

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: P546971

Luminaire Tested: **FMR-24-4-LD4-3HI-35-UNV-80-88-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: P546971  
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-LD4-3HI-35-UNV-80-88-EDD  
Description: 2X4 FMR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

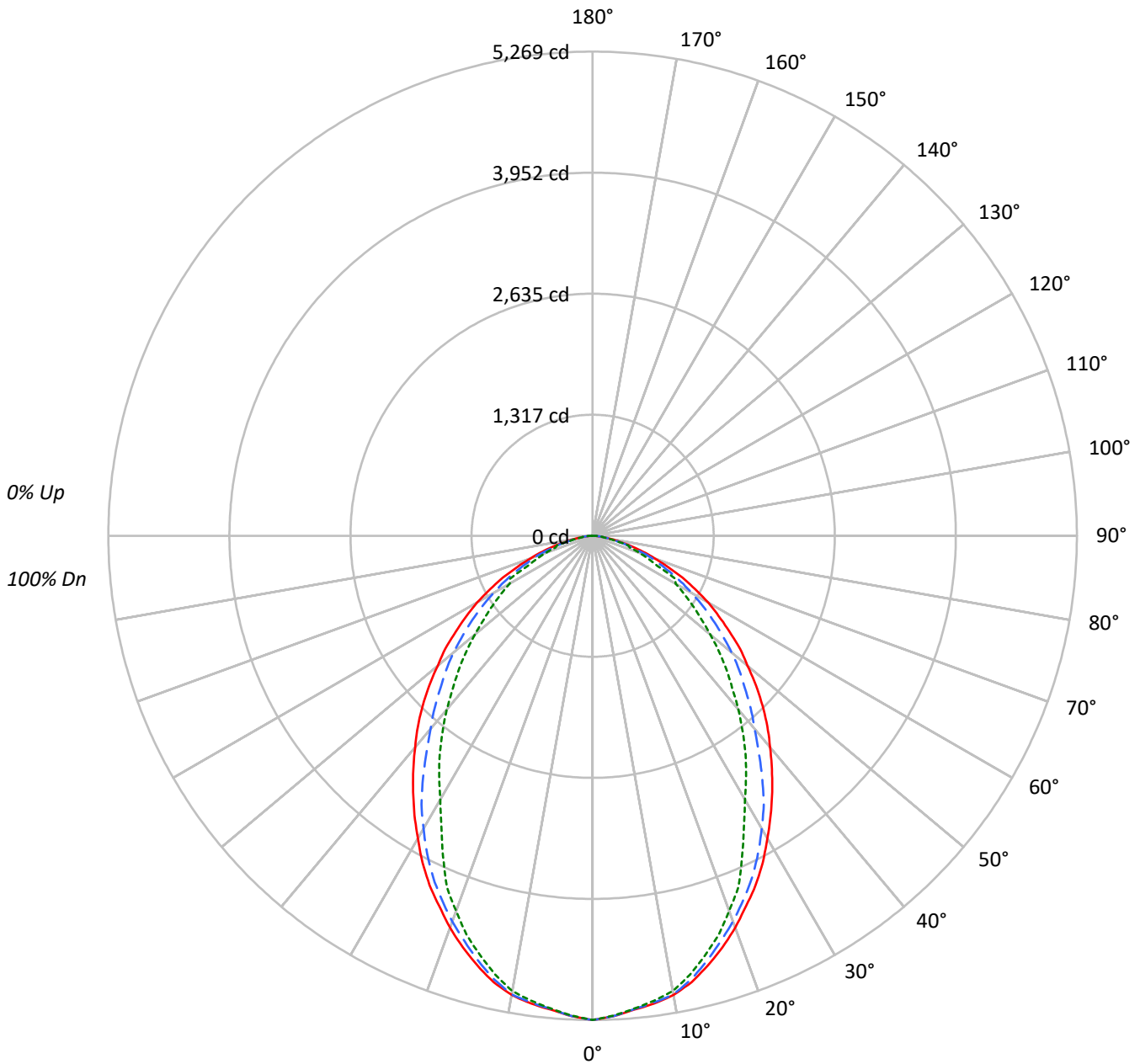
Lumens per Lamp: N/A  
Luminaire Lumens: 10344.0 lumens  
Efficiency: N/A  
Efficacy: 79.8 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 129.6  
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				
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°	7090	7090	7090
5°	6993	6985	6977
10°	6933	6924	6874
15°	6746	6678	6584
20°	6498	6393	6219
25°	6231	6095	5715
30°	5906	5716	5148
35°	5593	5283	4763
40°	5275	4814	4333
45°	4972	4451	3918
50°	4603	4131	3494
55°	4258	3744	3129
60°	3901	3344	2803
65°	3433	2928	2482
70°	2828	2564	2109
75°	2248	1964	2058
80°	1510	1416	1322
85°	940	1129	1317



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	490.5	4.7
10°-20°	1346.1	13.0
20°-30°	1863.6	18.0
30°-40°	1987.1	19.2
40°-50°	1812.8	17.5
50°-60°	1420.2	13.7
60°-70°	925.6	8.9
70°-80°	410.1	4.0
80°-90°	88.0	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°	3700.1	35.8
0°-40°	5687.2	55.0
0°-60°	8920.2	86.2
0°-90°	10344.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	10344.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	5269	5269	5269	5269	5269	
5°	5178	5172	5172	5166	5166	491
15°	4843	4843	4794	4745	4727	1361
25°	4197	4173	4106	3959	3850	1927
35°	3405	3381	3216	2973	2900	2129
45°	2613	2558	2339	2144	2059	2013
55°	1815	1760	1596	1407	1334	1628
65°	1078	1017	920	938	780	1063
75°	432	402	378	359	396	464
85°	61	67	73	79	85	84
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	5269.1	5269.1	5269.1	5269.1	5269.1
2.5°	5232.5	5232.5	5232.5	5226.5	5226.5
5°	5177.7	5171.6	5171.6	5165.5	5165.5
7.5°	5135.1	5129.0	5122.9	5116.8	5104.6
10°	5074.2	5074.2	5068.1	5037.6	5031.5
12.5°	4976.7	4970.6	4946.2	4903.6	4891.4
15°	4842.7	4842.7	4794.0	4745.2	4727.0
17.5°	4696.5	4690.4	4629.5	4580.8	4556.4
20°	4538.1	4525.9	4465.0	4385.8	4343.2
22.5°	4361.5	4361.5	4288.4	4184.8	4142.2
25°	4197.0	4172.6	4105.6	3959.4	3849.8
27.5°	4008.2	3971.6	3898.5	3691.4	3563.5
30°	3801.1	3782.8	3679.2	3411.2	3313.7
32.5°	3606.1	3575.7	3466.0	3185.8	3106.6
35°	3405.1	3380.7	3216.3	2972.6	2899.5
37.5°	3204.1	3173.6	2966.5	2771.6	2680.2
40°	3003.1	2966.5	2741.1	2564.5	2467.0
42.5°	2814.2	2765.5	2546.2	2357.4	2247.7
45°	2613.2	2558.4	2339.1	2144.2	2058.9
47.5°	2412.2	2363.5	2162.5	1961.4	1864.0
50°	2199.0	2156.4	1973.6	1772.6	1669.1
52.5°	2022.4	1955.4	1778.7	1577.7	1492.4
55°	1815.2	1760.4	1596.0	1407.1	1334.0
57.5°	1626.4	1571.6	1419.3	1242.7	1181.7
60°	1449.8	1370.6	1242.7	1090.4	1041.6
62.5°	1254.8	1193.9	1084.3	956.4	1017.3
65°	1078.2	1017.3	919.8	938.1	779.7
67.5°	883.3	852.8	767.5	682.2	657.9
70°	718.8	682.2	651.8	560.4	536.0
72.5°	572.6	536.0	493.4	444.7	426.4
75°	432.5	402.0	377.7	359.4	395.9
77.5°	298.5	286.3	268.0	249.7	243.7
80°	194.9	188.8	182.7	176.7	170.6
82.5°	115.7	115.7	115.7	115.7	115.7
85°	60.9	67.0	73.1	79.2	85.3
87.5°	36.5	36.5	42.6	48.7	54.8
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)