

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: P547506

Luminaire Tested: **FMR-24-4-LD4-4STD-40-UNV-93-87-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: P547506
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-LD4-4STD-40-UNV-93-87-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

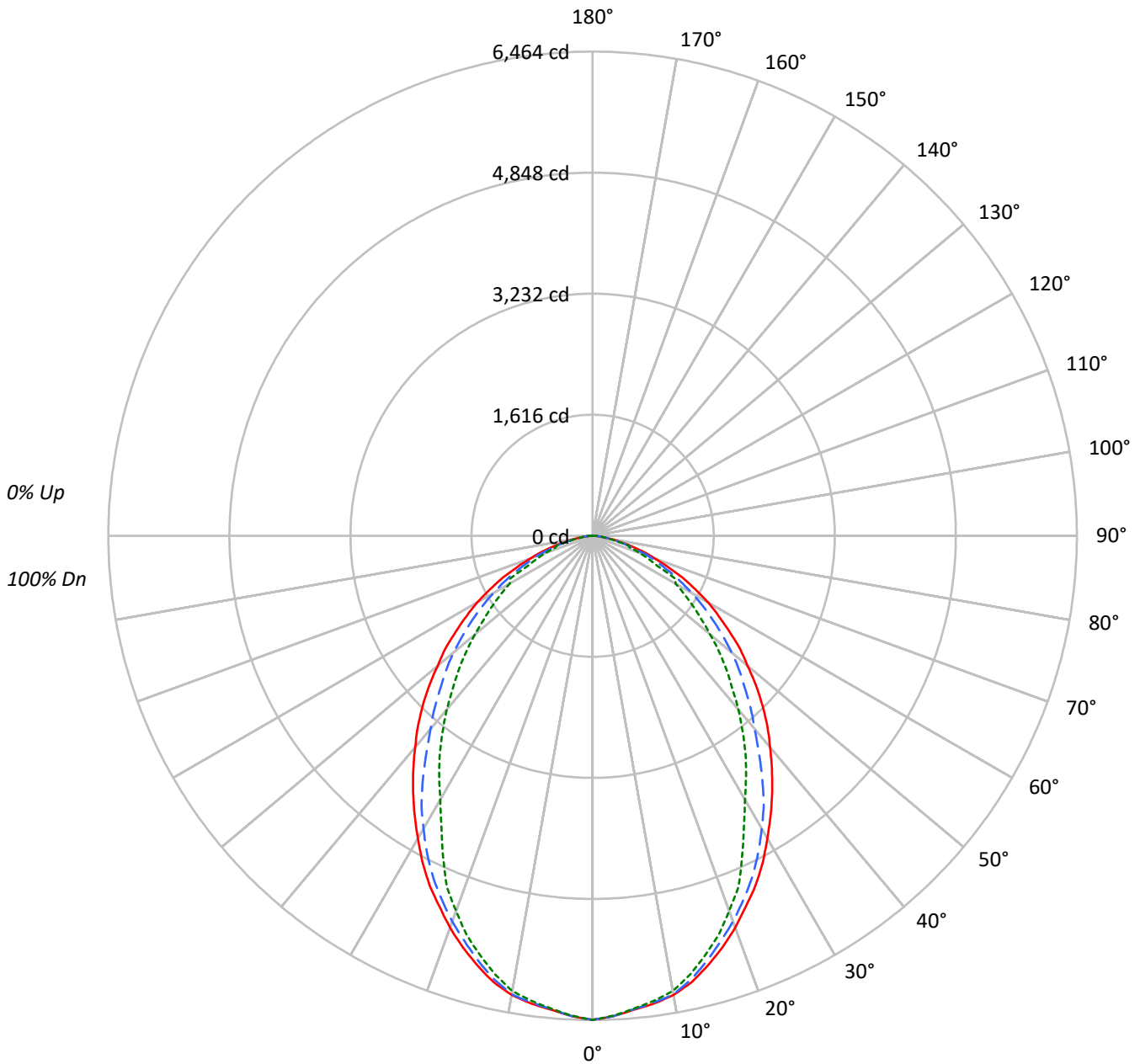
Lumens per Lamp: N/A
Luminaire Lumens: 12689.0 lumens
Efficiency: N/A
Efficacy: 95.3 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 133.2
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°	8697	8697	8697
5°	8579	8568	8558
10°	8504	8494	8433
15°	8275	8192	8077
20°	7971	7843	7629
25°	7643	7477	7011
30°	7244	7012	6316
35°	6861	6480	5842
40°	6470	5906	5315
45°	6100	5460	4806
50°	5646	5068	4286
55°	5224	4593	3839
60°	4786	4102	3439
65°	4211	3592	3045
70°	3469	3145	2587
75°	2758	2408	2525
80°	1853	1737	1621
85°	1153	1385	1615



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	601.7	4.7
10°-20°	1651.2	13.0
20°-30°	2286.0	18.0
30°-40°	2437.6	19.2
40°-50°	2223.8	17.5
50°-60°	1742.2	13.7
60°-70°	1135.5	8.9
70°-80°	503.1	4.0
80°-90°	108.0	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°	4539.0	35.8
0°-40°	6976.5	55.0
0°-60°	10942.5	86.2
0°-90°	12689.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	12689.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	6464	6464	6464	6464	6464	
5°	6352	6344	6344	6337	6337	603
15°	5940	5940	5881	5821	5799	1670
25°	5148	5119	5036	4857	4722	2364
35°	4177	4147	3945	3646	3557	2611
45°	3206	3138	2869	2630	2526	2469
55°	2227	2160	1958	1726	1636	1997
65°	1323	1248	1128	1151	956	1303
75°	530	493	463	441	486	569
85°	75	82	90	97	105	104
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	6463.6	6463.6	6463.6	6463.6	6463.6
2.5°	6418.8	6418.8	6418.8	6411.3	6411.3
5°	6351.5	6344.0	6344.0	6336.6	6336.6
7.5°	6299.2	6291.7	6284.3	6276.8	6261.9
10°	6224.5	6224.5	6217.0	6179.7	6172.2
12.5°	6104.9	6097.5	6067.6	6015.3	6000.3
15°	5940.5	5940.5	5880.8	5821.0	5798.6
17.5°	5761.2	5753.7	5679.0	5619.2	5589.3
20°	5566.9	5552.0	5477.3	5380.1	5327.8
22.5°	5350.2	5350.2	5260.6	5133.5	5081.2
25°	5148.5	5118.6	5036.4	4857.0	4722.5
27.5°	4916.8	4872.0	4782.3	4528.3	4371.3
30°	4662.8	4640.3	4513.3	4184.5	4065.0
32.5°	4423.6	4386.3	4251.8	3908.1	3810.9
35°	4177.1	4147.2	3945.4	3646.5	3556.9
37.5°	3930.5	3893.1	3639.0	3399.9	3287.8
40°	3683.9	3639.0	3362.6	3145.9	3026.3
42.5°	3452.2	3392.5	3123.5	2891.8	2757.3
45°	3205.7	3138.4	2869.4	2630.3	2525.7
47.5°	2959.1	2899.3	2652.7	2406.1	2286.5
50°	2697.5	2645.2	2421.1	2174.5	2047.4
52.5°	2480.8	2398.6	2181.9	1935.3	1830.7
55°	2226.8	2159.5	1957.8	1726.1	1636.5
57.5°	1995.1	1927.9	1741.1	1524.4	1449.6
60°	1778.4	1681.3	1524.4	1337.6	1277.8
62.5°	1539.3	1464.6	1330.1	1173.2	1247.9
65°	1322.6	1247.9	1128.3	1150.7	956.5
67.5°	1083.5	1046.1	941.5	836.9	807.0
70°	881.7	836.9	799.5	687.5	657.6
72.5°	702.4	657.6	605.3	545.5	523.1
75°	530.5	493.2	463.3	440.9	485.7
77.5°	366.1	351.2	328.8	306.4	298.9
80°	239.1	231.6	224.2	216.7	209.2
82.5°	142.0	142.0	142.0	142.0	142.0
85°	74.7	82.2	89.7	97.1	104.6
87.5°	44.8	44.8	52.3	59.8	67.3
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)