

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: P546657

Luminaire Tested: **FMR-24-4-LD4-1STD-50-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: P546657
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-81-86-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

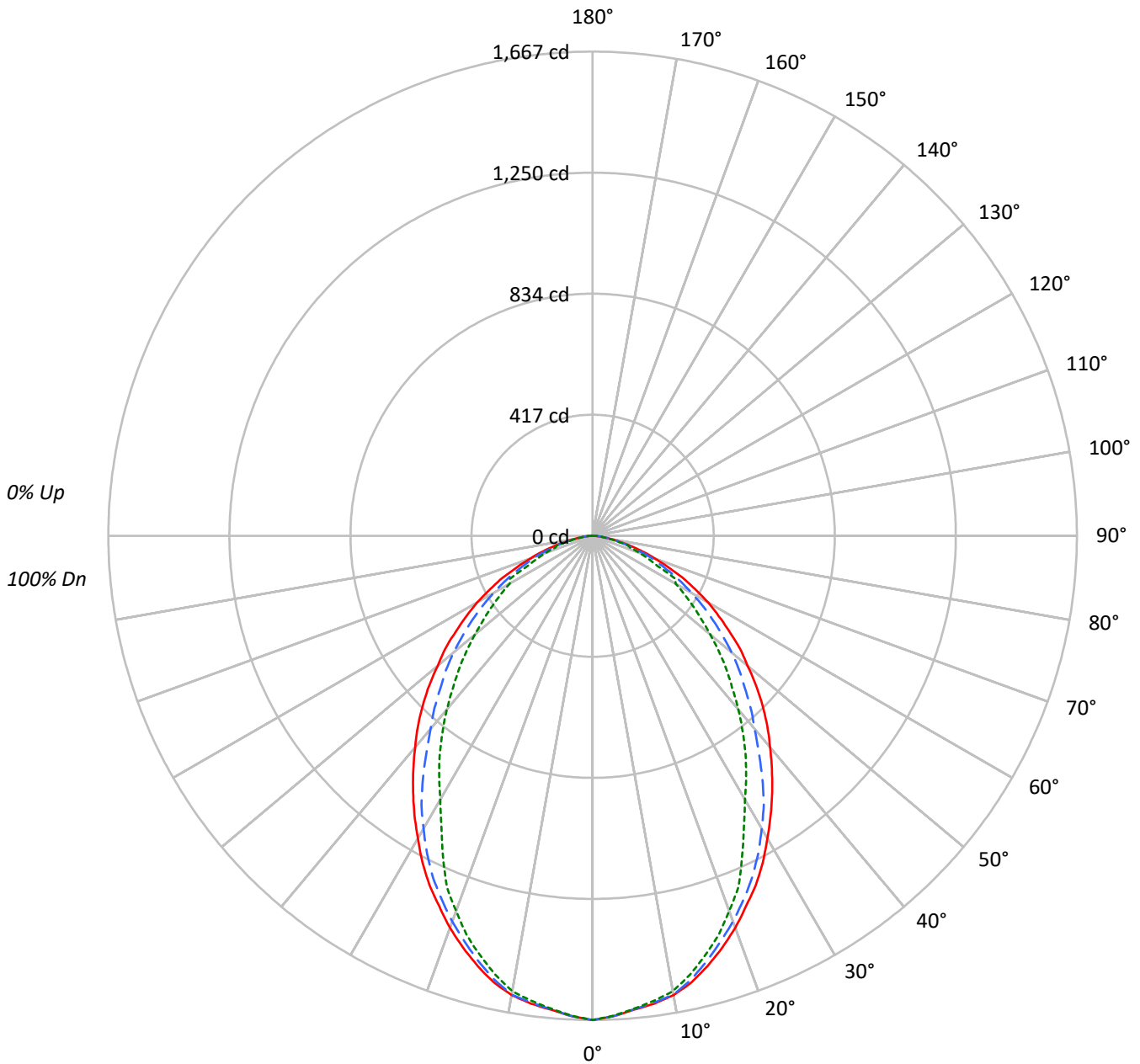
Lumens per Lamp: N/A
Luminaire Lumens: 3273.0 lumens
Efficiency: N/A
Efficacy: 98.3 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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°	2243	2243	2243
5°	2213	2210	2208
10°	2194	2191	2175
15°	2134	2113	2083
20°	2056	2023	1968
25°	1972	1929	1808
30°	1869	1809	1629
35°	1770	1672	1507
40°	1669	1523	1371
45°	1573	1408	1240
50°	1456	1307	1105
55°	1347	1185	990
60°	1234	1058	887
65°	1086	926	785
70°	895	811	667
75°	711	621	651
80°	478	448	418
85°	298	357	417



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	155.2	4.7
10°-20°	425.9	13.0
20°-30°	589.7	18.0
30°-40°	628.8	19.2
40°-50°	573.6	17.5
50°-60°	449.4	13.7
60°-70°	292.9	8.9
70°-80°	129.8	4.0
80°-90°	27.9	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°	1170.8	35.8
0°-40°	1799.5	55.0
0°-60°	2822.5	86.2
0°-90°	3273.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3273.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1667	1667	1667	1667	1667	
5°	1638	1636	1636	1634	1634	156
15°	1532	1532	1517	1502	1496	431
25°	1328	1320	1299	1253	1218	610
35°	1077	1070	1018	941	918	674
45°	827	810	740	678	652	637
55°	574	557	505	445	422	515
65°	341	322	291	297	247	336
75°	137	127	120	114	125	147
85°	19	21	23	25	27	27
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1667.2	1667.2	1667.2	1667.2	1667.2
2.5°	1655.7	1655.7	1655.7	1653.7	1653.7
5°	1638.3	1636.4	1636.4	1634.5	1634.5
7.5°	1624.8	1622.9	1621.0	1619.0	1615.2
10°	1605.5	1605.5	1603.6	1594.0	1592.1
12.5°	1574.7	1572.8	1565.1	1551.6	1547.7
15°	1532.3	1532.3	1516.9	1501.5	1495.7
17.5°	1486.0	1484.1	1464.8	1449.4	1441.7
20°	1435.9	1432.1	1412.8	1387.7	1374.3
22.5°	1380.0	1380.0	1356.9	1324.1	1310.6
25°	1328.0	1320.3	1299.1	1252.8	1218.1
27.5°	1268.2	1256.7	1233.6	1168.0	1127.5
30°	1202.7	1196.9	1164.2	1079.4	1048.5
32.5°	1141.0	1131.4	1096.7	1008.0	983.0
35°	1077.4	1069.7	1017.7	940.6	917.5
37.5°	1013.8	1004.2	938.7	877.0	848.1
40°	950.2	938.7	867.3	811.4	780.6
42.5°	890.5	875.1	805.7	745.9	711.2
45°	826.9	809.5	740.1	678.5	651.5
47.5°	763.3	747.8	684.2	620.6	589.8
50°	695.8	682.3	624.5	560.9	528.1
52.5°	639.9	618.7	562.8	499.2	472.2
55°	574.4	557.0	505.0	445.2	422.1
57.5°	514.6	497.3	449.1	393.2	373.9
60°	458.7	433.7	393.2	345.0	329.6
62.5°	397.0	377.8	343.1	302.6	321.9
65°	341.2	321.9	291.0	296.8	246.7
67.5°	279.5	269.8	242.9	215.9	208.2
70°	227.4	215.9	206.2	177.3	169.6
72.5°	181.2	169.6	156.1	140.7	134.9
75°	136.8	127.2	119.5	113.7	125.3
77.5°	94.4	90.6	84.8	79.0	77.1
80°	61.7	59.8	57.8	55.9	54.0
82.5°	36.6	36.6	36.6	36.6	36.6
85°	19.3	21.2	23.1	25.1	27.0
87.5°	11.6	11.6	13.5	15.4	17.3
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)