

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: P546667

Luminaire Tested: **FMR-24-4-LD4-1STD-50-UNV-82-88-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: P546667
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-LD4-1STD-50-UNV-82-88-EDD
Description: 2X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

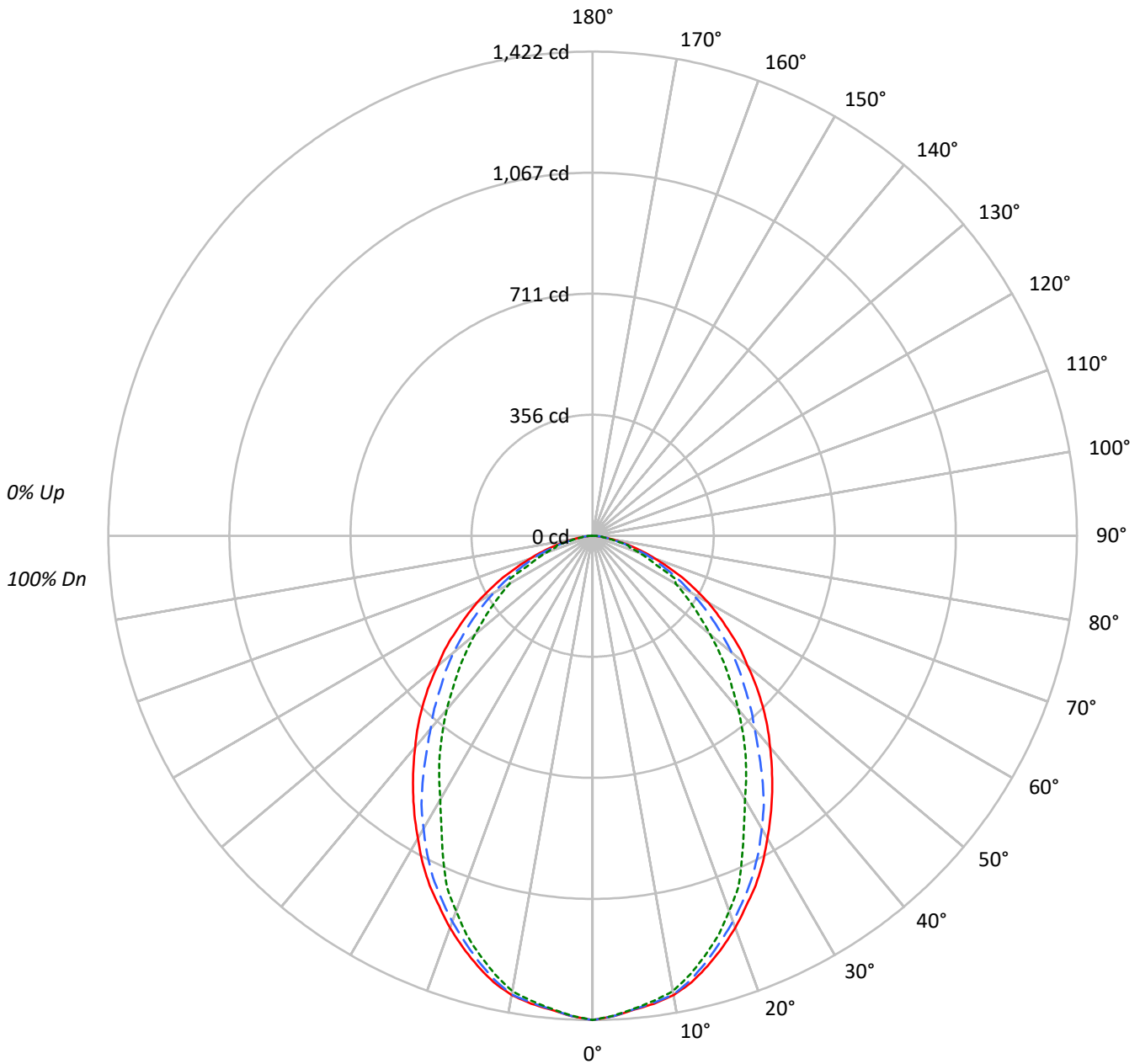
Lumens per Lamp: N/A
Luminaire Lumens: 2792.0 lumens
Efficiency: N/A
Efficacy: 83.8 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 33.3
Input Voltage (V): NR
Input Current (A_{in}): 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°	1914	1914	1914
5°	1888	1885	1883
10°	1871	1869	1855
15°	1821	1802	1777
20°	1754	1726	1679
25°	1682	1645	1543
30°	1594	1543	1390
35°	1510	1426	1285
40°	1424	1300	1170
45°	1342	1201	1057
50°	1242	1115	943
55°	1149	1011	845
60°	1053	903	757
65°	926	791	670
70°	763	692	569
75°	607	530	556
80°	408	382	356
85°	253	304	355



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	132.4	4.7
10°-20°	363.3	13.0
20°-30°	503.0	18.0
30°-40°	536.3	19.2
40°-50°	489.3	17.5
50°-60°	383.3	13.7
60°-70°	249.8	8.9
70°-80°	110.7	4.0
80°-90°	23.8	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°	998.7	35.8
0°-40°	1535.1	55.0
0°-60°	2407.7	86.2
0°-90°	2792.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2792.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1422	1422	1422	1422	1422	
5°	1398	1396	1396	1394	1394	133
15°	1307	1307	1294	1281	1276	367
25°	1133	1126	1108	1069	1039	520
35°	919	912	868	802	783	575
45°	705	691	631	579	556	543
55°	490	475	431	380	360	439
65°	291	275	248	253	210	287
75°	117	108	102	97	107	125
85°	16	18	20	21	23	23
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1422.2	1422.2	1422.2	1422.2	1422.2
2.5°	1412.3	1412.3	1412.3	1410.7	1410.7
5°	1397.5	1395.9	1395.9	1394.3	1394.3
7.5°	1386.0	1384.4	1382.7	1381.1	1377.8
10°	1369.6	1369.6	1367.9	1359.7	1358.1
12.5°	1343.3	1341.6	1335.1	1323.6	1320.3
15°	1307.1	1307.1	1294.0	1280.8	1275.9
17.5°	1267.7	1266.0	1249.6	1236.4	1229.8
20°	1224.9	1221.6	1205.2	1183.8	1172.3
22.5°	1177.2	1177.2	1157.5	1129.5	1118.0
25°	1132.8	1126.3	1108.2	1068.7	1039.1
27.5°	1081.9	1072.0	1052.3	996.4	961.8
30°	1026.0	1021.0	993.1	920.7	894.4
32.5°	973.3	965.1	935.5	859.9	838.5
35°	919.1	912.5	868.1	802.4	782.6
37.5°	864.8	856.6	800.7	748.1	723.4
40°	810.6	800.7	739.9	692.2	665.9
42.5°	759.6	746.5	687.3	636.3	606.7
45°	705.3	690.6	631.4	578.7	555.7
47.5°	651.1	637.9	583.7	529.4	503.1
50°	593.5	582.0	532.7	478.5	450.5
52.5°	545.9	527.8	480.1	425.8	402.8
55°	490.0	475.2	430.8	379.8	360.1
57.5°	439.0	424.2	383.1	335.4	319.0
60°	391.3	369.9	335.4	294.3	281.2
62.5°	338.7	322.3	292.7	258.1	274.6
65°	291.0	274.6	248.3	253.2	210.5
67.5°	238.4	230.2	207.2	184.1	177.6
70°	194.0	184.1	175.9	151.3	144.7
72.5°	154.6	144.7	133.2	120.0	115.1
75°	116.7	108.5	101.9	97.0	106.9
77.5°	80.6	77.3	72.3	67.4	65.8
80°	52.6	51.0	49.3	47.7	46.0
82.5°	31.2	31.2	31.2	31.2	31.2
85°	16.4	18.1	19.7	21.4	23.0
87.5°	9.9	9.9	11.5	13.2	14.8
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)