

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: P546614

Luminaire Tested: **FMR-24-4-LD4-1STD-35-UNV-93-97-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: P546614
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-93-97-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

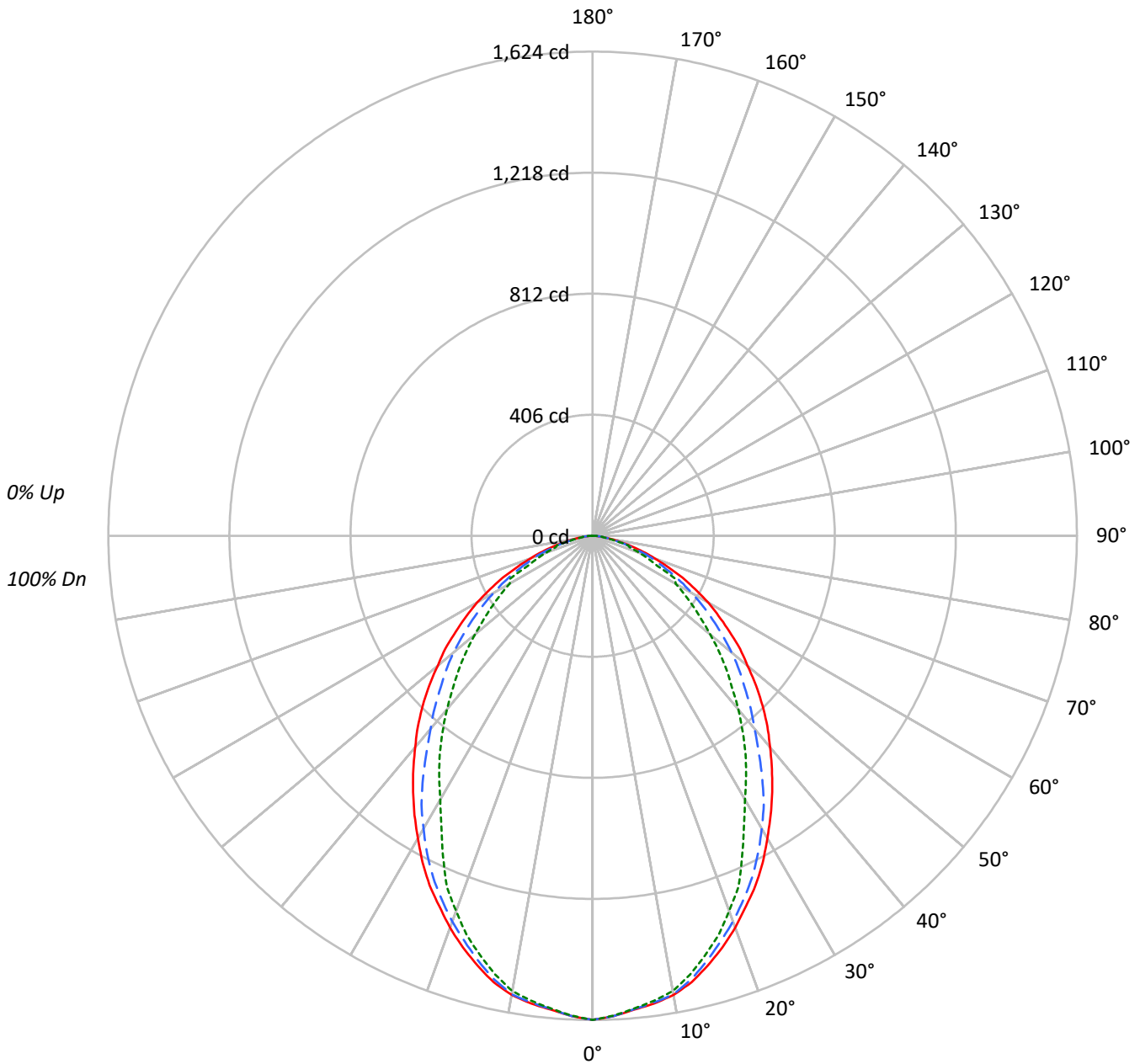
Lumens per Lamp: N/A
Luminaire Lumens: 3188.0 lumens
Efficiency: N/A
Efficacy: 95.7 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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°	2185	2185	2185
5°	2155	2153	2150
10°	2137	2134	2119
15°	2079	2058	2029
20°	2003	1970	1917
25°	1920	1878	1761
30°	1820	1762	1587
35°	1724	1628	1468
40°	1626	1484	1335
45°	1533	1372	1208
50°	1419	1273	1077
55°	1312	1154	964
60°	1202	1031	864
65°	1058	903	765
70°	871	790	650
75°	693	605	634
80°	466	436	408
85°	290	347	406



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	151.2	4.7
10°-20°	414.9	13.0
20°-30°	574.3	18.0
30°-40°	612.4	19.2
40°-50°	558.7	17.5
50°-60°	437.7	13.7
60°-70°	285.3	8.9
70°-80°	126.4	4.0
80°-90°	27.1	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°	1140.4	35.8
0°-40°	1752.8	55.0
0°-60°	2749.2	86.2
0°-90°	3188.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3188.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1624	1624	1624	1624	1624	
5°	1596	1594	1594	1592	1592	151
15°	1492	1492	1478	1462	1457	420
25°	1294	1286	1265	1220	1186	594
35°	1049	1042	991	916	894	656
45°	805	788	721	661	635	620
55°	560	543	492	434	411	502
65°	332	314	284	289	240	327
75°	133	124	116	111	122	143
85°	19	21	22	24	26	26
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1623.9	1623.9	1623.9	1623.9	1623.9
2.5°	1612.7	1612.7	1612.7	1610.8	1610.8
5°	1595.8	1593.9	1593.9	1592.0	1592.0
7.5°	1582.6	1580.7	1578.9	1577.0	1573.2
10°	1563.8	1563.8	1562.0	1552.6	1550.7
12.5°	1533.8	1531.9	1524.4	1511.3	1507.5
15°	1492.5	1492.5	1477.5	1462.5	1456.8
17.5°	1447.5	1445.6	1426.8	1411.8	1404.3
20°	1398.6	1394.9	1376.1	1351.7	1338.6
22.5°	1344.2	1344.2	1321.7	1289.8	1276.6
25°	1293.5	1286.0	1265.3	1220.3	1186.5
27.5°	1235.3	1224.0	1201.5	1137.7	1098.3
30°	1171.5	1165.8	1133.9	1051.3	1021.3
32.5°	1111.4	1102.0	1068.2	981.9	957.5
35°	1049.4	1041.9	991.3	916.2	893.6
37.5°	987.5	978.1	914.3	854.2	826.0
40°	925.5	914.3	844.8	790.4	760.3
42.5°	867.3	852.3	784.7	726.5	692.7
45°	805.4	788.5	720.9	660.8	634.6
47.5°	743.4	728.4	666.5	604.5	574.5
50°	677.7	664.6	608.3	546.3	514.4
52.5°	623.3	602.6	548.2	486.2	460.0
55°	559.5	542.6	491.9	433.7	411.1
57.5°	501.3	484.4	437.4	383.0	364.2
60°	446.8	422.4	383.0	336.0	321.0
62.5°	386.7	368.0	334.2	294.7	313.5
65°	332.3	313.5	283.5	289.1	240.3
67.5°	272.2	262.8	236.5	210.3	202.8
70°	221.5	210.3	200.9	172.7	165.2
72.5°	176.5	165.2	152.1	137.0	131.4
75°	133.3	123.9	116.4	110.8	122.0
77.5°	92.0	88.2	82.6	77.0	75.1
80°	60.1	58.2	56.3	54.4	52.6
82.5°	35.7	35.7	35.7	35.7	35.7
85°	18.8	20.7	22.5	24.4	26.3
87.5°	11.3	11.3	13.1	15.0	16.9
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)