

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: P547284

Luminaire Tested: **FMR-24-4-LD4-4HI-35-UNV-93-94-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: P547284
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-LD4-4HI-35-UNV-93-94-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187
CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT
LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

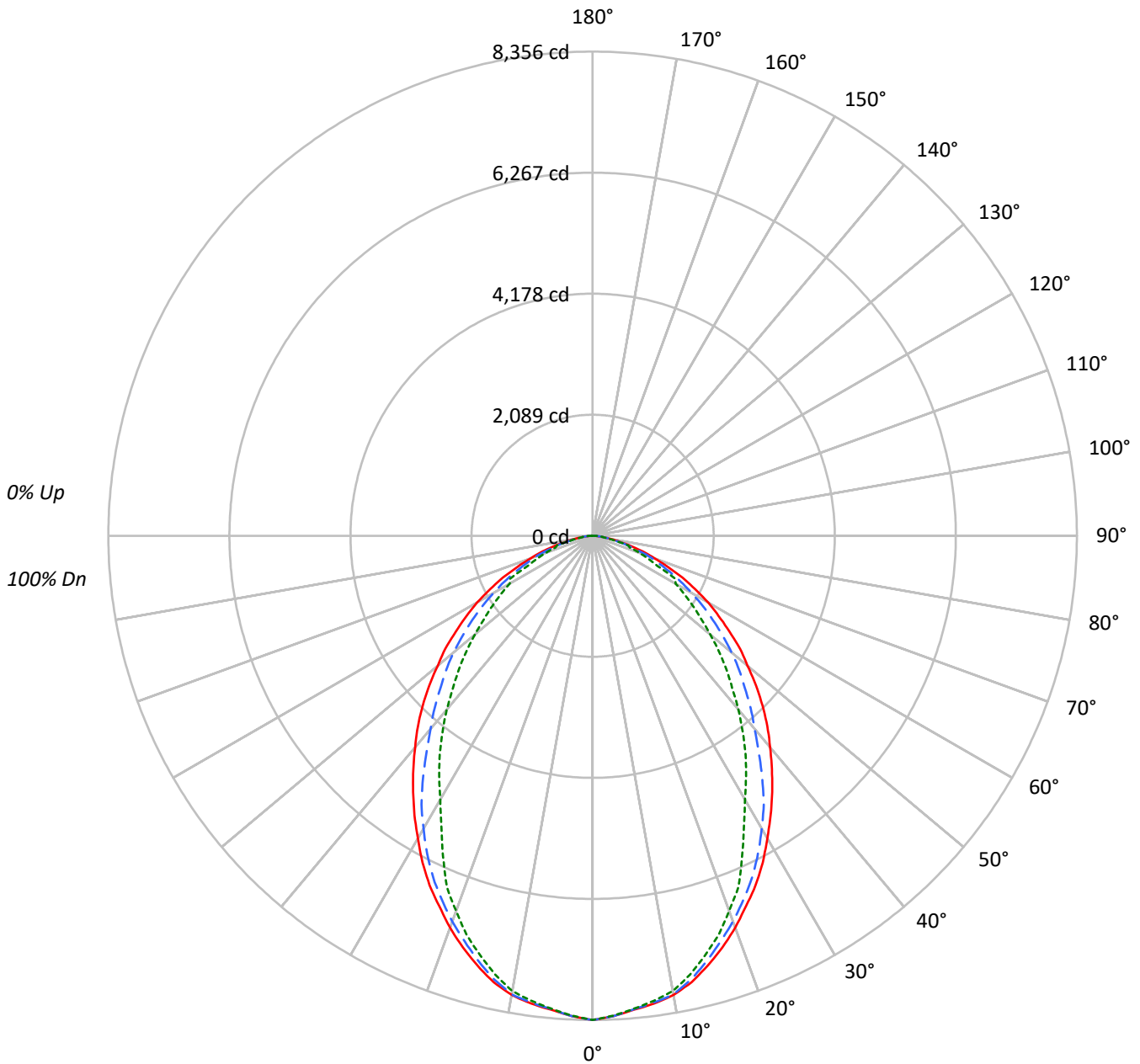
Lumens per Lamp: N/A
Luminaire Lumens: 16404.0 lumens
Efficiency: N/A
Efficacy: 94.9 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 172.8
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								
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°	11243	11243	11243
5°	11090	11077	11064
10°	10994	10981	10902
15°	10698	10590	10442
20°	10305	10139	9862
25°	9881	9666	9064
30°	9365	9065	8165
35°	8870	8378	7553
40°	8365	7635	6872
45°	7886	7058	6213
50°	7300	6552	5541
55°	6753	5937	4963
60°	6187	5303	4445
65°	5443	4644	3937
70°	4484	4066	3344
75°	3566	3113	3264
80°	2395	2245	2096
85°	1491	1789	2087



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	777.8	4.7
10°-20°	2134.7	13.0
20°-30°	2955.3	18.0
30°-40°	3151.2	19.2
40°-50°	2874.9	17.5
50°-60°	2252.2	13.7
60°-70°	1467.9	8.9
70°-80°	650.3	4.0
80°-90°	139.6	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°	5867.9	35.8
0°-40°	9019.1	55.0
0°-60°	14146.2	86.2
0°-90°	16404.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	16404.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	8356	8356	8356	8356	8356	
5°	8211	8201	8201	8192	8192	779
15°	7680	7680	7602	7525	7496	2159
25°	6656	6617	6511	6279	6105	3056
35°	5400	5361	5100	4714	4598	3376
45°	4144	4057	3710	3400	3265	3192
55°	2879	2792	2531	2232	2116	2582
65°	1710	1613	1459	1488	1236	1685
75°	686	638	599	570	628	735
85°	97	106	116	126	135	134
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	8356.0	8356.0	8356.0	8356.0	8356.0
2.5°	8298.0	8298.0	8298.0	8288.4	8288.4
5°	8211.1	8201.4	8201.4	8191.8	8191.8
7.5°	8143.5	8133.8	8124.1	8114.5	8095.2
10°	8046.9	8046.9	8037.2	7988.9	7979.2
12.5°	7892.3	7882.6	7844.0	7776.4	7757.1
15°	7679.8	7679.8	7602.5	7525.2	7496.2
17.5°	7447.9	7438.3	7341.7	7264.4	7225.7
20°	7196.8	7177.4	7080.8	6955.3	6887.6
22.5°	6916.6	6916.6	6800.7	6636.5	6568.9
25°	6655.8	6617.2	6510.9	6279.1	6105.2
27.5°	6356.3	6298.4	6182.5	5854.0	5651.2
30°	6027.9	5998.9	5834.7	5409.7	5255.1
32.5°	5718.8	5670.5	5496.6	5052.2	4926.6
35°	5400.0	5361.4	5100.5	4714.1	4598.2
37.5°	5081.2	5032.9	4704.5	4395.3	4250.4
40°	4762.4	4704.5	4347.0	4066.9	3912.3
42.5°	4463.0	4385.7	4037.9	3738.5	3564.6
45°	4144.2	4057.2	3709.5	3400.4	3265.1
47.5°	3825.4	3748.1	3429.3	3110.5	2956.0
50°	3487.3	3419.7	3129.9	2811.1	2646.9
52.5°	3207.2	3100.9	2820.7	2502.0	2366.7
55°	2878.7	2791.8	2530.9	2231.5	2115.6
57.5°	2579.2	2492.3	2250.8	1970.7	1874.1
60°	2299.1	2173.5	1970.7	1729.2	1651.9
62.5°	1990.0	1893.4	1719.5	1516.6	1613.2
65°	1709.8	1613.2	1458.7	1487.7	1236.5
67.5°	1400.7	1352.4	1217.2	1081.9	1043.3
70°	1139.9	1081.9	1033.6	888.7	850.1
72.5°	908.0	850.1	782.5	705.2	676.2
75°	685.9	637.6	598.9	569.9	627.9
77.5°	473.3	454.0	425.0	396.1	386.4
80°	309.1	299.5	289.8	280.1	270.5
82.5°	183.5	183.5	183.5	183.5	183.5
85°	96.6	106.3	115.9	125.6	135.2
87.5°	58.0	58.0	67.6	77.3	86.9
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)