

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: P546605

Luminaire Tested: **FMR-24-4-LD4-1STD-35-UNV-82-96-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: P546605
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-82-96-EDD
Description: 2X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

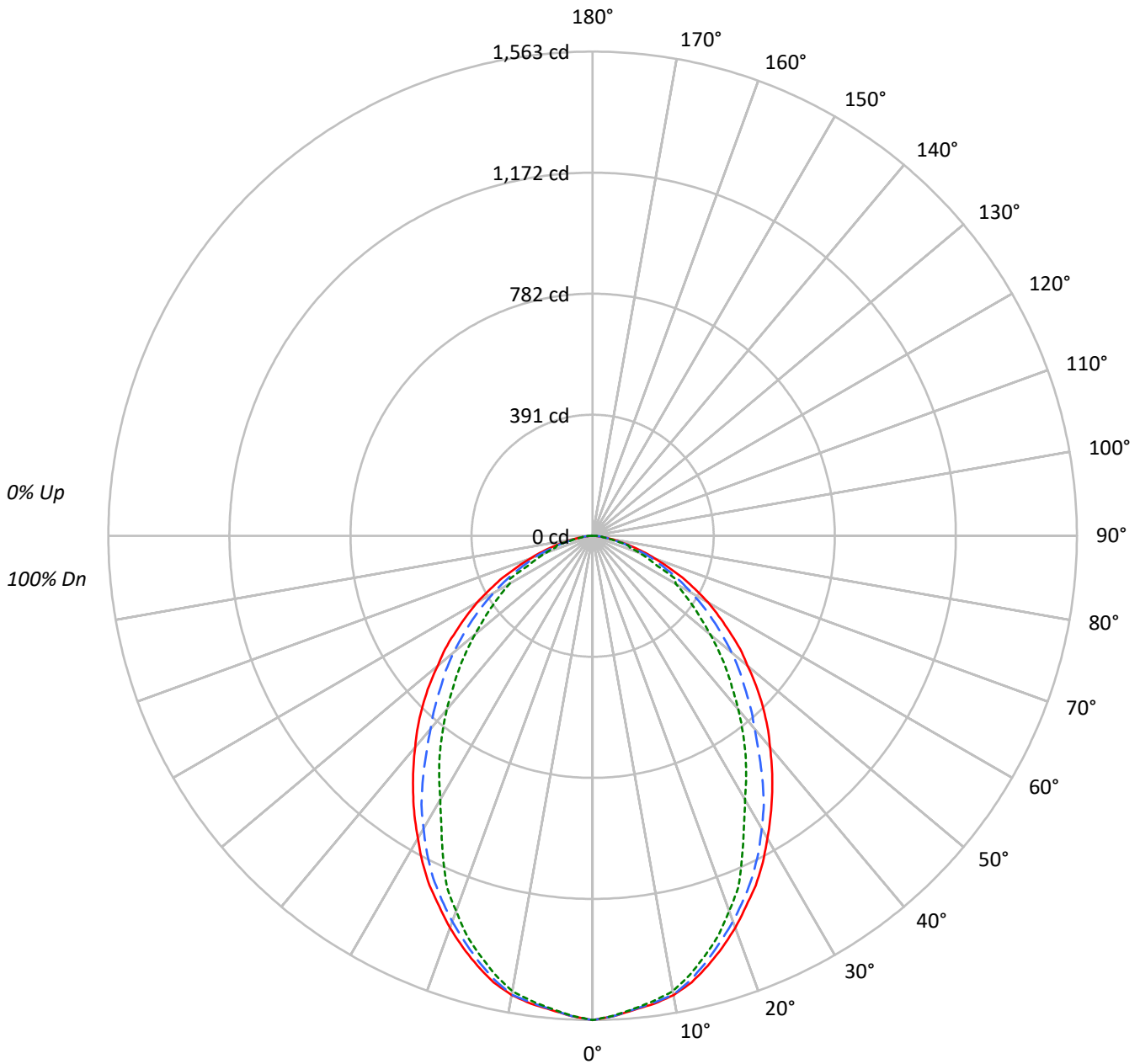
Lumens per Lamp: N/A
Luminaire Lumens: 3069.0 lumens
Efficiency: N/A
Efficacy: 92.2 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 33.3
Input Voltage (V): NR
Input Current (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

TEST NUMBER: P546605

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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				20				20
RC	80				70				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	100	100	100
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87	87	87	87
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75	75	75	75
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65	65	65	65
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56	56	56	56
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50	50	50	50
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44	44	44	44
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40	40	40	40
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36	36	36	36
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33	33	33	33
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30	30	30	30

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2103	2103	2103
5°	2075	2072	2070
10°	2057	2054	2040
15°	2001	1981	1954
20°	1928	1897	1845
25°	1849	1808	1696
30°	1752	1696	1528
35°	1659	1567	1413
40°	1565	1428	1286
45°	1475	1321	1162
50°	1366	1226	1037
55°	1263	1111	928
60°	1157	992	832
65°	1018	869	736
70°	839	761	625
75°	667	583	611
80°	448	420	392
85°	279	335	391



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	145.5	4.7
10°-20°	399.4	13.0
20°-30°	552.9	18.0
30°-40°	589.6	19.2
40°-50°	537.9	17.5
50°-60°	421.4	13.7
60°-70°	274.6	8.9
70°-80°	121.7	4.0
80°-90°	26.1	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°	1097.8	35.8
0°-40°	1687.4	55.0
0°-60°	2646.6	86.2
0°-90°	3069.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3069.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1563	1563	1563	1563	1563	
5°	1536	1534	1534	1533	1533	146
15°	1437	1437	1422	1408	1402	404
25°	1245	1238	1218	1175	1142	572
35°	1010	1003	954	882	860	632
45°	775	759	694	636	611	597
55°	539	522	474	418	396	483
65°	320	302	273	278	231	315
75°	128	119	112	107	118	138
85°	18	20	22	24	25	25
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1563.3	1563.3	1563.3	1563.3	1563.3
2.5°	1552.5	1552.5	1552.5	1550.7	1550.7
5°	1536.2	1534.4	1534.4	1532.6	1532.6
7.5°	1523.5	1521.7	1519.9	1518.1	1514.5
10°	1505.5	1505.5	1503.7	1494.6	1492.8
12.5°	1476.6	1474.8	1467.5	1454.9	1451.3
15°	1436.8	1436.8	1422.3	1407.9	1402.5
17.5°	1393.4	1391.6	1373.5	1359.1	1351.9
20°	1346.4	1342.8	1324.7	1301.3	1288.6
22.5°	1294.0	1294.0	1272.3	1241.6	1229.0
25°	1245.2	1238.0	1218.1	1174.7	1142.2
27.5°	1189.2	1178.4	1156.7	1095.2	1057.3
30°	1127.8	1122.3	1091.6	1012.1	983.2
32.5°	1069.9	1060.9	1028.3	945.2	921.7
35°	1010.3	1003.0	954.3	882.0	860.3
37.5°	950.6	941.6	880.2	822.3	795.2
40°	891.0	880.2	813.3	760.9	732.0
42.5°	835.0	820.5	755.4	699.4	666.9
45°	775.3	759.1	694.0	636.2	610.9
47.5°	715.7	701.2	641.6	581.9	553.0
50°	652.4	639.8	585.6	525.9	495.2
52.5°	600.0	580.1	527.7	468.1	442.8
55°	538.6	522.3	473.5	417.5	395.8
57.5°	482.5	466.3	421.1	368.7	350.6
60°	430.1	406.6	368.7	323.5	309.0
62.5°	372.3	354.2	321.7	283.7	301.8
65°	319.9	301.8	272.9	278.3	231.3
67.5°	262.1	253.0	227.7	202.4	195.2
70°	213.3	202.4	193.4	166.3	159.0
72.5°	169.9	159.0	146.4	131.9	126.5
75°	128.3	119.3	112.1	106.6	117.5
77.5°	88.6	84.9	79.5	74.1	72.3
80°	57.8	56.0	54.2	52.4	50.6
82.5°	34.3	34.3	34.3	34.3	34.3
85°	18.1	19.9	21.7	23.5	25.3
87.5°	10.8	10.8	12.7	14.5	16.3
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)