

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: P547177

Luminaire Tested: **FMR-24-4-LD4-3STD-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: P547177
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-LD4-3STD-35-UNV-82-86-EDD
Description: 2X4 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

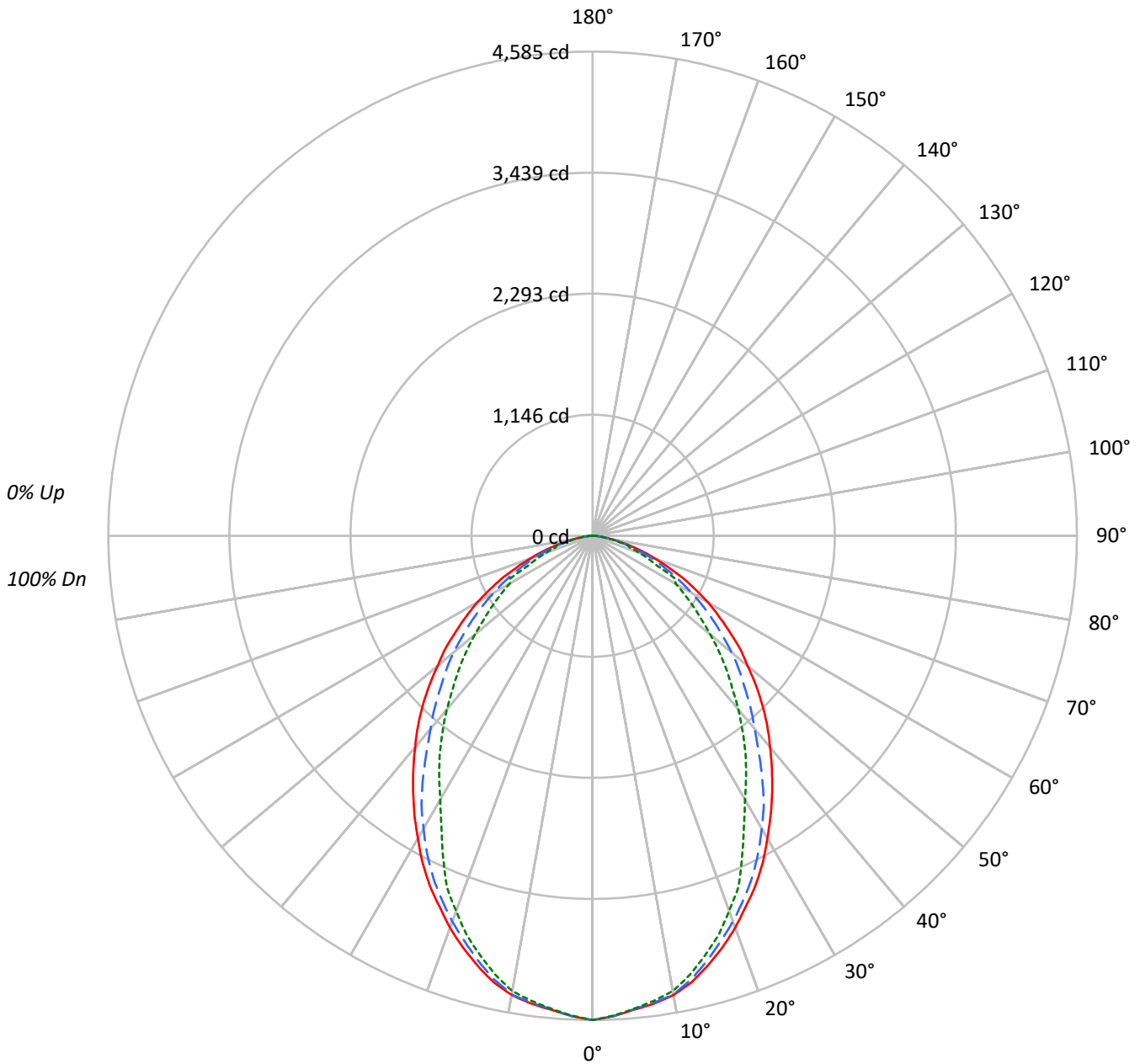
Lumens per Lamp: N/A
Luminaire Lumens: 9001.0 lumens
Efficiency: N/A
Efficacy: 90.1 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 99.9
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				20				20	
RC	80				70				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				100
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87				87
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75				75
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65				65
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56				56
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50				50
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44				44
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40				40
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36				36
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33				33
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30				30

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	6169	6169	6169
5°	6085	6078	6071
10°	6033	6025	5982
15°	5870	5811	5729
20°	5654	5563	5411
25°	5422	5304	4973
30°	5139	4974	4480
35°	4867	4597	4144
40°	4590	4190	3770
45°	4327	3873	3409
50°	4005	3595	3040
55°	3705	3258	2723
60°	3395	2910	2439
65°	2987	2548	2160
70°	2461	2231	1835
75°	1956	1708	1791
80°	1314	1232	1150
85°	818	982	1145



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	426.8	4.7
10°-20°	1171.3	13.0
20°-30°	1621.6	18.0
30°-40°	1729.1	19.2
40°-50°	1577.5	17.5
50°-60°	1235.8	13.7
60°-70°	805.5	8.9
70°-80°	356.8	4.0
80°-90°	76.6	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°	3219.7	35.8
0°-40°	4948.8	55.0
0°-60°	7762.1	86.2
0°-90°	9001.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9001.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4585	4585	4585	4585	4585	
5°	4506	4500	4500	4495	4495	428
15°	4214	4214	4172	4129	4113	1185
25°	3652	3631	3573	3445	3350	1677
35°	2963	2942	2799	2587	2523	1852
45°	2274	2226	2035	1866	1792	1752
55°	1580	1532	1389	1224	1161	1417
65°	938	885	800	816	678	925
75°	376	350	329	313	344	403
85°	53	58	64	69	74	74
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4585.0	4585.0	4585.0	4585.0	4585.0
2.5°	4553.2	4553.2	4553.2	4547.9	4547.9
5°	4505.5	4500.2	4500.2	4494.9	4494.9
7.5°	4468.4	4463.1	4457.8	4452.5	4441.9
10°	4415.4	4415.4	4410.1	4383.6	4378.3
12.5°	4330.6	4325.3	4304.1	4267.0	4256.4
15°	4213.9	4213.9	4171.5	4129.1	4113.2
17.5°	4086.7	4081.4	4028.4	3986.0	3964.8
20°	3948.9	3938.3	3885.3	3816.4	3779.3
22.5°	3795.2	3795.2	3731.6	3641.5	3604.4
25°	3652.1	3630.9	3572.6	3445.4	3350.0
27.5°	3487.8	3456.0	3392.4	3212.1	3100.8
30°	3307.6	3291.7	3201.5	2968.3	2883.5
32.5°	3137.9	3111.4	3016.0	2772.2	2703.3
35°	2963.0	2941.8	2798.7	2586.7	2523.1
37.5°	2788.1	2761.6	2581.4	2411.8	2332.2
40°	2613.2	2581.4	2385.3	2231.5	2146.7
42.5°	2448.9	2406.5	2215.6	2051.3	1955.9
45°	2273.9	2226.2	2035.4	1865.8	1791.6
47.5°	2099.0	2056.6	1881.7	1706.8	1622.0
50°	1913.5	1876.4	1717.4	1542.5	1452.4
52.5°	1759.8	1701.5	1547.8	1372.8	1298.6
55°	1579.6	1531.9	1388.7	1224.4	1160.8
57.5°	1415.3	1367.5	1235.0	1081.3	1028.3
60°	1261.5	1192.6	1081.3	948.8	906.4
62.5°	1091.9	1038.9	943.5	832.2	885.2
65°	938.2	885.2	800.4	816.3	678.5
67.5°	768.6	742.1	667.9	593.7	572.5
70°	625.5	593.7	567.2	487.7	466.4
72.5°	498.3	466.4	429.3	386.9	371.0
75°	376.3	349.8	328.6	312.7	344.5
77.5°	259.7	249.1	233.2	217.3	212.0
80°	169.6	164.3	159.0	153.7	148.4
82.5°	100.7	100.7	100.7	100.7	100.7
85°	53.0	58.3	63.6	68.9	74.2
87.5°	31.8	31.8	37.1	42.4	47.7
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)