

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: P546248

Luminaire Tested: **FMR-12-4-LD4-2LO-40-UNV-82-85-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: P546248
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-LD4-2LO-40-UNV-82-85-EDD
Description: 1X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

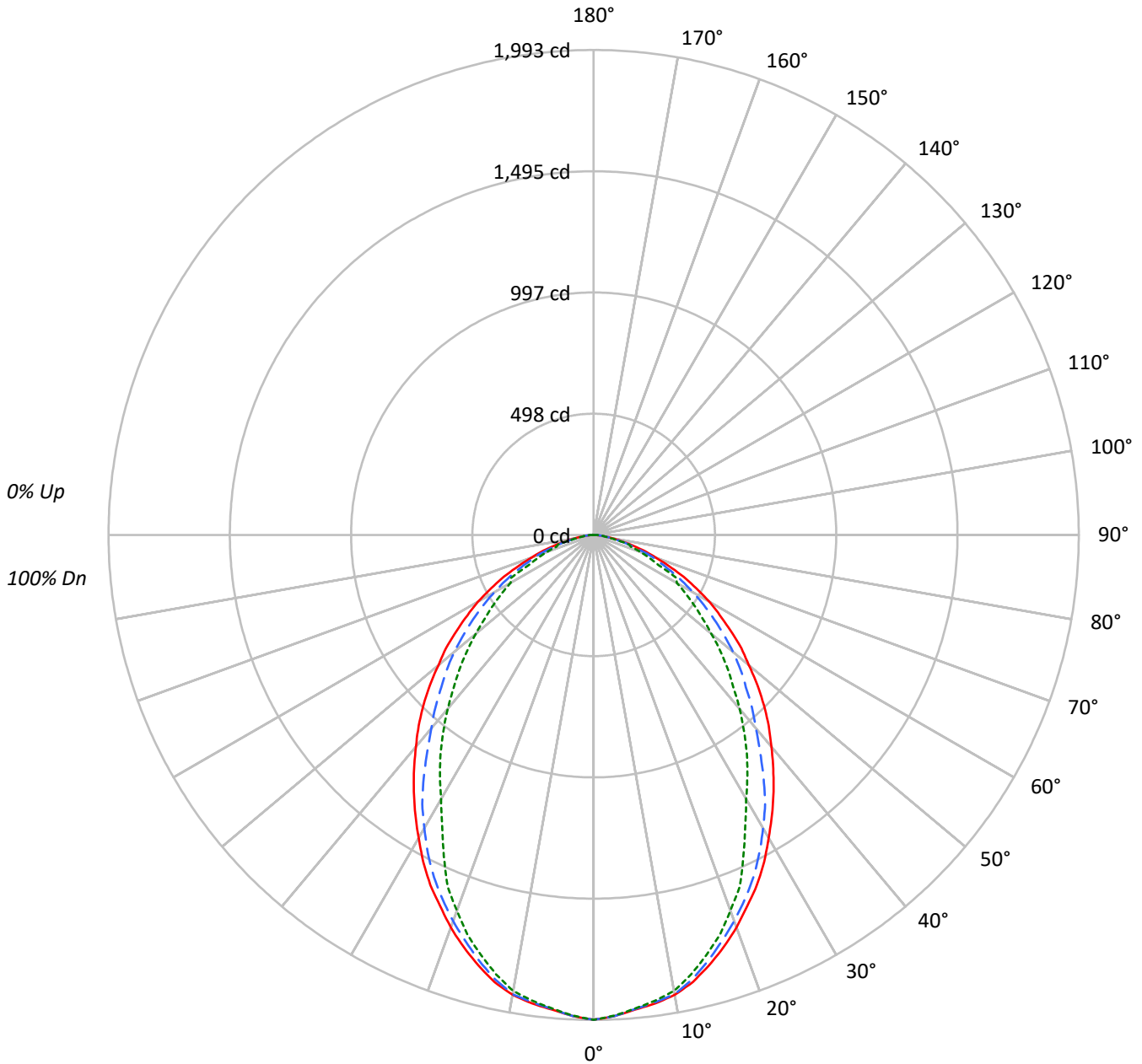
Lumens per Lamp: N/A
Luminaire Lumens: 3912.0 lumens
Efficiency: N/A
Efficacy: 83.6 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 46.8
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

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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°	5362	5362	5362
5°	5290	5283	5277
10°	5244	5237	5200
15°	5102	5051	4980
20°	4915	4836	4704
25°	4713	4610	4323
30°	4467	4323	3894
35°	4231	3996	3602
40°	3990	3642	3277
45°	3761	3366	2963
50°	3481	3125	2642
55°	3221	2832	2367
60°	2951	2530	2120
65°	2597	2215	1878
70°	2138	1939	1595
75°	1701	1485	1556
80°	1142	1071	1000
85°	710	852	997



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	185.5	4.7
10°-20°	509.1	13.0
20°-30°	704.8	18.0
30°-40°	751.5	19.2
40°-50°	685.6	17.5
50°-60°	537.1	13.7
60°-70°	350.1	8.9
70°-80°	155.1	4.0
80°-90°	33.3	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°	1399.4	35.8
0°-40°	2150.9	55.0
0°-60°	3373.6	86.2
0°-90°	3912.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3912.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1993	1993	1993	1993	1993	
5°	1958	1956	1956	1954	1954	186
15°	1832	1832	1813	1795	1788	515
25°	1587	1578	1553	1497	1456	729
35°	1288	1279	1216	1124	1097	805
45°	988	968	885	811	779	761
55°	686	666	604	532	504	616
65°	408	385	348	355	295	402
75°	164	152	143	136	150	175
85°	23	25	28	30	32	32
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1992.7	1992.7	1992.7	1992.7	1992.7
2.5°	1978.9	1978.9	1978.9	1976.6	1976.6
5°	1958.2	1955.9	1955.9	1953.6	1953.6
7.5°	1942.0	1939.7	1937.4	1935.1	1930.5
10°	1919.0	1919.0	1916.7	1905.2	1902.9
12.5°	1882.1	1879.8	1870.6	1854.5	1849.9
15°	1831.5	1831.5	1813.0	1794.6	1787.7
17.5°	1776.2	1773.9	1750.8	1732.4	1723.2
20°	1716.3	1711.7	1688.6	1658.7	1642.6
22.5°	1649.5	1649.5	1621.8	1582.7	1566.5
25°	1587.3	1578.1	1552.7	1497.4	1456.0
27.5°	1515.8	1502.0	1474.4	1396.1	1347.7
30°	1437.5	1430.6	1391.4	1290.1	1253.2
32.5°	1363.8	1352.3	1310.8	1204.8	1174.9
35°	1287.8	1278.6	1216.4	1124.2	1096.6
37.5°	1211.8	1200.2	1121.9	1048.2	1013.6
40°	1135.7	1121.9	1036.7	969.9	933.0
42.5°	1064.3	1045.9	963.0	891.5	850.1
45°	988.3	967.6	884.6	810.9	778.7
47.5°	912.3	893.8	817.8	741.8	704.9
50°	831.6	815.5	746.4	670.4	631.2
52.5°	764.8	739.5	672.7	596.7	564.4
55°	686.5	665.8	603.6	532.2	504.5
57.5°	615.1	594.4	536.8	470.0	446.9
60°	548.3	518.3	470.0	412.4	393.9
62.5°	474.6	451.5	410.1	361.7	384.7
65°	407.8	384.7	347.9	354.8	294.9
67.5°	334.0	322.5	290.3	258.0	248.8
70°	271.8	258.0	246.5	211.9	202.7
72.5°	216.5	202.7	186.6	168.2	161.3
75°	163.6	152.0	142.8	135.9	149.7
77.5°	112.9	108.3	101.4	94.5	92.1
80°	73.7	71.4	69.1	66.8	64.5
82.5°	43.8	43.8	43.8	43.8	43.8
85°	23.0	25.3	27.6	29.9	32.3
87.5°	13.8	13.8	16.1	18.4	20.7
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)