

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: P546496

Luminaire Tested: **FMR-24-4-LD4-1HI-50-UNV-81-85-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: P546496
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-24-4-LD4-1HI-50-UNV-81-85-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

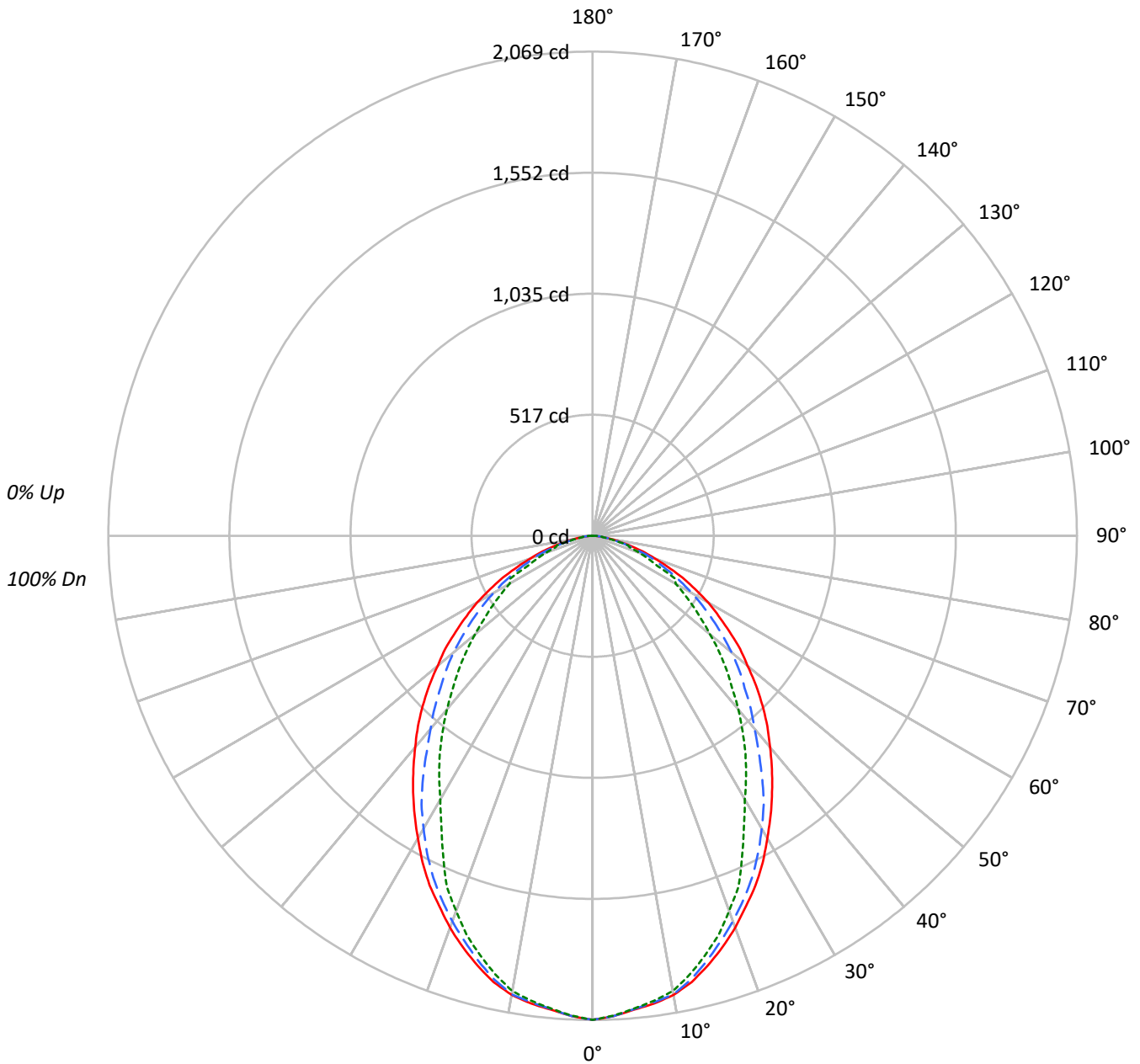
Lumens per Lamp: N/A
Luminaire Lumens: 4061.0 lumens
Efficiency: N/A
Efficacy: 94.0 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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: P546496

CATALOG NUMBER: FMR-24-4-LD4-1HI-50-UNV-81-85-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°	2783	2783	2783
5°	2745	2742	2739
10°	2722	2718	2699
15°	2648	2622	2585
20°	2551	2510	2441
25°	2446	2393	2244
30°	2318	2244	2021
35°	2196	2074	1870
40°	2071	1890	1701
45°	1952	1747	1538
50°	1807	1622	1372
55°	1672	1470	1228
60°	1532	1313	1100
65°	1348	1150	975
70°	1110	1007	828
75°	883	771	808
80°	593	556	519
85°	369	443	517



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	192.6	4.7
10°-20°	528.5	13.0
20°-30°	731.6	18.0
30°-40°	780.1	19.2
40°-50°	711.7	17.5
50°-60°	557.6	13.7
60°-70°	363.4	8.9
70°-80°	161.0	4.0
80°-90°	34.5	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°	1452.6	35.8
0°-40°	2232.8	55.0
0°-60°	3502.0	86.2
0°-90°	4061.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4061.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2069	2069	2069	2069	2069	
5°	2033	2030	2030	2028	2028	193
15°	1901	1901	1882	1863	1856	534
25°	1648	1638	1612	1554	1511	756
35°	1337	1327	1263	1167	1138	836
45°	1026	1004	918	842	808	790
55°	713	691	627	552	524	639
65°	423	399	361	368	306	417
75°	170	158	148	141	155	182
85°	24	26	29	31	34	33
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2068.6	2068.6	2068.6	2068.6	2068.6
2.5°	2054.3	2054.3	2054.3	2051.9	2051.9
5°	2032.7	2030.4	2030.4	2028.0	2028.0
7.5°	2016.0	2013.6	2011.2	2008.8	2004.0
10°	1992.1	1992.1	1989.7	1977.7	1975.4
12.5°	1953.8	1951.4	1941.9	1925.1	1920.3
15°	1901.2	1901.2	1882.1	1863.0	1855.8
17.5°	1843.8	1841.4	1817.5	1798.4	1788.8
20°	1781.6	1776.9	1752.9	1721.9	1705.1
22.5°	1712.3	1712.3	1683.6	1642.9	1626.2
25°	1647.7	1638.2	1611.8	1554.5	1511.4
27.5°	1573.6	1559.2	1530.5	1449.2	1399.0
30°	1492.3	1485.1	1444.4	1339.2	1301.0
32.5°	1415.7	1403.8	1360.7	1250.7	1219.6
35°	1336.8	1327.3	1262.7	1167.0	1138.3
37.5°	1257.9	1246.0	1164.6	1088.1	1052.2
40°	1179.0	1164.6	1076.2	1006.8	968.5
42.5°	1104.9	1085.7	999.6	925.5	882.5
45°	1025.9	1004.4	918.3	841.8	808.3
47.5°	947.0	927.9	849.0	770.1	731.8
50°	863.3	846.6	774.8	695.9	655.3
52.5°	794.0	767.7	698.3	619.4	585.9
55°	712.7	691.1	626.6	552.4	523.7
57.5°	638.5	617.0	557.2	487.9	463.9
60°	569.2	538.1	487.9	428.1	408.9
62.5°	492.6	468.7	425.7	375.5	399.4
65°	423.3	399.4	361.1	368.3	306.1
67.5°	346.8	334.8	301.3	267.8	258.3
70°	282.2	267.8	255.9	220.0	210.4
72.5°	224.8	210.4	193.7	174.6	167.4
75°	169.8	157.8	148.3	141.1	155.4
77.5°	117.2	112.4	105.2	98.1	95.7
80°	76.5	74.1	71.7	69.4	67.0
82.5°	45.4	45.4	45.4	45.4	45.4
85°	23.9	26.3	28.7	31.1	33.5
87.5°	14.3	14.3	16.7	19.1	21.5
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)