

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: P547352

Luminaire Tested: **FMR-24-4-LD4-4LO-35-UNV-80-85-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: P547352  
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-80-85-EDD  
Description: 2X4 FMR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

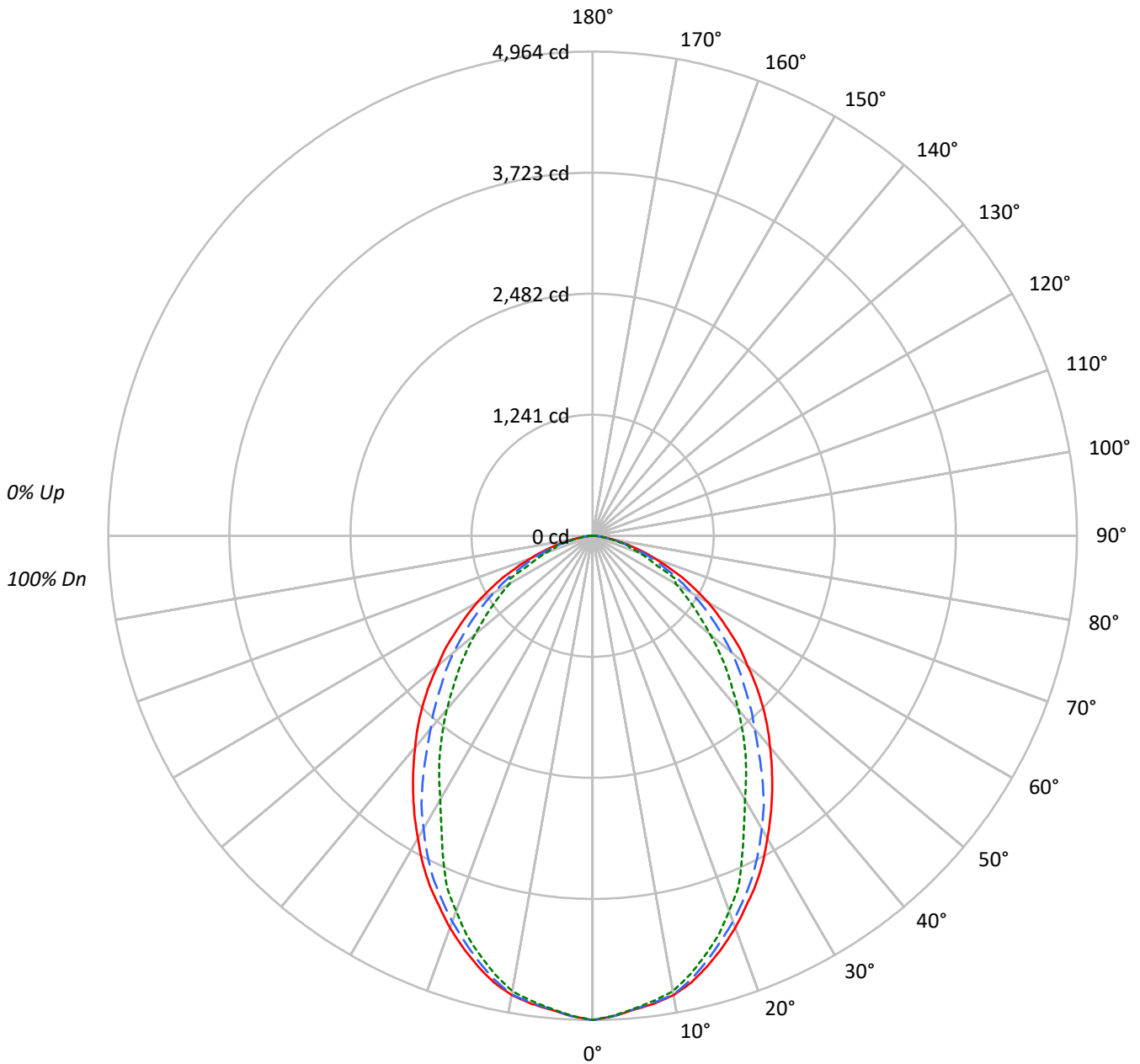
Lumens per Lamp: N/A  
Luminaire Lumens: 9746.0 lumens  
Efficiency: N/A  
Efficacy: 104.1 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 93.6  
Input Voltage (V): NR  
Input Current (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: P547352

CATALOG NUMBER: FMR-24-4-LD4-4LO-35-UNV-80-85-EDD

### Luminous Intensity Polar Plot





TEST NUMBER: P547352

CATALOG NUMBER: FMR-24-4-LD4-4LO-35-UNV-80-85-EDD

**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°	6680	6680	6680
5°	6589	6581	6573
10°	6532	6524	6477
15°	6356	6292	6204
20°	6122	6024	5859
25°	5871	5743	5385
30°	5564	5386	4851
35°	5270	4977	4487
40°	4970	4536	4083
45°	4685	4194	3691
50°	4337	3892	3292
55°	4012	3527	2948
60°	3676	3151	2641
65°	3234	2759	2339
70°	2664	2416	1987
75°	2118	1850	1940
80°	1423	1334	1245
85°	886	1064	1241



TEST NUMBER: P547352

CATALOG NUMBER: FMR-24-4-LD4-4LO-35-UNV-80-85-EDD

**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	462.1	4.7
10°-20°	1268.3	13.0
20°-30°	1755.8	18.0
30°-40°	1872.2	19.2
40°-50°	1708.0	17.5
50°-60°	1338.1	13.7
60°-70°	872.1	8.9
70°-80°	386.4	4.0
80°-90°	82.9	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°	3486.2	35.8
0°-40°	5358.5	55.0
0°-60°	8404.6	86.2
0°-90°	9746.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9746.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	4964	4964	4964	4964	4964	
5°	4878	4873	4873	4867	4867	463
15°	4563	4563	4517	4471	4454	1283
25°	3954	3931	3868	3730	3627	1815
35°	3208	3185	3030	2801	2732	2006
45°	2462	2410	2204	2020	1940	1897
55°	1710	1659	1504	1326	1257	1534
65°	1016	958	867	884	735	1001
75°	408	379	356	339	373	437
85°	57	63	69	75	80	80
90°	0	0	0	0	0	



TEST NUMBER: P547352

CATALOG NUMBER: FMR-24-4-LD4-4LO-35-UNV-80-85-EDD

**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	4964.5	4964.5	4964.5	4964.5	4964.5
2.5°	4930.0	4930.0	4930.0	4924.3	4924.3
5°	4878.4	4872.7	4872.7	4866.9	4866.9
7.5°	4838.2	4832.5	4826.7	4821.0	4809.5
10°	4780.8	4780.8	4775.1	4746.4	4740.7
12.5°	4689.0	4683.3	4660.3	4620.1	4608.6
15°	4562.7	4562.7	4516.8	4470.9	4453.7
17.5°	4425.0	4419.3	4361.9	4315.9	4293.0
20°	4275.8	4264.3	4206.9	4132.3	4092.1
22.5°	4109.3	4109.3	4040.5	3942.9	3902.7
25°	3954.4	3931.4	3868.3	3730.5	3627.2
27.5°	3776.5	3742.0	3673.1	3478.0	3357.5
30°	3581.3	3564.1	3466.5	3214.0	3122.2
32.5°	3397.7	3369.0	3265.7	3001.6	2927.0
35°	3208.3	3185.3	3030.3	2800.8	2731.9
37.5°	3018.9	2990.2	2795.0	2611.4	2525.3
40°	2829.5	2795.0	2582.7	2416.2	2324.4
42.5°	2651.6	2605.6	2399.0	2221.1	2117.8
45°	2462.2	2410.5	2203.9	2020.2	1939.9
47.5°	2272.8	2226.8	2037.4	1848.1	1756.2
50°	2071.9	2031.7	1859.5	1670.1	1572.6
52.5°	1905.4	1842.3	1675.9	1486.5	1406.1
55°	1710.3	1658.7	1503.7	1325.8	1256.9
57.5°	1532.4	1480.7	1337.3	1170.8	1113.4
60°	1366.0	1291.3	1170.8	1027.3	981.4
62.5°	1182.3	1124.9	1021.6	901.1	958.5
65°	1015.9	958.5	866.6	883.9	734.6
67.5°	832.2	803.5	723.2	642.8	619.8
70°	677.2	642.8	614.1	528.0	505.1
72.5°	539.5	505.1	464.9	419.0	401.8
75°	407.5	378.8	355.8	338.6	373.1
77.5°	281.2	269.7	252.5	235.3	229.6
80°	183.7	177.9	172.2	166.4	160.7
82.5°	109.0	109.0	109.0	109.0	109.0
85°	57.4	63.1	68.9	74.6	80.4
87.5°	34.4	34.4	40.2	45.9	51.7
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)