

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: P546500

Luminaire Tested: **FMR-24-4-LD4-1HI-50-UNV-81-94-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: P546500
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-81-94-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

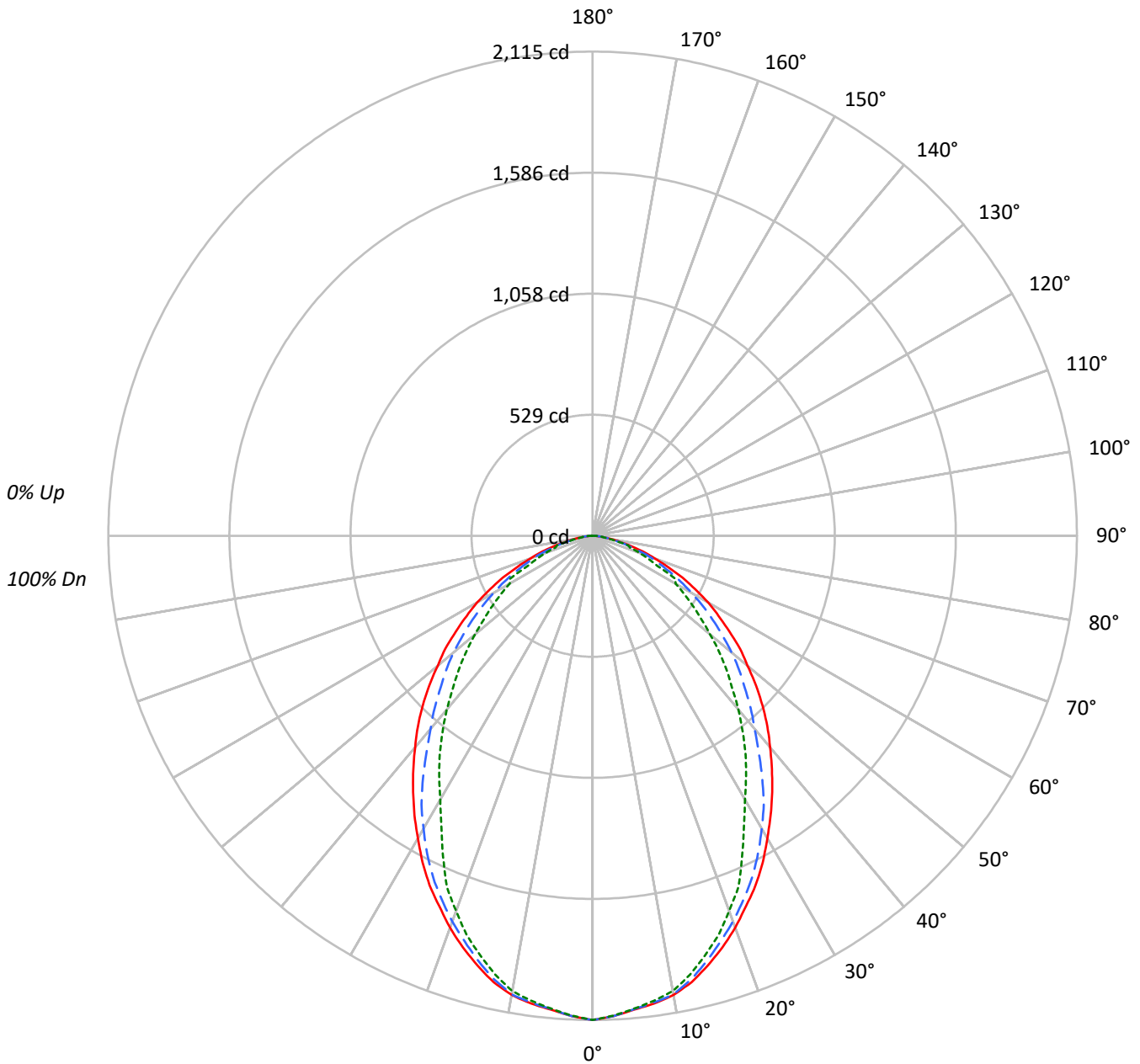
Lumens per Lamp: N/A
Luminaire Lumens: 4152.0 lumens
Efficiency: N/A
Efficacy: 96.1 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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

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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°	2846	2846	2846
5°	2807	2804	2800
10°	2783	2779	2759
15°	2708	2680	2643
20°	2608	2566	2496
25°	2501	2447	2294
30°	2370	2294	2066
35°	2245	2121	1912
40°	2117	1933	1739
45°	1996	1787	1572
50°	1848	1658	1402
55°	1709	1503	1256
60°	1566	1342	1125
65°	1378	1175	996
70°	1135	1029	847
75°	902	788	826
80°	606	569	531
85°	378	452	528



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	196.9	4.7
10°-20°	540.3	13.0
20°-30°	748.0	18.0
30°-40°	797.6	19.2
40°-50°	727.6	17.5
50°-60°	570.1	13.7
60°-70°	371.5	8.9
70°-80°	164.6	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°	1485.2	35.8
0°-40°	2282.8	55.0
0°-60°	3580.5	86.2
0°-90°	4152.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4152.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2115	2115	2115	2115	2115	
5°	2078	2076	2076	2073	2073	197
15°	1944	1944	1924	1905	1897	546
25°	1685	1675	1648	1589	1545	773
35°	1367	1357	1291	1193	1164	854
45°	1049	1027	939	861	826	808
55°	729	707	641	565	536	654
65°	433	408	369	376	313	426
75°	174	161	152	144	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°	2115.0	2115.0	2115.0	2115.0	2115.0
2.5°	2100.3	2100.3	2100.3	2097.9	2097.9
5°	2078.3	2075.9	2075.9	2073.4	2073.4
7.5°	2061.2	2058.7	2056.3	2053.8	2049.0
10°	2036.7	2036.7	2034.3	2022.1	2019.6
12.5°	1997.6	1995.2	1985.4	1968.3	1963.4
15°	1943.8	1943.8	1924.3	1904.7	1897.4
17.5°	1885.1	1882.7	1858.2	1838.7	1828.9
20°	1821.6	1816.7	1792.2	1760.4	1743.3
22.5°	1750.7	1750.7	1721.3	1679.8	1662.6
25°	1684.6	1674.9	1648.0	1589.3	1545.3
27.5°	1608.8	1594.2	1564.8	1481.7	1430.4
30°	1525.7	1518.4	1476.8	1369.2	1330.1
32.5°	1447.5	1435.2	1391.2	1278.8	1247.0
35°	1366.8	1357.0	1291.0	1193.2	1163.8
37.5°	1286.1	1273.9	1190.7	1112.5	1075.8
40°	1205.4	1190.7	1100.3	1029.4	990.2
42.5°	1129.6	1110.1	1022.0	946.2	902.2
45°	1048.9	1026.9	938.9	860.7	826.4
47.5°	968.2	948.7	868.0	787.3	748.2
50°	882.7	865.5	792.2	711.5	669.9
52.5°	811.8	784.9	714.0	633.3	599.0
55°	728.6	706.6	640.6	564.8	535.5
57.5°	652.8	630.8	569.7	498.8	474.3
60°	581.9	550.1	498.8	437.7	418.1
62.5°	503.7	479.2	435.2	383.9	408.3
65°	432.8	408.3	369.2	376.5	313.0
67.5°	354.5	342.3	308.1	273.8	264.1
70°	288.5	273.8	261.6	224.9	215.2
72.5°	229.8	215.2	198.0	178.5	171.2
75°	173.6	161.4	151.6	144.3	158.9
77.5°	119.8	114.9	107.6	100.2	97.8
80°	78.2	75.8	73.4	70.9	68.5
82.5°	46.5	46.5	46.5	46.5	46.5
85°	24.5	26.9	29.3	31.8	34.2
87.5°	14.7	14.7	17.1	19.6	22.0
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)