

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: P547281

Luminaire Tested: **FMR-24-4-LD4-4HI-35-UNV-93-86-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: P547281
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-93-86-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS 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

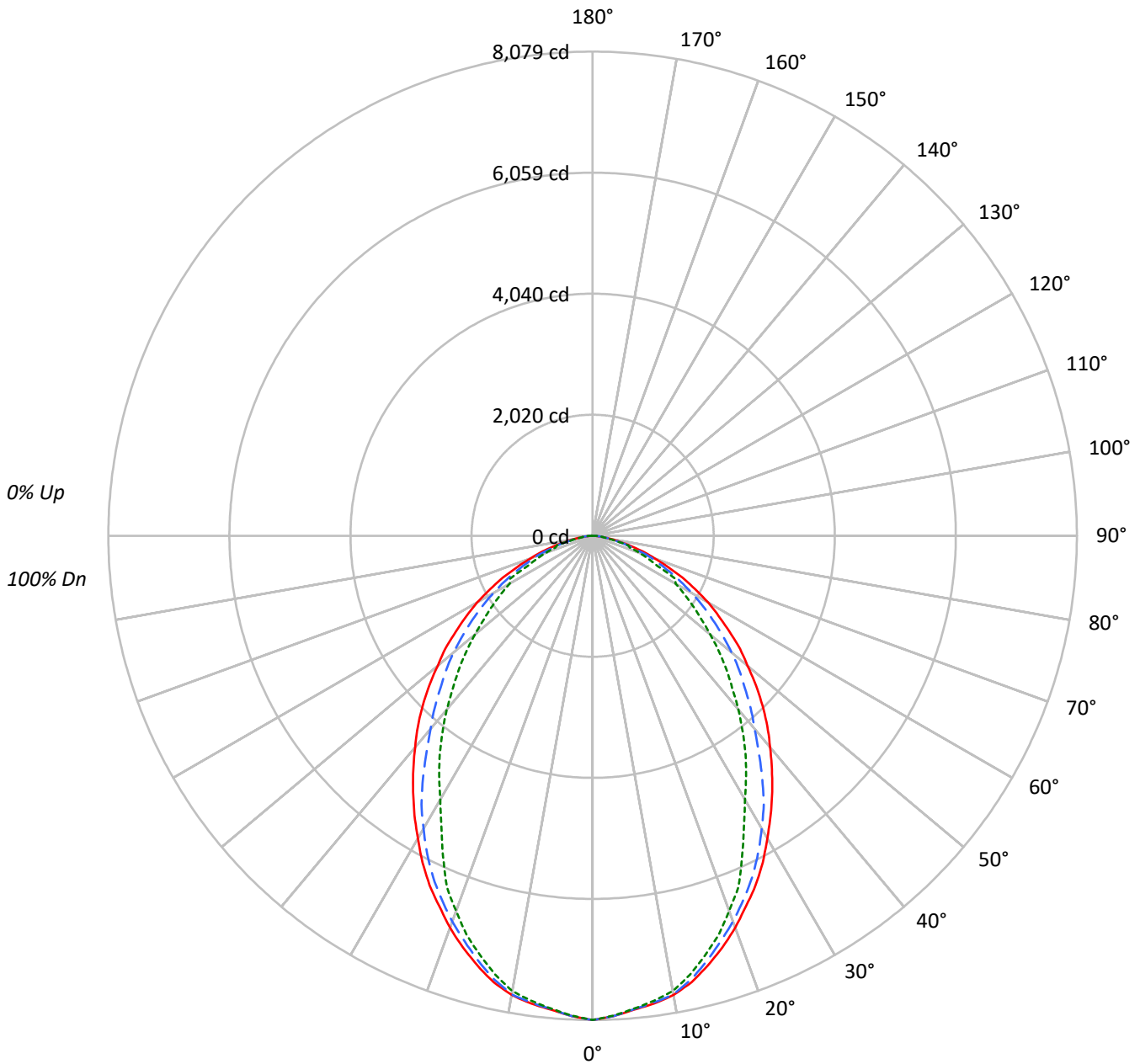
Lumens per Lamp: N/A
Luminaire Lumens: 15860.0 lumens
Efficiency: N/A
Efficacy: 91.8 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 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

TEST NUMBER: P547281

CATALOG NUMBER: FMR-24-4-LD4-4HI-35-UNV-93-86-EDD

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°	10870	10870	10870
5°	10722	10710	10697
10°	10629	10617	10540
15°	10343	10239	10096
20°	9963	9802	9535
25°	9553	9345	8763
30°	9055	8764	7894
35°	8576	8100	7302
40°	8087	7382	6644
45°	7624	6824	6007
50°	7057	6334	5357
55°	6529	5740	4798
60°	5982	5127	4298
65°	5263	4490	3806
70°	4336	3932	3233
75°	3447	3010	3156
80°	2316	2171	2026
85°	1442	1731	2019



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	752.0	4.7
10°-20°	2063.9	13.0
20°-30°	2857.3	18.0
30°-40°	3046.7	19.2
40°-50°	2779.5	17.5
50°-60°	2177.5	13.7
60°-70°	1419.2	8.9
70°-80°	628.8	4.0
80°-90°	135.0	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°	5673.3	35.8
0°-40°	8720.0	55.0
0°-60°	13677.0	86.2
0°-90°	15860.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	15860.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	8079	8079	8079	8079	8079	
5°	7939	7929	7929	7920	7920	754
15°	7425	7425	7350	7276	7248	2087
25°	6435	6398	6295	6071	5903	2954
35°	5221	5184	4931	4558	4446	3264
45°	4007	3923	3586	3288	3157	3086
55°	2783	2699	2447	2158	2045	2496
65°	1653	1560	1410	1438	1196	1629
75°	663	616	579	551	607	711
85°	93	103	112	121	131	130
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	8078.9	8078.9	8078.9	8078.9	8078.9
2.5°	8022.8	8022.8	8022.8	8013.5	8013.5
5°	7938.8	7929.4	7929.4	7920.1	7920.1
7.5°	7873.4	7864.1	7854.7	7845.4	7826.7
10°	7780.0	7780.0	7770.7	7724.0	7714.6
12.5°	7630.6	7621.2	7583.9	7518.5	7499.8
15°	7425.1	7425.1	7350.4	7275.7	7247.6
17.5°	7200.9	7191.6	7098.2	7023.5	6986.1
20°	6958.1	6939.4	6846.0	6724.6	6659.2
22.5°	6687.3	6687.3	6575.2	6416.4	6351.0
25°	6435.1	6397.7	6295.0	6070.8	5902.7
27.5°	6145.5	6089.5	5977.4	5659.9	5463.7
30°	5828.0	5800.0	5641.2	5230.3	5080.8
32.5°	5529.1	5482.4	5314.3	4884.7	4763.3
35°	5220.9	5183.6	4931.4	4557.8	4445.7
37.5°	4912.7	4866.0	4548.5	4249.6	4109.5
40°	4604.5	4548.5	4202.9	3932.0	3782.6
42.5°	4315.0	4240.2	3904.0	3614.5	3446.4
45°	4006.7	3922.7	3586.5	3287.6	3156.8
47.5°	3698.5	3623.8	3315.6	3007.4	2858.0
50°	3371.6	3306.3	3026.1	2717.9	2559.1
52.5°	3100.8	2998.1	2727.2	2419.0	2288.2
55°	2783.2	2699.2	2447.0	2157.5	2045.4
57.5°	2493.7	2409.7	2176.2	1905.3	1811.9
60°	2222.9	2101.4	1905.3	1671.8	1597.1
62.5°	1924.0	1830.6	1662.5	1466.3	1559.7
65°	1653.1	1559.7	1410.3	1438.3	1195.5
67.5°	1354.3	1307.6	1176.8	1046.1	1008.7
70°	1102.1	1046.1	999.4	859.3	821.9
72.5°	877.9	821.9	756.5	681.8	653.8
75°	663.1	616.4	579.1	551.0	607.1
77.5°	457.6	439.0	410.9	382.9	373.6
80°	298.9	289.5	280.2	270.9	261.5
82.5°	177.5	177.5	177.5	177.5	177.5
85°	93.4	102.7	112.1	121.4	130.8
87.5°	56.0	56.0	65.4	74.7	84.1
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)