

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: P545837

Luminaire Tested: **FMR-12-4-LD4-1HI-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: P545837
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-12-4-LD4-1HI-35-UNV-82-96-EDD
Description: 1X4 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

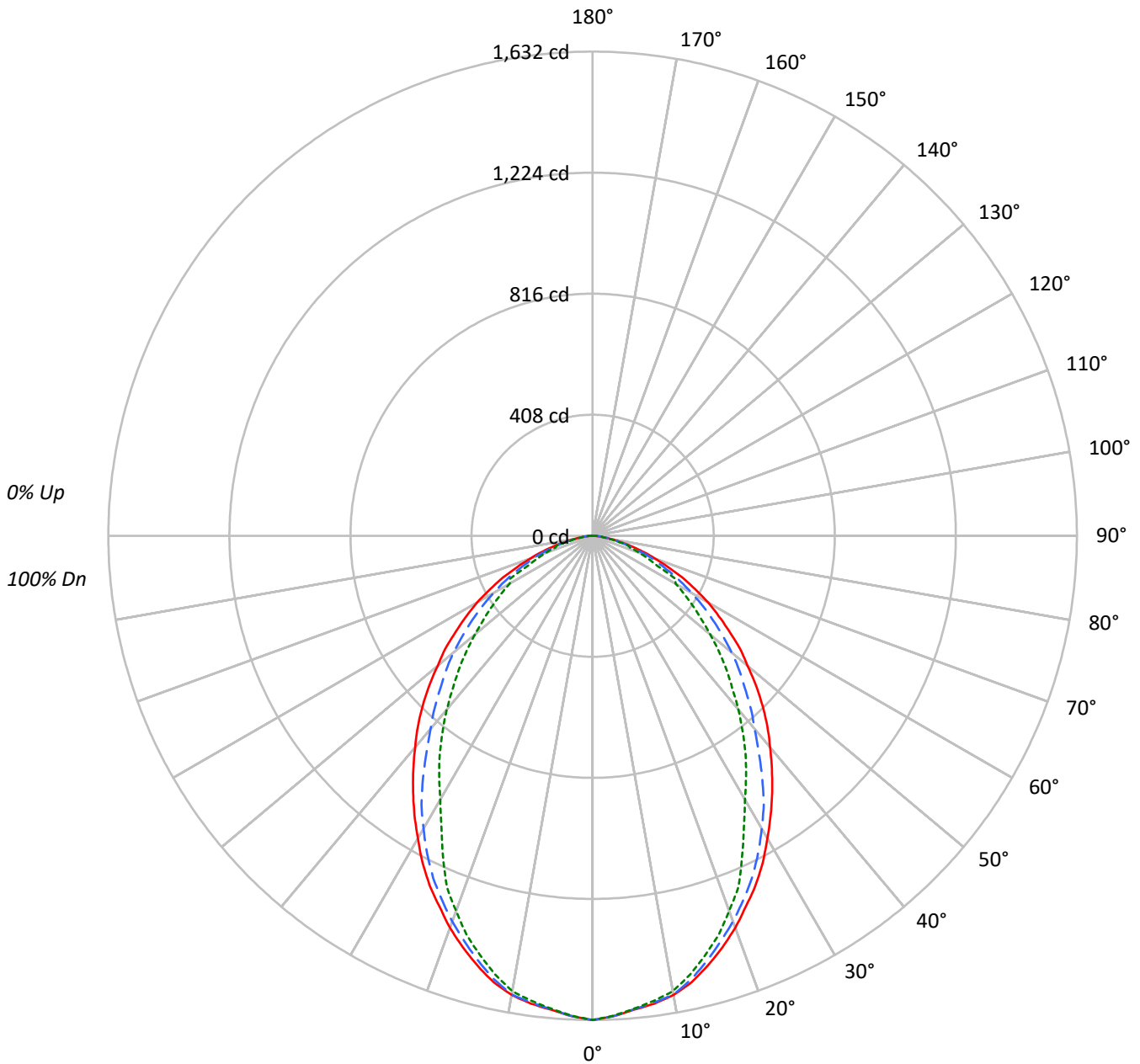
Lumens per Lamp: N/A
Luminaire Lumens: 3204.0 lumens
Efficiency: N/A
Efficacy: 74.2 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 43.2
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°	4392	4392	4392
5°	4332	4327	4322
10°	4295	4289	4259
15°	4179	4137	4079
20°	4025	3960	3853
25°	3860	3776	3541
30°	3659	3541	3189
35°	3465	3273	2950
40°	3268	2983	2684
45°	3080	2757	2427
50°	2851	2559	2164
55°	2638	2319	1939
60°	2417	2072	1736
65°	2127	1814	1538
70°	1751	1589	1306
75°	1393	1216	1275
80°	936	877	818
85°	584	698	815



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	151.9	4.7
10°-20°	416.9	13.0
20°-30°	577.2	18.0
30°-40°	615.5	19.2
40°-50°	561.5	17.5
50°-60°	439.9	13.7
60°-70°	286.7	8.9
70°-80°	127.0	4.0
80°-90°	27.3	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°	1146.1	35.8
0°-40°	1761.6	55.0
0°-60°	2763.0	86.2
0°-90°	3204.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3204.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1632	1632	1632	1632	1632	
5°	1604	1602	1602	1600	1600	152
15°	1500	1500	1485	1470	1464	422
25°	1300	1292	1272	1226	1192	597
35°	1055	1047	996	921	898	659
45°	809	792	724	664	638	623
55°	562	545	494	436	413	504
65°	334	315	285	291	242	329
75°	134	124	117	111	123	144
85°	19	21	23	24	26	26
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1632.1	1632.1	1632.1	1632.1	1632.1
2.5°	1620.8	1620.8	1620.8	1618.9	1618.9
5°	1603.8	1601.9	1601.9	1600.0	1600.0
7.5°	1590.6	1588.7	1586.8	1584.9	1581.1
10°	1571.7	1571.7	1569.8	1560.4	1558.5
12.5°	1541.5	1539.6	1532.1	1518.9	1515.1
15°	1500.0	1500.0	1484.9	1469.8	1464.2
17.5°	1454.7	1452.8	1434.0	1418.9	1411.3
20°	1405.7	1401.9	1383.0	1358.5	1345.3
22.5°	1350.9	1350.9	1328.3	1296.2	1283.0
25°	1300.0	1292.5	1271.7	1226.4	1192.5
27.5°	1241.5	1230.2	1207.5	1143.4	1103.8
30°	1177.4	1171.7	1139.6	1056.6	1026.4
32.5°	1117.0	1107.5	1073.6	986.8	962.3
35°	1054.7	1047.2	996.2	920.8	898.1
37.5°	992.5	983.0	918.9	858.5	830.2
40°	930.2	918.9	849.1	794.3	764.2
42.5°	871.7	856.6	788.7	730.2	696.2
45°	809.4	792.5	724.5	664.2	637.7
47.5°	747.2	732.1	669.8	607.5	577.4
50°	681.1	667.9	611.3	549.1	517.0
52.5°	626.4	605.7	550.9	488.7	462.3
55°	562.3	545.3	494.3	435.8	413.2
57.5°	503.8	486.8	439.6	384.9	366.0
60°	449.1	424.5	384.9	337.7	322.6
62.5°	388.7	369.8	335.8	296.2	315.1
65°	334.0	315.1	284.9	290.6	241.5
67.5°	273.6	264.2	237.7	211.3	203.8
70°	222.6	211.3	201.9	173.6	166.0
72.5°	177.4	166.0	152.8	137.7	132.1
75°	134.0	124.5	117.0	111.3	122.6
77.5°	92.5	88.7	83.0	77.4	75.5
80°	60.4	58.5	56.6	54.7	52.8
82.5°	35.8	35.8	35.8	35.8	35.8
85°	18.9	20.8	22.6	24.5	26.4
87.5°	11.3	11.3	13.2	15.1	17.0
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)