

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: P546273

Luminaire Tested: **FMR-12-4-LD4-2LO-50-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: P546273
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-50-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 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

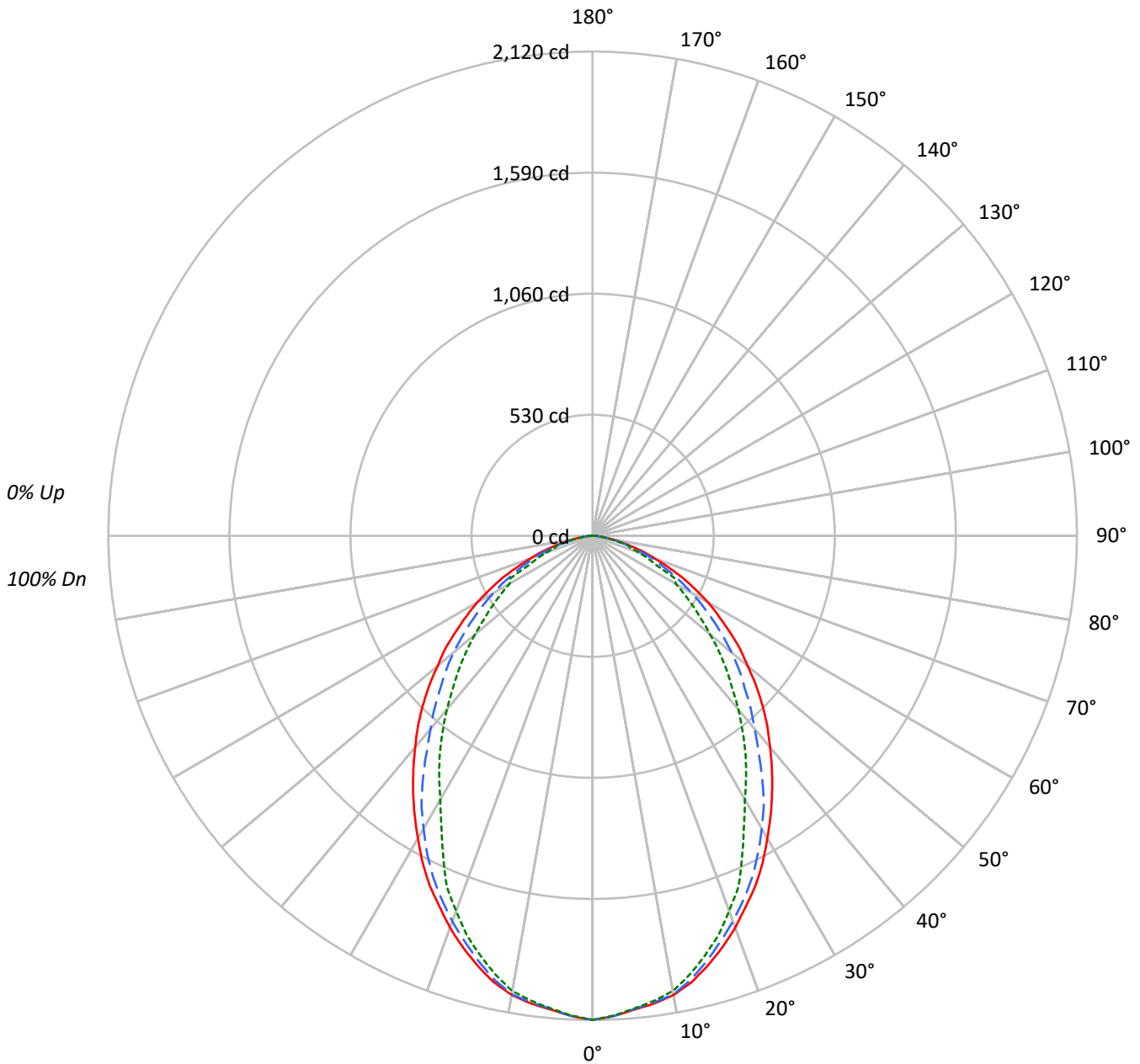
Lumens per Lamp: N/A
Luminaire Lumens: 4161.0 lumens
Efficiency: N/A
Efficacy: 88.9 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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°	5704	5704	5704
5°	5626	5620	5613
10°	5577	5571	5531
15°	5427	5372	5297
20°	5228	5143	5003
25°	5013	4904	4598
30°	4751	4599	4142
35°	4500	4250	3832
40°	4243	3874	3486
45°	4000	3581	3152
50°	3703	3324	2811
55°	3426	3012	2518
60°	3139	2690	2255
65°	2762	2356	1997
70°	2275	2063	1696
75°	1809	1579	1656
80°	1215	1139	1063
85°	756	908	1059



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	197.3	4.7
10°-20°	541.5	13.0
20°-30°	749.6	18.0
30°-40°	799.3	19.2
40°-50°	729.2	17.5
50°-60°	571.3	13.7
60°-70°	372.3	8.9
70°-80°	165.0	4.0
80°-90°	35.4	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°	1488.4	35.8
0°-40°	2287.8	55.0
0°-60°	3588.3	86.2
0°-90°	4161.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4161.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2120	2120	2120	2120	2120	
5°	2083	2080	2080	2078	2078	198
15°	1948	1948	1928	1909	1902	548
25°	1688	1678	1652	1593	1549	775
35°	1370	1360	1294	1196	1166	856
45°	1051	1029	941	862	828	810
55°	730	708	642	566	537	655
65°	434	409	370	377	314	427
75°	174	162	152	145	159	186
85°	24	27	29	32	34	34
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2119.6	2119.6	2119.6	2119.6	2119.6
2.5°	2104.9	2104.9	2104.9	2102.4	2102.4
5°	2082.8	2080.4	2080.4	2077.9	2077.9
7.5°	2065.6	2063.2	2060.7	2058.3	2053.4
10°	2041.1	2041.1	2038.7	2026.4	2024.0
12.5°	2001.9	1999.5	1989.7	1972.5	1967.6
15°	1948.0	1948.0	1928.4	1908.8	1901.5
17.5°	1889.2	1886.8	1862.3	1842.7	1832.9
20°	1825.5	1820.6	1796.1	1764.3	1747.1
22.5°	1754.5	1754.5	1725.1	1683.4	1666.2
25°	1688.3	1678.5	1651.5	1592.7	1548.6
27.5°	1612.3	1597.6	1568.2	1484.9	1433.5
30°	1529.0	1521.7	1480.0	1372.2	1333.0
32.5°	1450.6	1438.4	1394.3	1281.5	1249.7
35°	1369.7	1359.9	1293.8	1195.8	1166.4
37.5°	1288.9	1276.6	1193.3	1114.9	1078.2
40°	1208.0	1193.3	1102.7	1031.6	992.4
42.5°	1132.1	1112.5	1024.2	948.3	904.2
45°	1051.2	1029.1	940.9	862.5	828.2
47.5°	970.3	950.7	869.9	789.0	749.8
50°	884.6	867.4	793.9	713.1	671.4
52.5°	813.5	786.6	715.5	634.6	600.3
55°	730.2	708.2	642.0	566.0	536.6
57.5°	654.2	632.2	570.9	499.9	475.4
60°	583.2	551.3	499.9	438.6	419.0
62.5°	504.8	480.3	436.2	384.7	409.2
65°	433.7	409.2	370.0	377.4	313.6
67.5°	355.3	343.0	308.7	274.4	264.6
70°	289.1	274.4	262.2	225.4	215.6
72.5°	230.3	215.6	198.5	178.9	171.5
75°	174.0	161.7	151.9	144.6	159.3
77.5°	120.1	115.2	107.8	100.5	98.0
80°	78.4	76.0	73.5	71.1	68.6
82.5°	46.6	46.6	46.6	46.6	46.6
85°	24.5	27.0	29.4	31.9	34.3
87.5°	14.7	14.7	17.2	19.6	22.1
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)