

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: P545833

Luminaire Tested: **FMR-12-4-LD4-1HI-35-UNV-82-86-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: P545833
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-82-86-EDD
Description: 1X4 FMR TROFFER WITH .187 CLEAR PC 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

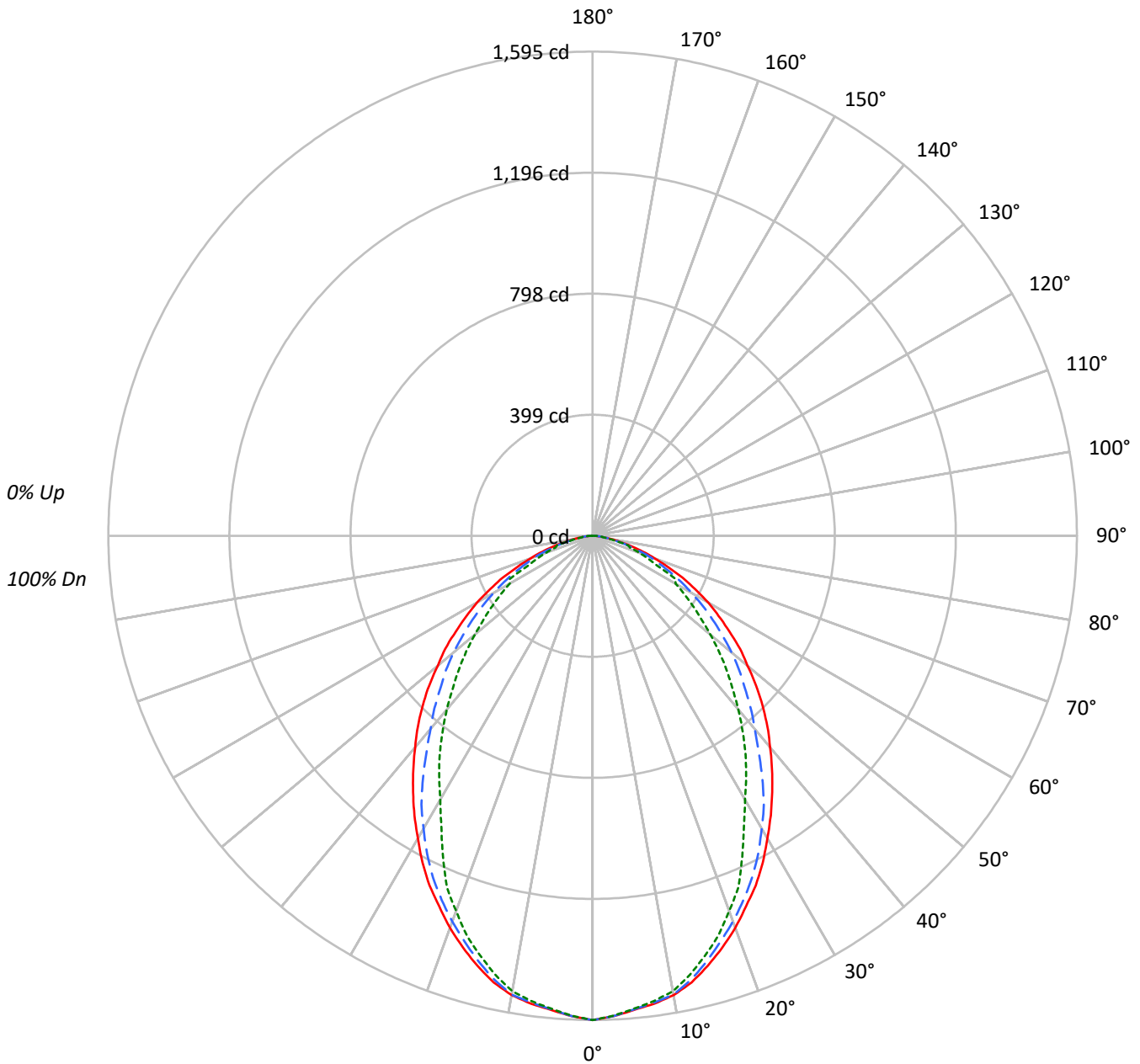
Lumens per Lamp: N/A
Luminaire Lumens: 3132.0 lumens
Efficiency: N/A
Efficacy: 72.5 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 43.2
Input Voltage (V): NR
Input Current (A_{in}): 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: P545833

CATALOG NUMBER: FMR-12-4-LD4-1HI-35-UNV-82-86-EDD

Luminous Intensity Polar Plot





TEST NUMBER: P545833

CATALOG NUMBER: FMR-12-4-LD4-1HI-35-UNV-82-86-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°	4293	4293	4293
5°	4235	4230	4225
10°	4198	4193	4163
15°	4085	4044	3987
20°	3935	3871	3766
25°	3773	3691	3461
30°	3576	3462	3118
35°	3387	3199	2884
40°	3194	2916	2624
45°	3011	2695	2372
50°	2787	2502	2116
55°	2578	2267	1895
60°	2363	2025	1697
65°	2079	1773	1503
70°	1712	1552	1277
75°	1362	1189	1247
80°	914	857	800
85°	568	682	797



TEST NUMBER: P545833

CATALOG NUMBER: FMR-12-4-LD4-1HI-35-UNV-82-86-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	148.5	4.7
10°-20°	407.6	13.0
20°-30°	564.3	18.0
30°-40°	601.7	19.2
40°-50°	548.9	17.5
50°-60°	430.0	13.7
60°-70°	280.3	8.9
70°-80°	124.2	4.0
80°-90°	26.7	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°	1120.3	35.8
0°-40°	1722.0	55.0
0°-60°	2700.9	86.2
0°-90°	3132.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3132.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1595	1595	1595	1595	1595	
5°	1568	1566	1566	1564	1564	149
15°	1466	1466	1452	1437	1431	412
25°	1271	1263	1243	1199	1166	583
35°	1031	1024	974	900	878	645
45°	791	775	708	649	623	609
55°	550	533	483	426	404	493
65°	326	308	278	284	236	322
75°	131	122	114	109	120	140
85°	18	20	22	24	26	26
90°	0	0	0	0	0	



TEST NUMBER: P545833

CATALOG NUMBER: FMR-12-4-LD4-1HI-35-UNV-82-86-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1595.4	1595.4	1595.4	1595.4	1595.4
2.5°	1584.3	1584.3	1584.3	1582.5	1582.5
5°	1567.7	1565.9	1565.9	1564.0	1564.0
7.5°	1554.8	1553.0	1551.1	1549.3	1545.6
10°	1536.4	1536.4	1534.5	1525.3	1523.5
12.5°	1506.9	1505.0	1497.6	1484.7	1481.0
15°	1466.3	1466.3	1451.5	1436.8	1431.2
17.5°	1422.0	1420.2	1401.7	1387.0	1379.6
20°	1374.1	1370.4	1351.9	1328.0	1315.1
22.5°	1320.6	1320.6	1298.5	1267.1	1254.2
25°	1270.8	1263.4	1243.1	1198.9	1165.7
27.5°	1213.6	1202.5	1180.4	1117.7	1079.0
30°	1150.9	1145.4	1114.0	1032.9	1003.3
32.5°	1091.9	1082.7	1049.5	964.6	940.6
35°	1031.0	1023.6	973.8	900.1	877.9
37.5°	970.2	960.9	898.2	839.2	811.5
40°	909.3	898.2	830.0	776.5	747.0
42.5°	852.1	837.4	771.0	713.8	680.6
45°	791.2	774.6	708.2	649.2	623.4
47.5°	730.4	715.6	654.8	593.9	564.4
50°	665.8	652.9	597.6	536.7	505.4
52.5°	612.3	592.0	538.6	477.7	451.9
55°	549.6	533.0	483.2	426.1	403.9
57.5°	492.5	475.9	429.7	376.3	357.8
60°	439.0	415.0	376.3	330.1	315.4
62.5°	379.9	361.5	328.3	289.6	308.0
65°	326.5	308.0	278.5	284.0	236.1
67.5°	267.4	258.2	232.4	206.6	199.2
70°	217.6	206.6	197.3	169.7	162.3
72.5°	173.4	162.3	149.4	134.6	129.1
75°	131.0	121.7	114.4	108.8	119.9
77.5°	90.4	86.7	81.2	75.6	73.8
80°	59.0	57.2	55.3	53.5	51.6
82.5°	35.0	35.0	35.0	35.0	35.0
85°	18.4	20.3	22.1	24.0	25.8
87.5°	11.1	11.1	12.9	14.8	16.6
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)