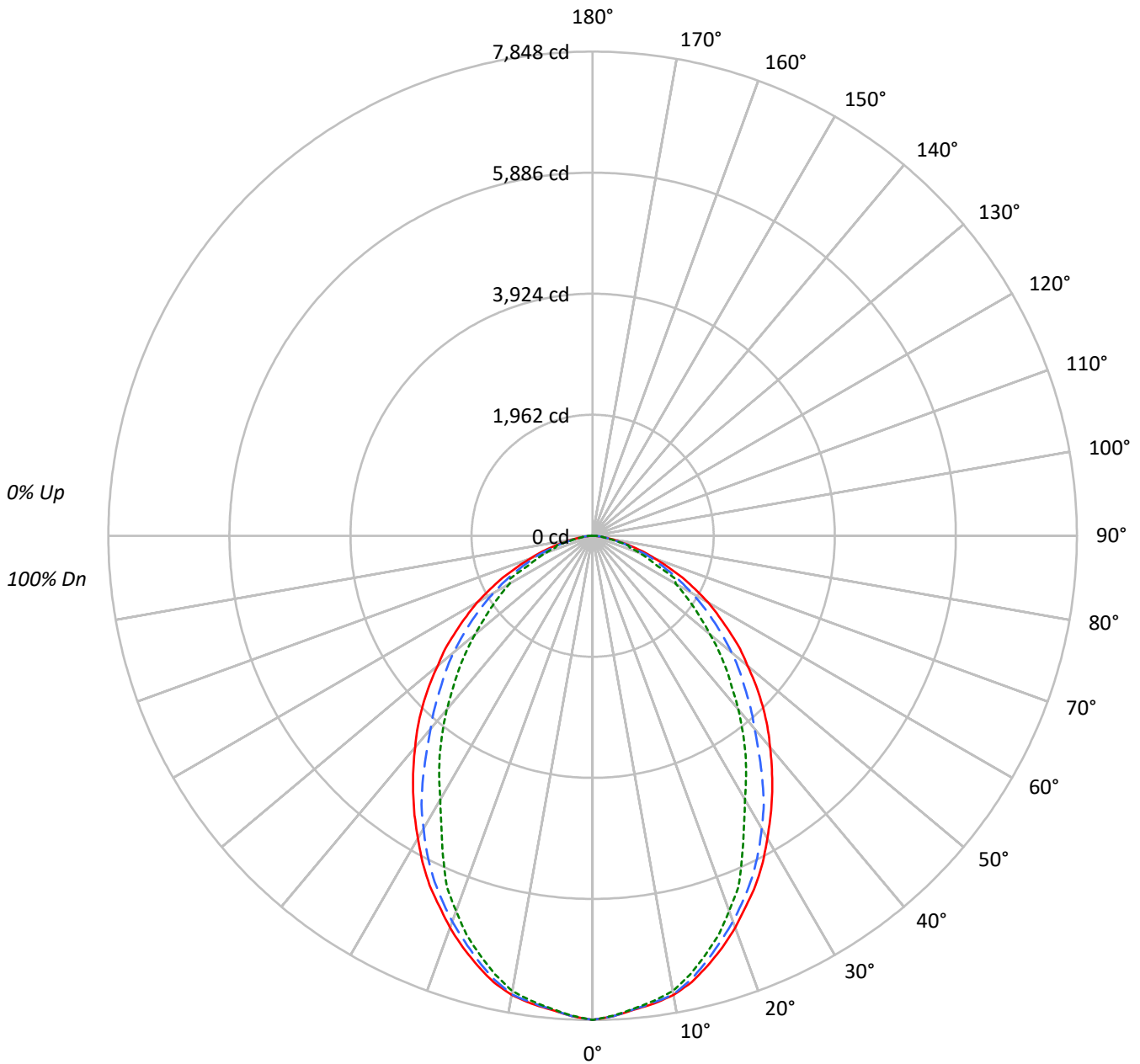
Lumens per Lamp: N/A
Luminaire Lumens: 15406.0 lumens
Efficiency: N/A
Efficacy: 89.2 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 172.8
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

TEST NUMBER: P547303

CATALOG NUMBER: FMR-24-4-LD4-4HI-40-UNV-82-84-EDD

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°	10559	10559	10559
5°	10415	10403	10391
10°	10325	10313	10238
15°	10047	9946	9807
20°	9678	9522	9262
25°	9280	9078	8512
30°	8795	8513	7668
35°	8330	7868	7093
40°	7856	7171	6454
45°	7406	6629	5835
50°	6855	6153	5203
55°	6342	5576	4661
60°	5810	4980	4175
65°	5112	4361	3697
70°	4211	3819	3141
75°	3348	2924	3066
80°	2249	2109	1968
85°	1400	1681	1961



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	730.5	4.7
10°-20°	2004.8	13.0
20°-30°	2775.5	18.0
30°-40°	2959.5	19.2
40°-50°	2700.0	17.5
50°-60°	2115.2	13.7
60°-70°	1378.6	8.9
70°-80°	610.8	4.0
80°-90°	131.1	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°	5510.8	35.8
0°-40°	8470.4	55.0
0°-60°	13285.5	86.2
0°-90°	15406.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	15406.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	7848	7848	7848	7848	7848	
5°	7712	7702	7702	7693	7693	732
15°	7212	7212	7140	7067	7040	2028
25°	6251	6215	6115	5897	5734	2870
35°	5072	5035	4790	4427	4318	3171
45°	3892	3810	3484	3194	3066	2998
55°	2704	2622	2377	2096	1987	2425
65°	1606	1515	1370	1397	1161	1583
75°	644	599	562	535	590	690
85°	91	100	109	118	127	126
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	7847.6	7847.6	7847.6	7847.6	7847.6
2.5°	7793.2	7793.2	7793.2	7784.1	7784.1
5°	7711.5	7702.5	7702.5	7693.4	7693.4
7.5°	7648.0	7638.9	7629.9	7620.8	7602.7
10°	7557.3	7557.3	7548.2	7502.9	7493.8
12.5°	7412.1	7403.1	7366.8	7303.3	7285.1
15°	7212.5	7212.5	7140.0	7067.4	7040.2
17.5°	6994.8	6985.7	6895.0	6822.4	6786.1
20°	6758.9	6740.8	6650.1	6532.1	6468.6
22.5°	6495.8	6495.8	6387.0	6232.7	6169.2
25°	6250.9	6214.6	6114.8	5897.0	5733.7
27.5°	5969.6	5915.2	5806.3	5497.9	5307.3
30°	5661.2	5633.9	5479.7	5080.5	4935.4
32.5°	5370.9	5325.5	5162.2	4744.9	4626.9
35°	5071.5	5035.2	4790.2	4427.3	4318.5
37.5°	4772.1	4726.7	4418.3	4127.9	3991.8
40°	4472.7	4418.3	4082.6	3819.5	3674.3
42.5°	4191.4	4118.9	3792.3	3511.0	3347.7
45°	3892.1	3810.4	3483.8	3193.5	3066.5
47.5°	3592.7	3520.1	3220.7	2921.3	2776.1
50°	3275.1	3211.6	2939.5	2640.1	2485.8
52.5°	3012.0	2912.2	2649.1	2349.7	2222.7
55°	2703.6	2621.9	2377.0	2095.7	1986.9
57.5°	2422.3	2340.7	2113.9	1850.8	1760.0
60°	2159.2	2041.3	1850.8	1624.0	1551.4
62.5°	1868.9	1778.2	1614.9	1424.4	1515.1
65°	1605.8	1515.1	1369.9	1397.1	1161.3
67.5°	1315.5	1270.1	1143.1	1016.1	979.8
70°	1070.5	1016.1	970.7	834.7	798.4
72.5°	852.8	798.4	734.9	662.3	635.1
75°	644.1	598.8	562.5	535.3	589.7
77.5°	444.5	426.4	399.2	372.0	362.9
80°	290.3	281.2	272.2	263.1	254.0
82.5°	172.4	172.4	172.4	172.4	172.4
85°	90.7	99.8	108.9	117.9	127.0
87.5°	54.4	54.4	63.5	72.6	81.7
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)