

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: P547215

Luminaire Tested: **FMR-24-4-LD4-3STD-40-UNV-93-84-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: P547215  
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-40-UNV-93-84-EDD  
Description: 2X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS 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**

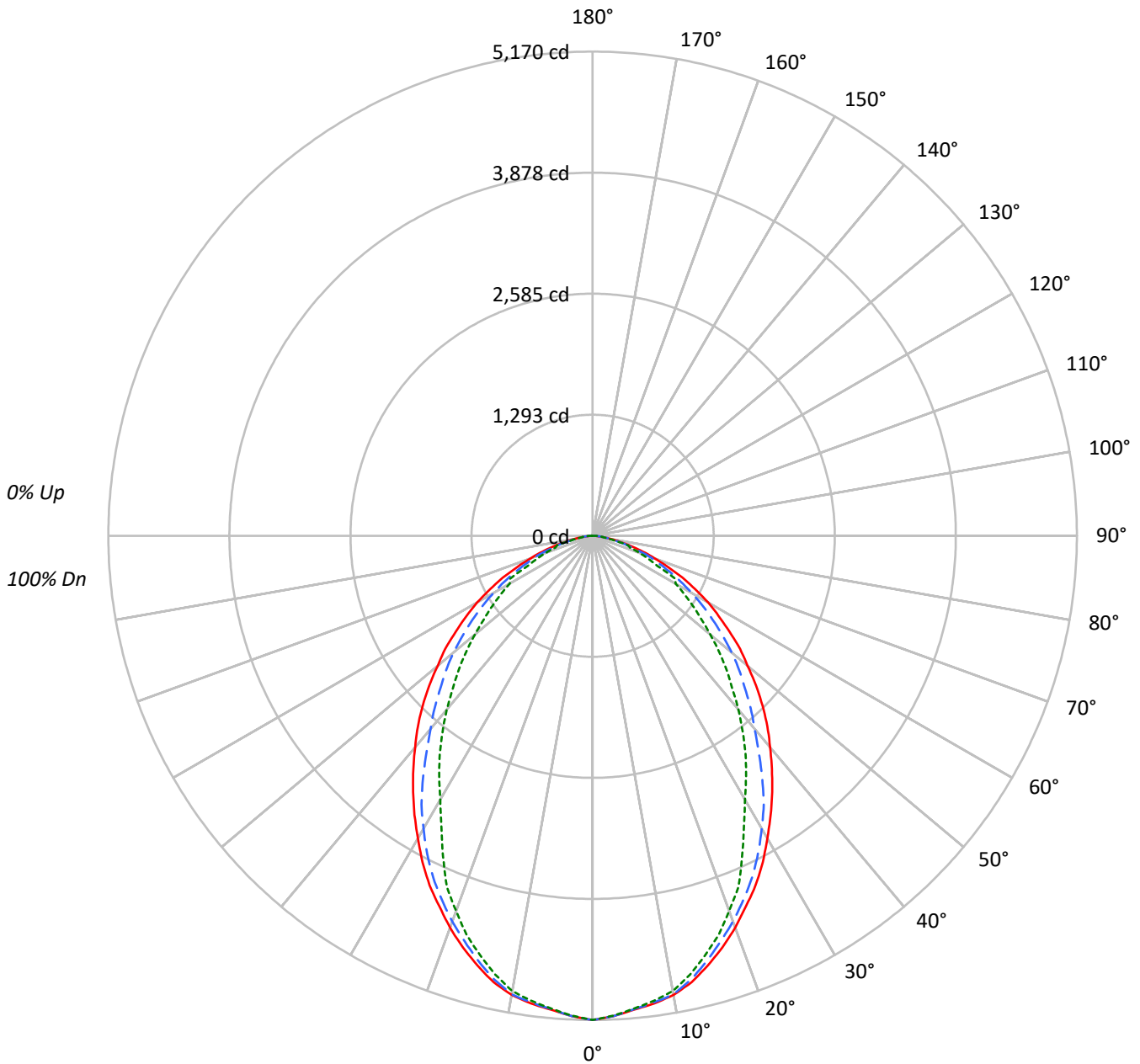
Lumens per Lamp: N/A  
Luminaire Lumens: 10149.0 lumens  
Efficiency: N/A  
Efficacy: 101.6 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

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									
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°	6956	6956	6956
5°	6861	6853	6845
10°	6802	6794	6745
15°	6618	6552	6460
20°	6375	6273	6101
25°	6113	5980	5608
30°	5794	5608	5051
35°	5488	5183	4673
40°	5175	4724	4251
45°	4879	4367	3844
50°	4516	4053	3428
55°	4178	3673	3070
60°	3828	3281	2750
65°	3368	2873	2436
70°	2774	2516	2069
75°	2206	1926	2020
80°	1482	1389	1296
85°	923	1107	1292



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	481.2	4.7
10°-20°	1320.7	13.0
20°-30°	1828.4	18.0
30°-40°	1949.6	19.2
40°-50°	1778.6	17.5
50°-60°	1393.4	13.7
60°-70°	908.2	8.9
70°-80°	402.4	4.0
80°-90°	86.4	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°	3630.4	35.8
0°-40°	5580.0	55.0
0°-60°	8752.1	86.2
0°-90°	10149.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	10149.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	5170	5170	5170	5170	5170	
5°	5080	5074	5074	5068	5068	482
15°	4751	4751	4704	4656	4638	1336
25°	4118	4094	4028	3885	3777	1891
35°	3341	3317	3156	2917	2845	2089
45°	2564	2510	2295	2104	2020	1975
55°	1781	1727	1566	1381	1309	1597
65°	1058	998	902	920	765	1043
75°	424	394	370	353	388	455
85°	60	66	72	78	84	83
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	5169.8	5169.8	5169.8	5169.8	5169.8
2.5°	5133.9	5133.9	5133.9	5127.9	5127.9
5°	5080.1	5074.1	5074.1	5068.2	5068.2
7.5°	5038.3	5032.3	5026.3	5020.3	5008.4
10°	4978.5	4978.5	4972.5	4942.7	4936.7
12.5°	4882.9	4876.9	4853.0	4811.2	4799.2
15°	4751.4	4751.4	4703.6	4655.8	4637.8
17.5°	4608.0	4602.0	4542.2	4494.4	4470.5
20°	4452.6	4440.6	4380.9	4303.2	4261.3
22.5°	4279.3	4279.3	4207.5	4105.9	4064.1
25°	4117.9	4094.0	4028.2	3884.8	3777.2
27.5°	3932.6	3896.7	3825.0	3621.8	3496.3
30°	3729.4	3711.5	3609.9	3346.9	3251.3
32.5°	3538.2	3508.3	3400.7	3125.8	3048.1
35°	3340.9	3317.0	3155.6	2916.6	2844.9
37.5°	3143.7	3113.8	2910.6	2719.4	2629.7
40°	2946.5	2910.6	2689.5	2516.2	2420.5
42.5°	2761.2	2713.4	2498.2	2312.9	2205.4
45°	2564.0	2510.2	2295.0	2103.8	2020.1
47.5°	2366.7	2318.9	2121.7	1924.5	1828.8
50°	2157.6	2115.7	1936.4	1739.2	1637.6
52.5°	1984.2	1918.5	1745.2	1547.9	1464.3
55°	1781.0	1727.2	1565.9	1380.6	1308.9
57.5°	1595.8	1542.0	1392.5	1219.2	1159.5
60°	1422.4	1344.7	1219.2	1069.8	1022.0
62.5°	1231.2	1171.4	1063.8	938.3	998.1
65°	1057.9	998.1	902.5	920.4	765.0
67.5°	866.6	836.7	753.1	669.4	645.5
70°	705.2	669.4	639.5	549.8	525.9
72.5°	561.8	525.9	484.1	436.3	418.4
75°	424.3	394.5	370.5	352.6	388.5
77.5°	292.9	280.9	263.0	245.0	239.1
80°	191.3	185.3	179.3	173.3	167.3
82.5°	113.6	113.6	113.6	113.6	113.6
85°	59.8	65.7	71.7	77.7	83.7
87.5°	35.9	35.9	41.8	47.8	53.8
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)