

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: P546241

Luminaire Tested: **FMR-12-4-LD4-2LO-40-UNV-81-86-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: P546241
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-81-86-EDD
Description: 1X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

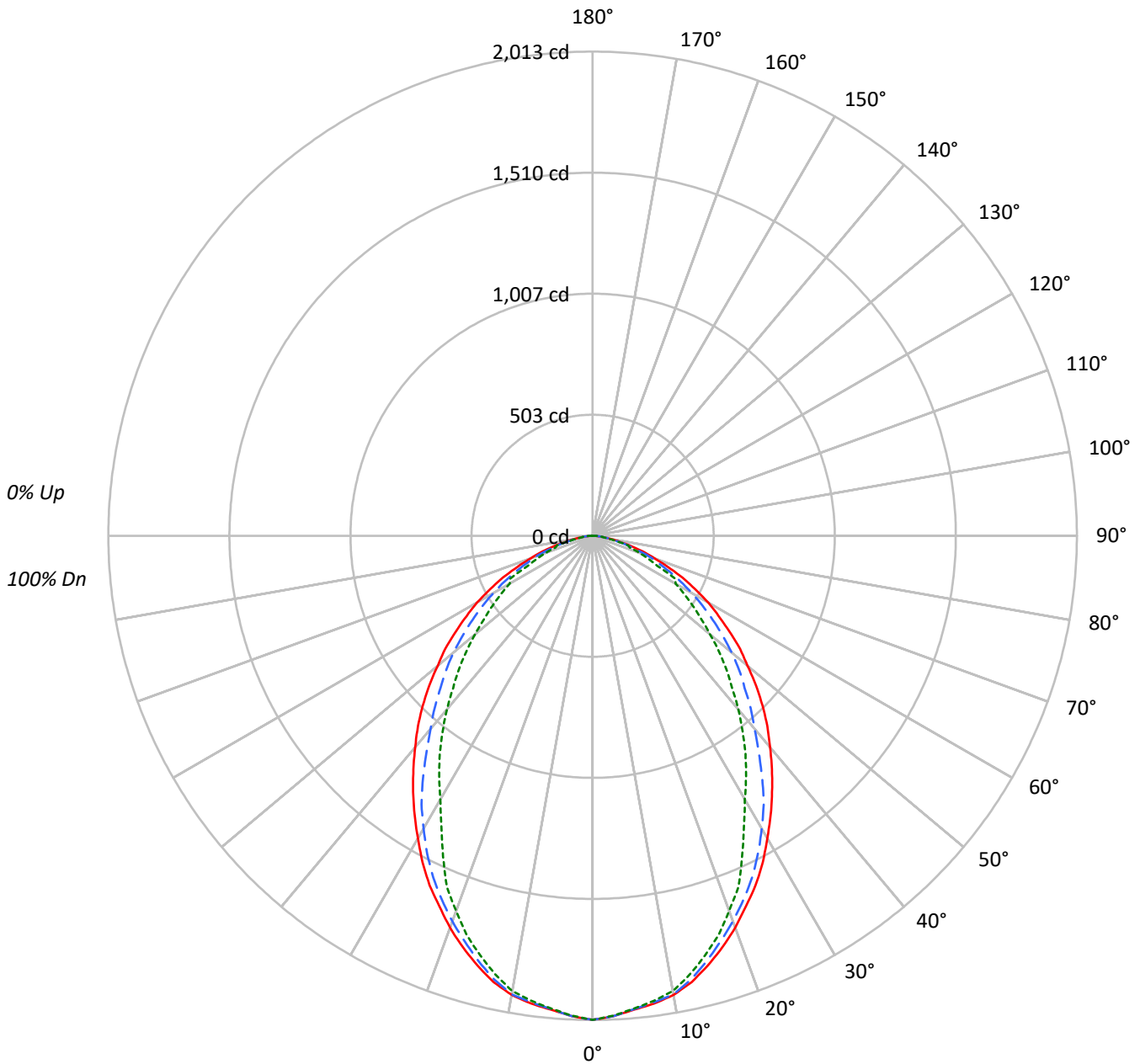
Lumens per Lamp: N/A
Luminaire Lumens: 3951.0 lumens
Efficiency: N/A
Efficacy: 84.4 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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°	5416	5416	5416
5°	5342	5336	5330
10°	5296	5290	5251
15°	5153	5101	5030
20°	4964	4884	4751
25°	4760	4656	4366
30°	4511	4367	3933
35°	4273	4036	3638
40°	4030	3678	3310
45°	3798	3400	2993
50°	3516	3156	2669
55°	3253	2860	2390
60°	2981	2554	2141
65°	2622	2237	1896
70°	2160	1959	1611
75°	1718	1500	1572
80°	1155	1082	1009
85°	719	861	1007



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	187.3	4.7
10°-20°	514.2	13.0
20°-30°	711.8	18.0
30°-40°	759.0	19.2
40°-50°	692.4	17.5
50°-60°	542.5	13.7
60°-70°	353.6	8.9
70°-80°	156.6	4.0
80°-90°	33.6	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°	1413.3	35.8
0°-40°	2172.3	55.0
0°-60°	3407.2	86.2
0°-90°	3951.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3951.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2013	2013	2013	2013	2013	
5°	1978	1975	1975	1973	1973	188
15°	1850	1850	1831	1812	1806	520
25°	1603	1594	1568	1512	1470	736
35°	1301	1291	1228	1135	1108	813
45°	998	977	893	819	786	769
55°	693	672	610	538	510	622
65°	412	389	351	358	298	406
75°	165	154	144	137	151	177
85°	23	26	28	30	33	32
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2012.6	2012.6	2012.6	2012.6	2012.6
2.5°	1998.6	1998.6	1998.6	1996.3	1996.3
5°	1977.7	1975.4	1975.4	1973.0	1973.0
7.5°	1961.4	1959.1	1956.7	1954.4	1949.8
10°	1938.1	1938.1	1935.8	1924.2	1921.8
12.5°	1900.9	1898.6	1889.3	1873.0	1868.3
15°	1849.7	1849.7	1831.1	1812.5	1805.5
17.5°	1793.9	1791.6	1768.3	1749.7	1740.4
20°	1733.4	1728.7	1705.5	1675.2	1658.9
22.5°	1665.9	1665.9	1638.0	1598.4	1582.1
25°	1603.1	1593.8	1568.2	1512.3	1470.5
27.5°	1531.0	1517.0	1489.1	1410.0	1361.1
30°	1451.9	1444.9	1405.3	1302.9	1265.7
32.5°	1377.4	1365.8	1323.9	1216.9	1186.6
35°	1300.6	1291.3	1228.5	1135.4	1107.5
37.5°	1223.8	1212.2	1133.1	1058.6	1023.7
40°	1147.1	1133.1	1047.0	979.5	942.3
42.5°	1074.9	1056.3	972.6	900.4	858.5
45°	998.1	977.2	893.4	819.0	786.4
47.5°	921.4	902.8	826.0	749.2	712.0
50°	839.9	823.6	753.8	677.1	637.5
52.5°	772.5	746.9	679.4	602.6	570.0
55°	693.4	672.4	609.6	537.5	509.5
57.5°	621.2	600.3	542.1	474.6	451.4
60°	553.8	523.5	474.6	416.5	397.9
62.5°	479.3	456.0	414.2	365.3	388.6
65°	411.8	388.6	351.3	358.3	297.8
67.5°	337.4	325.7	293.2	260.6	251.3
70°	274.5	260.6	249.0	214.1	204.7
72.5°	218.7	204.7	188.5	169.8	162.9
75°	165.2	153.6	144.3	137.3	151.2
77.5°	114.0	109.4	102.4	95.4	93.1
80°	74.5	72.1	69.8	67.5	65.1
82.5°	44.2	44.2	44.2	44.2	44.2
85°	23.3	25.6	27.9	30.2	32.6
87.5°	14.0	14.0	16.3	18.6	20.9
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)