

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: P546625

Luminaire Tested: **FMR-24-4-LD4-1STD-40-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: P546625
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-40-UNV-81-86-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

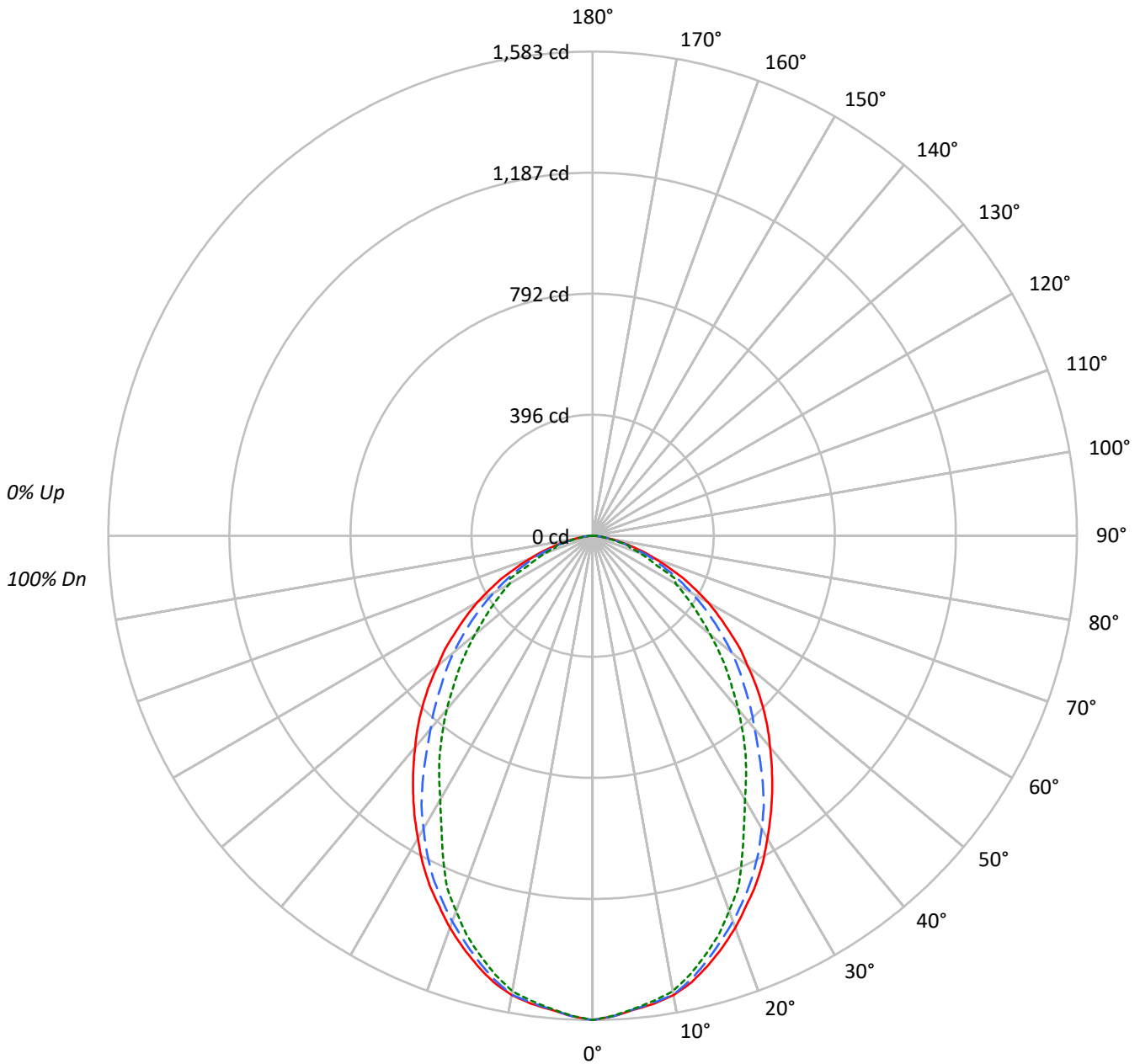
Lumens per Lamp: N/A
Luminaire Lumens: 3108.0 lumens
Efficiency: N/A
Efficacy: 93.3 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 33.3
Input Voltage (V): NR
Input Current (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°	2130	2130	2130
5°	2101	2099	2096
10°	2083	2081	2065
15°	2027	2006	1978
20°	1952	1921	1869
25°	1872	1831	1717
30°	1774	1718	1547
35°	1680	1587	1431
40°	1585	1447	1302
45°	1494	1337	1177
50°	1383	1241	1050
55°	1279	1125	940
60°	1172	1005	842
65°	1032	880	746
70°	850	770	634
75°	675	590	619
80°	454	425	397
85°	283	340	395



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	147.4	4.7
10°-20°	404.5	13.0
20°-30°	559.9	18.0
30°-40°	597.1	19.2
40°-50°	544.7	17.5
50°-60°	426.7	13.7
60°-70°	278.1	8.9
70°-80°	123.2	4.0
80°-90°	26.5	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°	1111.8	35.8
0°-40°	1708.8	55.0
0°-60°	2680.2	86.2
0°-90°	3108.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3108.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1583	1583	1583	1583	1583	
5°	1556	1554	1554	1552	1552	148
15°	1455	1455	1440	1426	1420	409
25°	1261	1254	1234	1190	1157	579
35°	1023	1016	966	893	871	640
45°	785	769	703	644	619	605
55°	545	529	480	423	401	489
65°	324	306	276	282	234	319
75°	130	121	114	108	119	139
85°	18	20	22	24	26	25
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1583.2	1583.2	1583.2	1583.2	1583.2
2.5°	1572.2	1572.2	1572.2	1570.4	1570.4
5°	1555.7	1553.9	1553.9	1552.1	1552.1
7.5°	1542.9	1541.1	1539.2	1537.4	1533.8
10°	1524.6	1524.6	1522.8	1513.6	1511.8
12.5°	1495.3	1493.5	1486.2	1473.4	1469.7
15°	1455.1	1455.1	1440.4	1425.8	1420.3
17.5°	1411.1	1409.3	1391.0	1376.4	1369.0
20°	1363.5	1359.9	1341.6	1317.8	1305.0
22.5°	1310.5	1310.5	1288.5	1257.4	1244.6
25°	1261.0	1253.7	1233.6	1189.7	1156.7
27.5°	1204.3	1193.3	1171.4	1109.1	1070.7
30°	1142.1	1136.6	1105.5	1024.9	995.7
32.5°	1083.5	1074.4	1041.4	957.2	933.4
35°	1023.1	1015.8	966.4	893.2	871.2
37.5°	962.7	953.6	891.3	832.8	805.3
40°	902.3	891.3	823.6	770.5	741.3
42.5°	845.6	830.9	765.0	708.3	675.4
45°	785.2	768.7	702.8	644.3	618.6
47.5°	724.8	710.1	649.7	589.3	560.1
50°	660.7	647.9	593.0	532.6	501.5
52.5°	607.6	587.5	534.4	474.0	448.4
55°	545.4	528.9	479.5	422.8	400.8
57.5°	488.7	472.2	426.5	373.4	355.1
60°	435.6	411.8	373.4	327.6	313.0
62.5°	377.0	358.7	325.8	287.4	305.7
65°	324.0	305.7	276.4	281.9	234.3
67.5°	265.4	256.2	230.6	205.0	197.7
70°	216.0	205.0	195.8	168.4	161.1
72.5°	172.0	161.1	148.3	133.6	128.1
75°	129.9	120.8	113.5	108.0	119.0
77.5°	89.7	86.0	80.5	75.0	73.2
80°	58.6	56.7	54.9	53.1	51.2
82.5°	34.8	34.8	34.8	34.8	34.8
85°	18.3	20.1	22.0	23.8	25.6
87.5°	11.0	11.0	12.8	14.6	16.5
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)