

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: P545817

Luminaire Tested: **FMR-12-4-LD4-1HI-35-UNV-80-86-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: P545817
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-12-4-LD4-1HI-35-UNV-80-86-EDD
Description: 1X4 FMR TROFFER WITH .125 PRISMATIC ACRYLIC 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

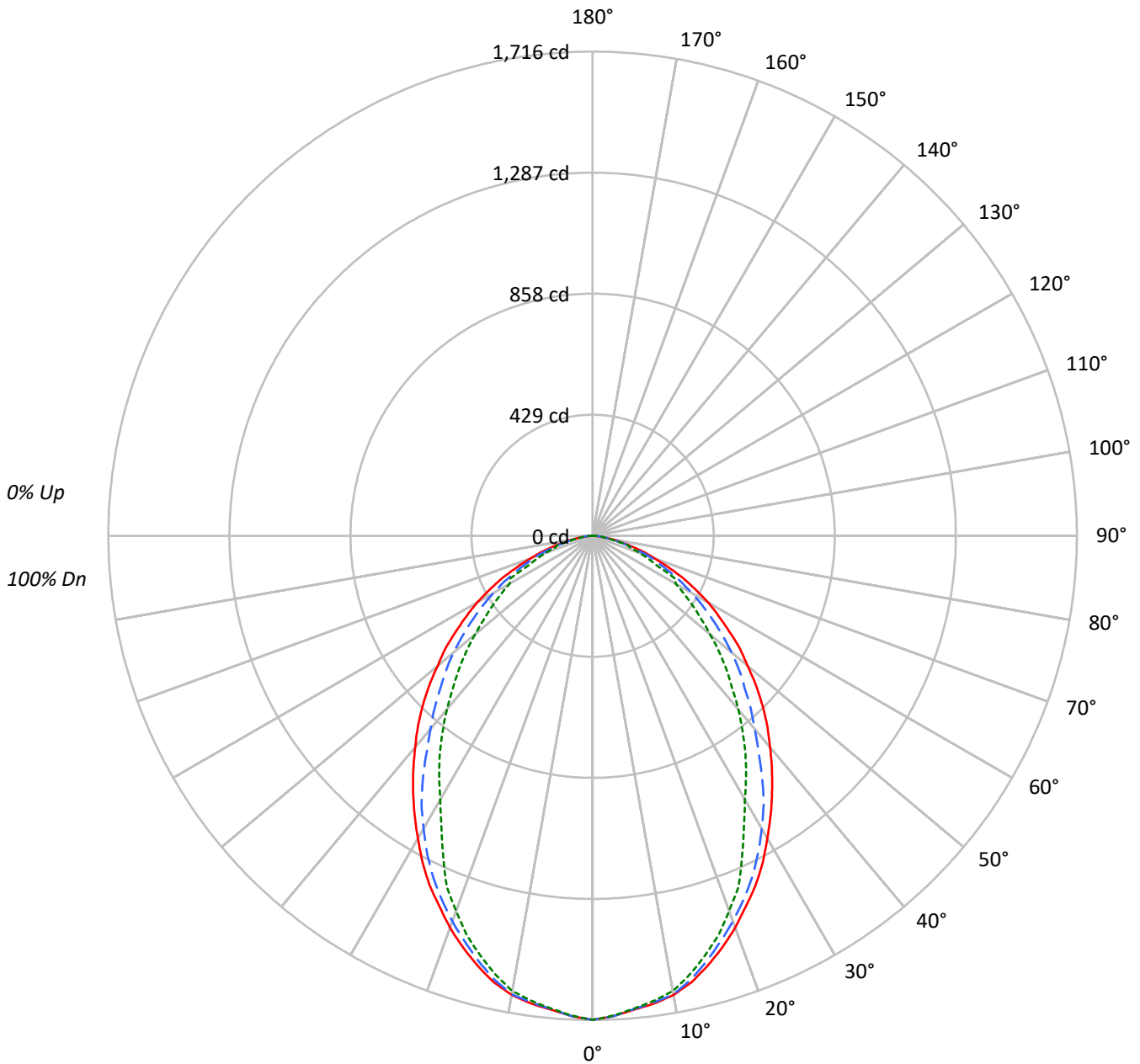
Lumens per Lamp: N/A
Luminaire Lumens: 3368.0 lumens
Efficiency: N/A
Efficacy: 78.0 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 43.2
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: P545817

CATALOG NUMBER: FMR-12-4-LD4-1HI-35-UNV-80-86-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°	4617	4617	4617
5°	4554	4549	4543
10°	4514	4509	4477
15°	4393	4349	4288
20°	4231	4163	4050
25°	4057	3969	3722
30°	3846	3723	3353
35°	3642	3440	3101
40°	3435	3135	2822
45°	3238	2898	2551
50°	2997	2690	2275
55°	2773	2438	2038
60°	2540	2178	1826
65°	2236	1907	1617
70°	1841	1670	1373
75°	1464	1279	1340
80°	984	922	860
85°	611	735	858



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	159.7	4.7
10°-20°	438.3	13.0
20°-30°	606.8	18.0
30°-40°	647.0	19.2
40°-50°	590.2	17.5
50°-60°	462.4	13.7
60°-70°	301.4	8.9
70°-80°	133.5	4.0
80°-90°	28.7	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°	1204.8	35.8
0°-40°	1851.8	55.0
0°-60°	2904.4	86.2
0°-90°	3368.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3368.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1716	1716	1716	1716	1716	
5°	1686	1684	1684	1682	1682	160
15°	1577	1577	1561	1545	1539	443
25°	1366	1359	1337	1289	1254	627
35°	1109	1101	1047	968	944	693
45°	851	833	762	698	670	655
55°	591	573	520	458	434	530
65°	351	331	300	305	254	346
75°	141	131	123	117	129	151
85°	20	22	24	26	28	28
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1715.6	1715.6	1715.6	1715.6	1715.6
2.5°	1703.7	1703.7	1703.7	1701.7	1701.7
5°	1685.9	1683.9	1683.9	1681.9	1681.9
7.5°	1672.0	1670.0	1668.0	1666.0	1662.1
10°	1652.1	1652.1	1650.2	1640.2	1638.3
12.5°	1620.4	1618.4	1610.5	1596.6	1592.6
15°	1576.8	1576.8	1560.9	1545.0	1539.1
17.5°	1529.2	1527.2	1507.4	1491.5	1483.6
20°	1477.6	1473.6	1453.8	1428.0	1414.1
22.5°	1420.1	1420.1	1396.3	1362.6	1348.7
25°	1366.5	1358.6	1336.8	1289.2	1253.5
27.5°	1305.1	1293.2	1269.4	1201.9	1160.3
30°	1237.6	1231.7	1198.0	1110.7	1079.0
32.5°	1174.2	1164.2	1128.5	1037.3	1011.5
35°	1108.7	1100.8	1047.2	967.9	944.1
37.5°	1043.3	1033.3	965.9	902.4	872.7
40°	977.8	965.9	892.5	835.0	803.3
42.5°	916.3	900.4	829.0	767.6	731.9
45°	850.9	833.0	761.6	698.1	670.4
47.5°	785.4	769.5	704.1	638.6	606.9
50°	716.0	702.1	642.6	577.2	543.4
52.5°	658.5	636.7	579.1	513.7	485.9
55°	591.0	573.2	519.6	458.2	434.4
57.5°	529.6	511.7	462.1	404.6	384.8
60°	472.0	446.3	404.6	355.0	339.2
62.5°	408.6	388.7	353.0	311.4	331.2
65°	351.1	331.2	299.5	305.4	253.9
67.5°	287.6	277.7	249.9	222.1	214.2
70°	234.0	222.1	212.2	182.5	174.5
72.5°	186.4	174.5	160.7	144.8	138.8
75°	140.8	130.9	123.0	117.0	128.9
77.5°	97.2	93.2	87.3	81.3	79.3
80°	63.5	61.5	59.5	57.5	55.5
82.5°	37.7	37.7	37.7	37.7	37.7
85°	19.8	21.8	23.8	25.8	27.8
87.5°	11.9	11.9	13.9	15.9	17.9
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)