

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: P546608

Luminaire Tested: **FMR-24-4-LD4-1STD-35-UNV-93-85-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: P546608
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-35-UNV-93-85-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

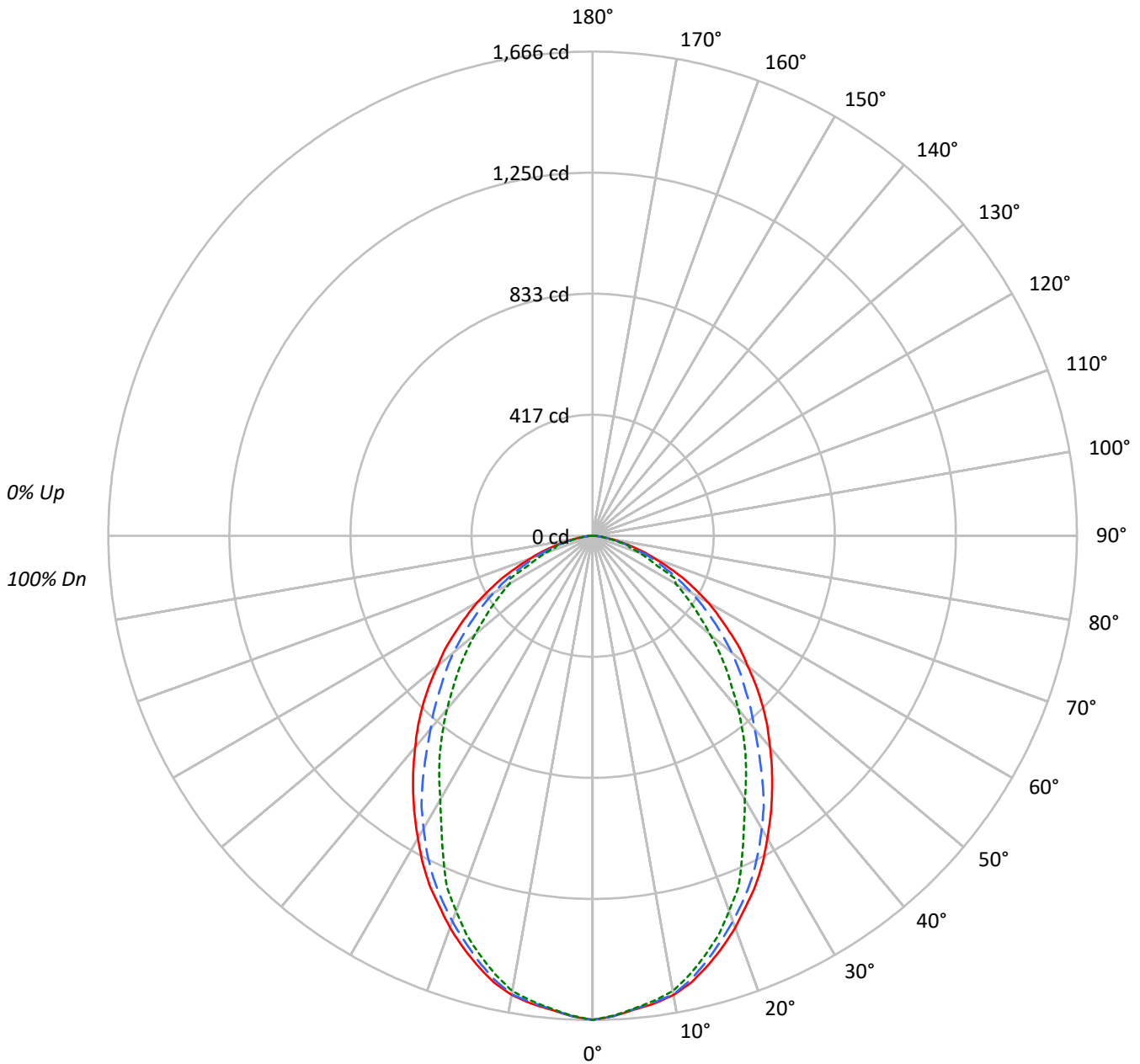
Lumens per Lamp: N/A
Luminaire Lumens: 3270.0 lumens
Efficiency: N/A
Efficacy: 98.2 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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°	2241	2241	2241
5°	2211	2208	2206
10°	2192	2189	2173
15°	2132	2111	2081
20°	2054	2021	1966
25°	1970	1927	1807
30°	1867	1807	1628
35°	1768	1670	1506
40°	1667	1522	1370
45°	1572	1407	1239
50°	1455	1306	1104
55°	1346	1183	989
60°	1233	1057	886
65°	1085	926	785
70°	894	810	667
75°	711	621	651
80°	477	448	418
85°	298	357	417



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	155.1	4.7
10°-20°	425.5	13.0
20°-30°	589.1	18.0
30°-40°	628.2	19.2
40°-50°	573.1	17.5
50°-60°	449.0	13.7
60°-70°	292.6	8.9
70°-80°	129.6	4.0
80°-90°	27.8	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°	1169.7	35.8
0°-40°	1797.9	55.0
0°-60°	2819.9	86.2
0°-90°	3270.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3270.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1666	1666	1666	1666	1666	
5°	1637	1635	1635	1633	1633	155
15°	1531	1531	1516	1500	1494	430
25°	1327	1319	1298	1252	1217	609
35°	1076	1069	1017	940	917	673
45°	826	809	740	678	651	636
55°	574	556	504	445	422	515
65°	341	322	291	297	246	336
75°	137	127	119	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°	1665.7	1665.7	1665.7	1665.7	1665.7
2.5°	1654.1	1654.1	1654.1	1652.2	1652.2
5°	1636.8	1634.9	1634.9	1633.0	1633.0
7.5°	1623.3	1621.4	1619.5	1617.6	1613.7
10°	1604.1	1604.1	1602.1	1592.5	1590.6
12.5°	1573.3	1571.3	1563.6	1550.2	1546.3
15°	1530.9	1530.9	1515.5	1500.1	1494.3
17.5°	1484.7	1482.8	1463.5	1448.1	1440.4
20°	1434.6	1430.8	1411.5	1386.5	1373.0
22.5°	1378.8	1378.8	1355.7	1322.9	1309.4
25°	1326.8	1319.1	1297.9	1251.7	1217.0
27.5°	1267.1	1255.5	1232.4	1166.9	1126.5
30°	1201.6	1195.8	1163.1	1078.4	1047.6
32.5°	1140.0	1130.4	1095.7	1007.1	982.1
35°	1076.4	1068.7	1016.7	939.7	916.6
37.5°	1012.9	1003.3	937.8	876.2	847.3
40°	949.3	937.8	866.5	810.7	779.9
42.5°	889.7	874.2	804.9	745.2	710.6
45°	826.1	808.8	739.5	677.8	650.9
47.5°	762.6	747.2	683.6	620.1	589.3
50°	695.2	681.7	623.9	560.4	527.6
52.5°	639.3	618.1	562.3	498.7	471.8
55°	573.8	556.5	504.5	444.8	421.7
57.5°	514.2	496.8	448.7	392.8	373.6
60°	458.3	433.3	392.8	344.7	329.3
62.5°	396.7	377.4	342.8	302.3	321.6
65°	340.8	321.6	290.8	296.6	246.5
67.5°	279.2	269.6	242.6	215.7	208.0
70°	227.2	215.7	206.0	177.2	169.5
72.5°	181.0	169.5	156.0	140.6	134.8
75°	136.7	127.1	119.4	113.6	125.2
77.5°	94.4	90.5	84.7	79.0	77.0
80°	61.6	59.7	57.8	55.8	53.9
82.5°	36.6	36.6	36.6	36.6	36.6
85°	19.3	21.2	23.1	25.0	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)