

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: P547354

Luminaire Tested: **FMR-24-4-LD4-4LO-35-UNV-80-87-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: P547354  
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-LD4-4LO-35-UNV-80-87-EDD  
Description: 2X4 FMR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

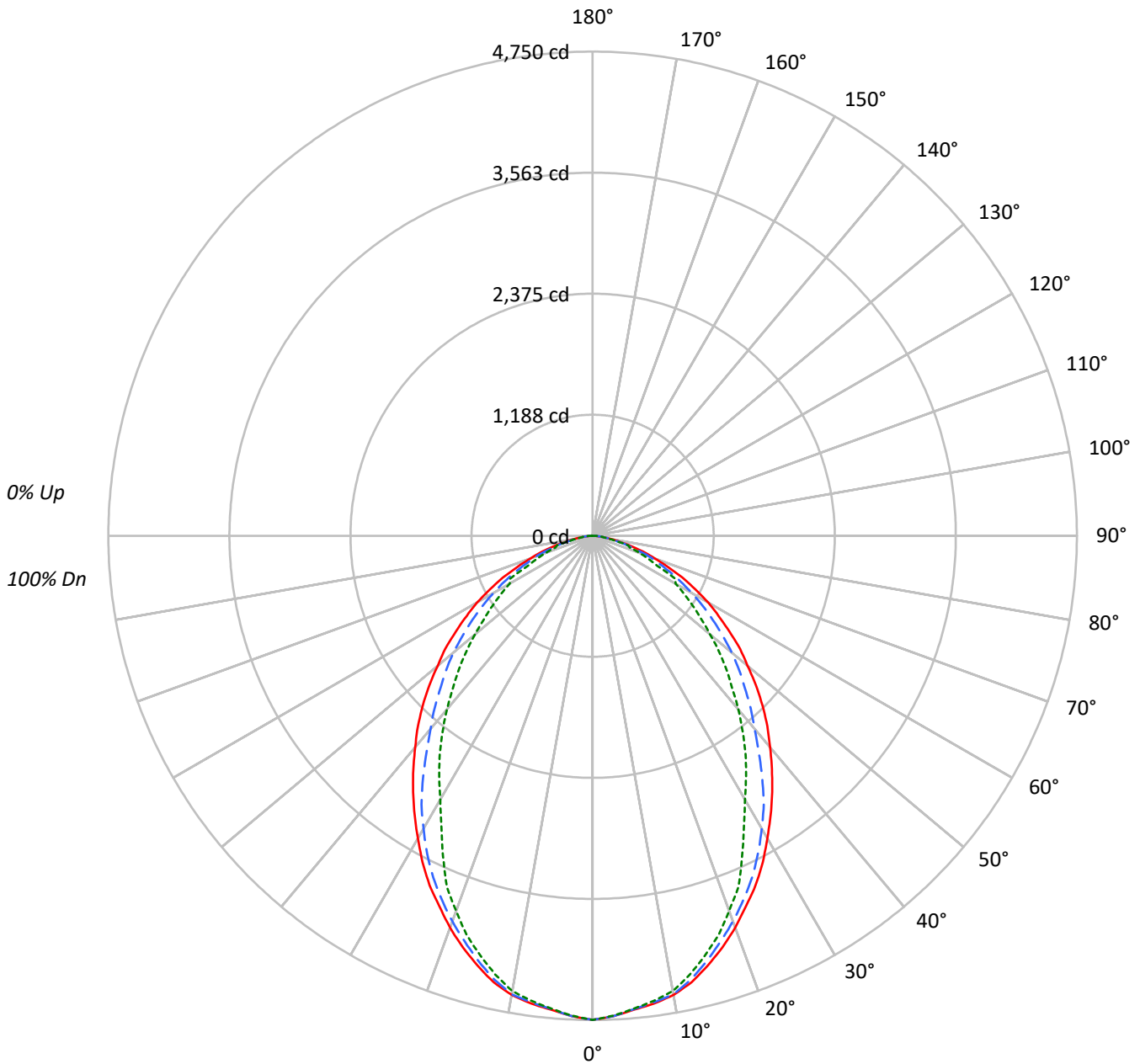
Lumens per Lamp: N/A  
Luminaire Lumens: 9324.0 lumens  
Efficiency: N/A  
Efficacy: 99.6 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 93.6  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): 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				
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	100	100
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87	87	87	87
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75	75	75	75
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65	65	65	65
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56	56	56	56
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50	50	50	50
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44	44	44	44
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40	40	40	40
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36	36	36	36
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33	33	33	33
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30	30	30	30

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	6390	6390	6390
5°	6304	6296	6289
10°	6249	6241	6196
15°	6081	6019	5935
20°	5857	5763	5606
25°	5616	5494	5152
30°	5323	5152	4641
35°	5041	4762	4293
40°	4755	4340	3906
45°	4482	4012	3531
50°	4149	3724	3149
55°	3838	3375	2821
60°	3517	3014	2527
65°	3094	2640	2238
70°	2549	2311	1901
75°	2026	1770	1855
80°	1361	1276	1191
85°	848	1017	1187



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	442.1	4.7
10°-20°	1213.4	13.0
20°-30°	1679.8	18.0
30°-40°	1791.2	19.2
40°-50°	1634.1	17.5
50°-60°	1280.1	13.7
60°-70°	834.4	8.9
70°-80°	369.6	4.0
80°-90°	79.3	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°	3335.3	35.8
0°-40°	5126.4	55.0
0°-60°	8040.6	86.2
0°-90°	9324.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9324.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	4750	4750	4750	4750	4750	
5°	4667	4662	4662	4656	4656	443
15°	4365	4365	4321	4277	4261	1227
25°	3783	3761	3701	3569	3470	1737
35°	3069	3047	2899	2680	2614	1919
45°	2356	2306	2108	1933	1856	1814
55°	1636	1587	1439	1268	1202	1468
65°	972	917	829	846	703	958
75°	390	362	340	324	357	418
85°	55	60	66	71	77	76
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	4749.5	4749.5	4749.5	4749.5	4749.5
2.5°	4716.6	4716.6	4716.6	4711.1	4711.1
5°	4667.2	4661.7	4661.7	4656.2	4656.2
7.5°	4628.7	4623.2	4617.7	4612.3	4601.3
10°	4573.8	4573.8	4568.3	4540.9	4535.4
12.5°	4486.0	4480.5	4458.5	4420.1	4409.1
15°	4365.2	4365.2	4321.2	4277.3	4260.8
17.5°	4233.4	4227.9	4173.0	4129.1	4107.1
20°	4090.6	4079.6	4024.7	3953.4	3914.9
22.5°	3931.4	3931.4	3865.5	3772.2	3733.7
25°	3783.1	3761.2	3700.8	3569.0	3470.2
27.5°	3612.9	3580.0	3514.1	3327.4	3212.1
30°	3426.2	3409.8	3316.4	3074.8	2987.0
32.5°	3250.5	3223.1	3124.3	2871.7	2800.3
35°	3069.3	3047.4	2899.1	2679.5	2613.6
37.5°	2888.1	2860.7	2674.0	2498.3	2415.9
40°	2707.0	2674.0	2470.8	2311.6	2223.8
42.5°	2536.7	2492.8	2295.1	2124.9	2026.1
45°	2355.5	2306.1	2108.5	1932.8	1855.9
47.5°	2174.3	2130.4	1949.2	1768.0	1680.2
50°	1982.2	1943.7	1779.0	1597.8	1504.5
52.5°	1822.9	1762.5	1603.3	1422.1	1345.2
55°	1636.3	1586.8	1438.6	1268.4	1202.5
57.5°	1466.0	1416.6	1279.4	1120.1	1065.2
60°	1306.8	1235.4	1120.1	982.8	938.9
62.5°	1131.1	1076.2	977.4	862.1	917.0
65°	971.9	917.0	829.1	845.6	702.8
67.5°	796.2	768.7	691.8	615.0	593.0
70°	647.9	615.0	587.5	505.2	483.2
72.5°	516.1	483.2	444.8	400.8	384.4
75°	389.8	362.4	340.4	324.0	356.9
77.5°	269.0	258.1	241.6	225.1	219.6
80°	175.7	170.2	164.7	159.2	153.7
82.5°	104.3	104.3	104.3	104.3	104.3
85°	54.9	60.4	65.9	71.4	76.9
87.5°	32.9	32.9	38.4	43.9	49.4
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)