

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: P546305

Luminaire Tested: **FMR-12-4-LD4-2STD-35-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: P546305
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-LD4-2STD-35-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 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

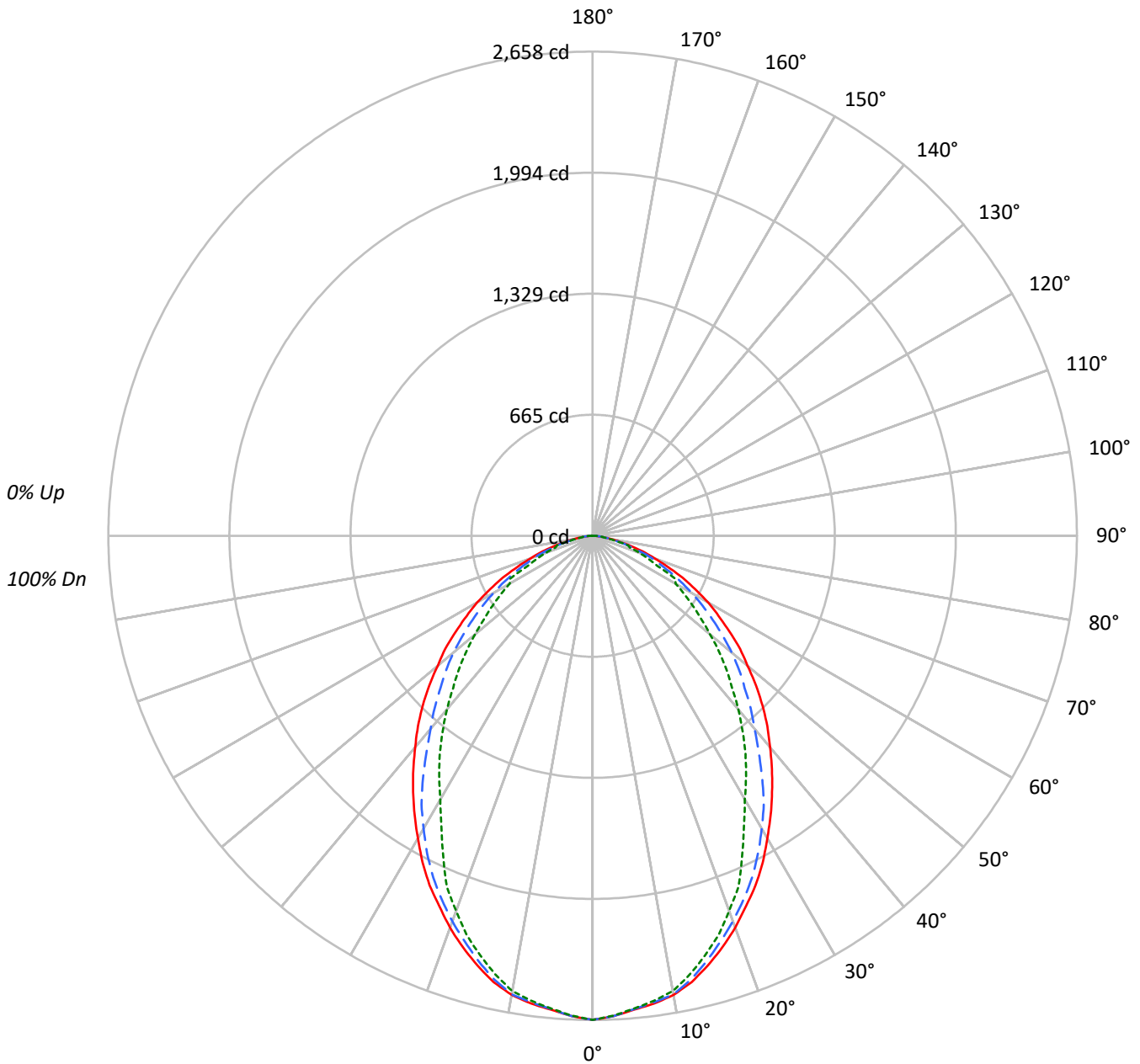
Lumens per Lamp: N/A
Luminaire Lumens: 5217.0 lumens
Efficiency: N/A
Efficacy: 78.3 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 66.6
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				100															
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87				87															
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75				75															
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65				65															
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56				56															
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50				50															
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44				44															
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40				40															
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36				36															
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33				33															
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30				30															

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	7151	7151	7151
5°	7054	7046	7037
10°	6993	6985	6934
15°	6804	6736	6642
20°	6554	6449	6273
25°	6285	6148	5765
30°	5957	5766	5193
35°	5642	5329	4804
40°	5321	4856	4371
45°	5016	4489	3952
50°	4643	4167	3524
55°	4295	3776	3156
60°	3935	3373	2827
65°	3463	2954	2504
70°	2852	2586	2127
75°	2268	1981	2076
80°	1523	1429	1333
85°	948	1139	1328



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	247.4	4.7
10°-20°	678.9	13.0
20°-30°	939.9	18.0
30°-40°	1002.2	19.2
40°-50°	914.3	17.5
50°-60°	716.3	13.7
60°-70°	466.8	8.9
70°-80°	206.8	4.0
80°-90°	44.4	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°	1866.2	35.8
0°-40°	2868.4	55.0
0°-60°	4498.9	86.2
0°-90°	5217.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5217.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2658	2658	2658	2658	2658	
5°	2611	2608	2608	2605	2605	248
15°	2442	2442	2418	2393	2384	687
25°	2117	2104	2071	1997	1942	972
35°	1717	1705	1622	1499	1462	1074
45°	1318	1290	1180	1081	1038	1015
55°	916	888	805	710	673	821
65°	544	513	464	473	393	536
75°	218	203	190	181	200	234
85°	31	34	37	40	43	43
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2657.5	2657.5	2657.5	2657.5	2657.5
2.5°	2639.0	2639.0	2639.0	2636.0	2636.0
5°	2611.4	2608.3	2608.3	2605.2	2605.2
7.5°	2589.9	2586.8	2583.7	2580.7	2574.5
10°	2559.2	2559.2	2556.1	2540.7	2537.7
12.5°	2510.0	2506.9	2494.6	2473.1	2467.0
15°	2442.4	2442.4	2417.8	2393.3	2384.0
17.5°	2368.7	2365.6	2334.9	2310.3	2298.0
20°	2288.8	2282.7	2251.9	2212.0	2190.5
22.5°	2199.7	2199.7	2162.8	2110.6	2089.1
25°	2116.8	2104.5	2070.7	1996.9	1941.6
27.5°	2021.5	2003.1	1966.2	1861.8	1797.2
30°	1917.1	1907.8	1855.6	1720.4	1671.3
32.5°	1818.8	1803.4	1748.1	1606.8	1566.8
35°	1717.4	1705.1	1622.1	1499.2	1462.4
37.5°	1616.0	1600.6	1496.2	1397.9	1351.8
40°	1514.6	1496.2	1382.5	1293.4	1244.2
42.5°	1419.4	1394.8	1284.2	1188.9	1133.6
45°	1318.0	1290.3	1179.7	1081.4	1038.4
47.5°	1216.6	1192.0	1090.6	989.3	940.1
50°	1109.1	1087.6	995.4	894.0	841.8
52.5°	1020.0	986.2	897.1	795.7	752.7
55°	915.5	887.9	804.9	709.7	672.8
57.5°	820.3	792.6	715.8	626.7	596.0
60°	731.2	691.2	626.7	549.9	525.3
62.5°	632.9	602.2	546.9	482.3	513.1
65°	543.8	513.1	463.9	473.1	393.2
67.5°	445.5	430.1	387.1	344.1	331.8
70°	362.5	344.1	328.7	282.6	270.4
72.5°	288.8	270.4	248.8	224.3	215.1
75°	218.1	202.8	190.5	181.3	199.7
77.5°	150.5	144.4	135.2	126.0	122.9
80°	98.3	95.2	92.2	89.1	86.0
82.5°	58.4	58.4	58.4	58.4	58.4
85°	30.7	33.8	36.9	39.9	43.0
87.5°	18.4	18.4	21.5	24.6	27.6
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)