

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: P547268

Luminaire Tested: **FMR-24-4-LD4-4HI-35-UNV-81-94-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: P547268
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-81-94-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR PC 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

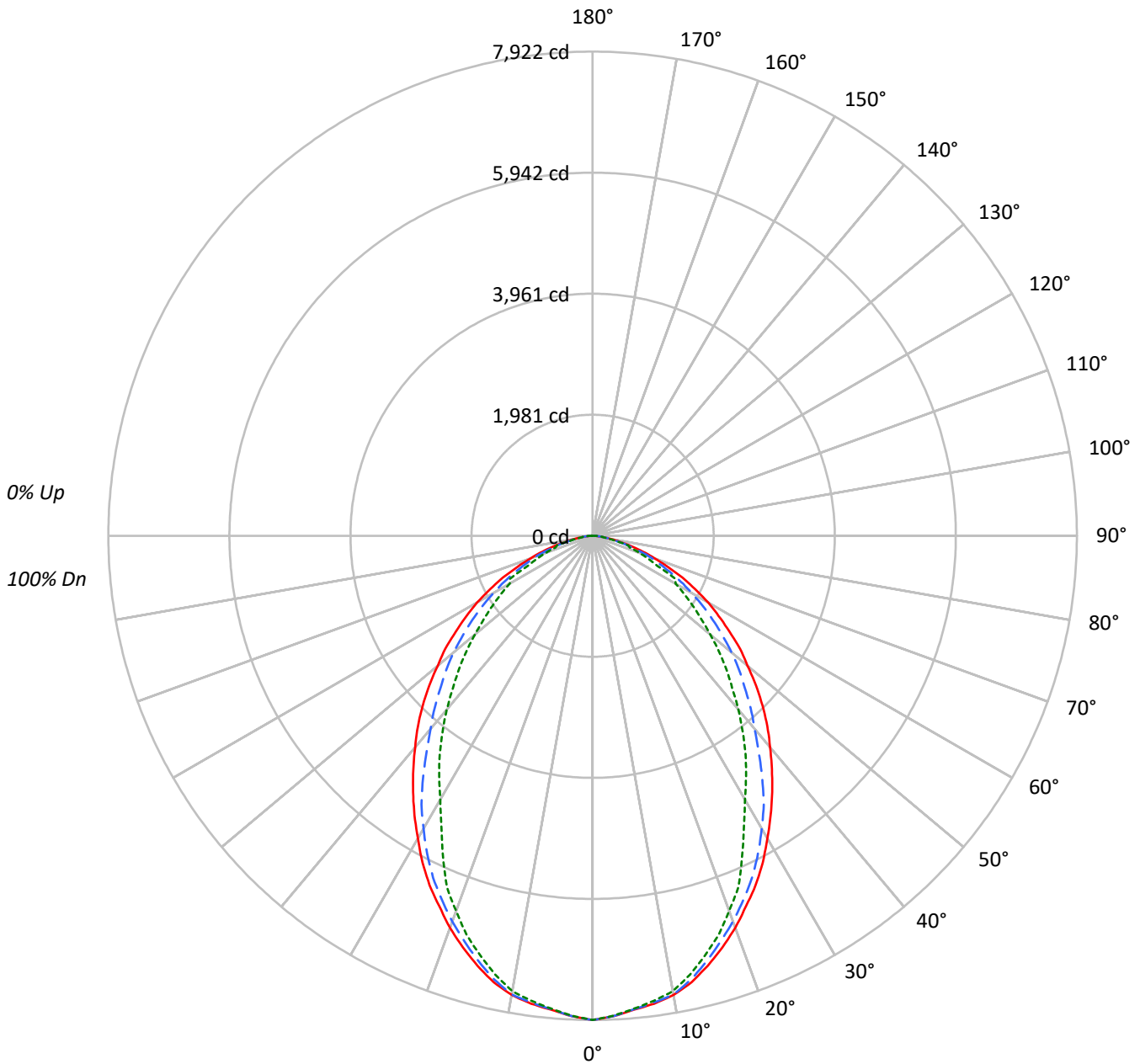
Lumens per Lamp: N/A
Luminaire Lumens: 15553.0 lumens
Efficiency: N/A
Efficacy: 90.0 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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: P547268

CATALOG NUMBER: FMR-24-4-LD4-4HI-35-UNV-81-94-EDD

Luminous Intensity Polar Plot





TEST NUMBER: P547268

CATALOG NUMBER: FMR-24-4-LD4-4HI-35-UNV-81-94-EDD

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°	10660	10660	10660
5°	10515	10502	10490
10°	10424	10411	10336
15°	10143	10041	9900
20°	9770	9613	9350
25°	9368	9164	8594
30°	8879	8595	7741
35°	8410	7943	7161
40°	7931	7239	6515
45°	7477	6692	5891
50°	6921	6212	5253
55°	6403	5629	4705
60°	5866	5028	4215
65°	5161	4403	3732
70°	4252	3855	3171
75°	3381	2952	3095
80°	2271	2129	1987
85°	1414	1697	1979



TEST NUMBER: P547268

CATALOG NUMBER: FMR-24-4-LD4-4HI-35-UNV-81-94-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	737.5	4.7
10°-20°	2023.9	13.0
20°-30°	2802.0	18.0
30°-40°	2987.8	19.2
40°-50°	2725.7	17.5
50°-60°	2135.4	13.7
60°-70°	1391.7	8.9
70°-80°	616.6	4.0
80°-90°	132.4	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°	5563.4	35.8
0°-40°	8551.2	55.0
0°-60°	13412.3	86.2
0°-90°	15553.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	15553.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	7922	7922	7922	7922	7922	
5°	7785	7776	7776	7767	7767	739
15°	7281	7281	7208	7135	7107	2047
25°	6310	6274	6173	5953	5788	2897
35°	5120	5083	4836	4470	4360	3201
45°	3929	3847	3517	3224	3096	3027
55°	2729	2647	2400	2116	2006	2448
65°	1621	1530	1383	1410	1172	1598
75°	650	604	568	540	595	697
85°	92	101	110	119	128	127
90°	0	0	0	0	0	



TEST NUMBER: P547268

CATALOG NUMBER: FMR-24-4-LD4-4HI-35-UNV-81-94-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	7922.5	7922.5	7922.5	7922.5	7922.5
2.5°	7867.5	7867.5	7867.5	7858.4	7858.4
5°	7785.1	7775.9	7775.9	7766.8	7766.8
7.5°	7721.0	7711.8	7702.7	7693.5	7675.2
10°	7629.4	7629.4	7620.2	7574.5	7565.3
12.5°	7482.9	7473.7	7437.1	7373.0	7354.6
15°	7281.4	7281.4	7208.1	7134.8	7107.3
17.5°	7061.5	7052.4	6960.8	6887.5	6850.9
20°	6823.4	6805.1	6713.5	6594.4	6530.3
22.5°	6557.8	6557.8	6447.9	6292.2	6228.1
25°	6310.5	6273.9	6173.1	5953.3	5788.5
27.5°	6026.6	5971.6	5861.7	5550.3	5358.0
30°	5715.2	5687.7	5532.0	5129.0	4982.5
32.5°	5422.1	5376.3	5211.4	4790.1	4671.1
35°	5119.9	5083.2	4835.9	4469.6	4359.7
37.5°	4817.6	4771.8	4460.4	4167.3	4029.9
40°	4515.4	4460.4	4121.5	3855.9	3709.4
42.5°	4231.4	4158.2	3828.4	3544.5	3379.7
45°	3929.2	3846.8	3517.0	3223.9	3095.7
47.5°	3626.9	3553.7	3251.4	2949.2	2802.6
50°	3306.4	3242.3	2967.5	2665.3	2509.6
52.5°	3040.8	2940.0	2674.4	2372.2	2243.9
55°	2729.4	2646.9	2399.6	2115.7	2005.8
57.5°	2445.4	2363.0	2134.0	1868.4	1776.8
60°	2179.8	2060.8	1868.4	1639.5	1566.2
62.5°	1886.7	1795.2	1630.3	1438.0	1529.5
65°	1621.1	1529.5	1383.0	1410.5	1172.3
67.5°	1328.0	1282.3	1154.0	1025.8	989.2
70°	1080.8	1025.8	980.0	842.6	806.0
72.5°	860.9	806.0	741.9	668.6	641.1
75°	650.3	604.5	567.9	540.4	595.3
77.5°	448.8	430.5	403.0	375.5	366.4
80°	293.1	283.9	274.8	265.6	256.5
82.5°	174.0	174.0	174.0	174.0	174.0
85°	91.6	100.7	109.9	119.1	128.2
87.5°	55.0	55.0	64.1	73.3	82.4
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)