

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: P546634

Luminaire Tested: **FMR-24-4-LD4-1STD-40-UNV-82-87-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: P546634
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-40-UNV-82-87-EDD
Description: 2X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

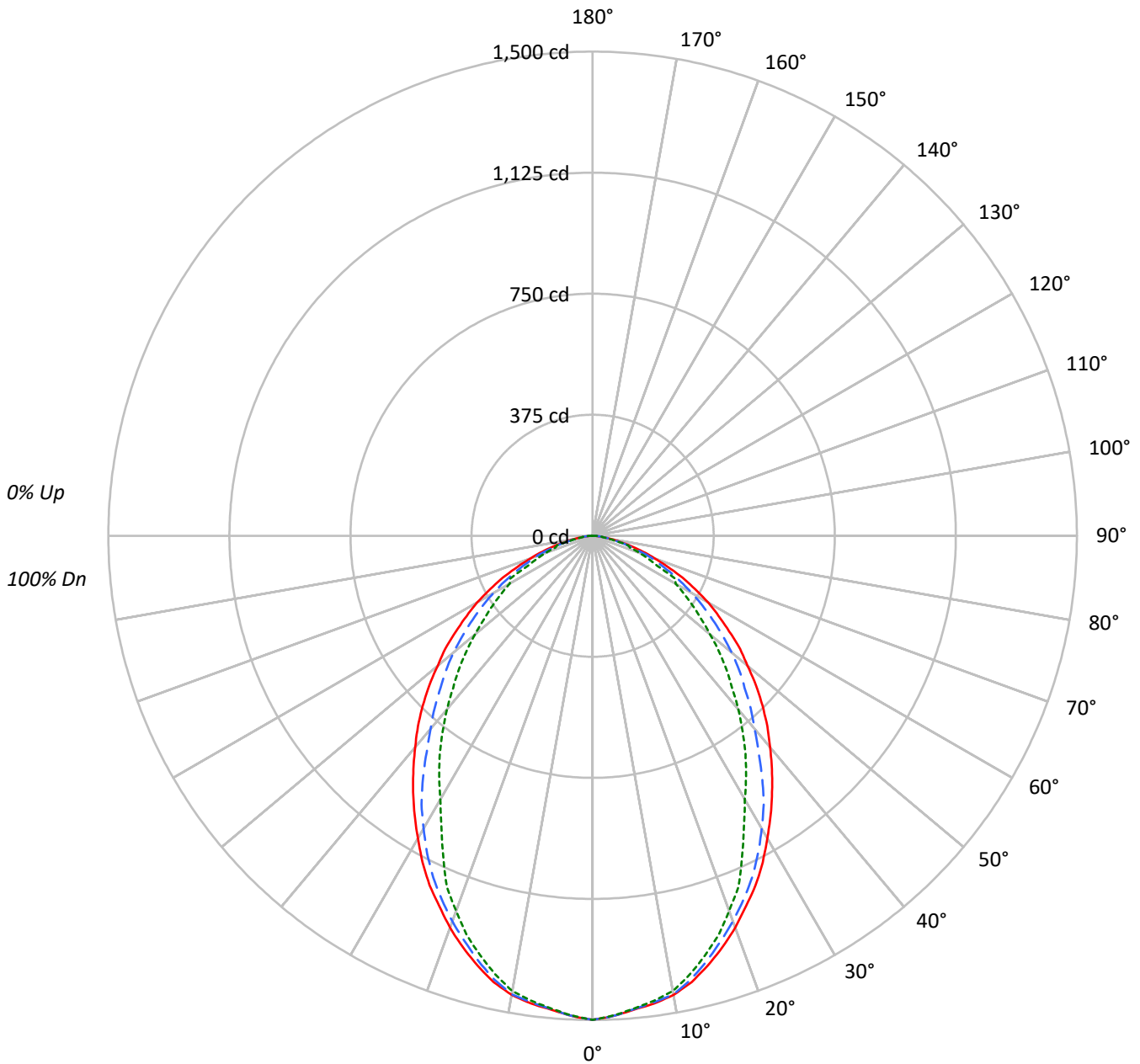
Lumens per Lamp: N/A
Luminaire Lumens: 2944.0 lumens
Efficiency: N/A
Efficacy: 88.4 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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°	2018	2018	2018
5°	1990	1988	1986
10°	1973	1971	1956
15°	1920	1901	1874
20°	1849	1820	1770
25°	1773	1735	1627
30°	1681	1627	1465
35°	1592	1504	1355
40°	1501	1370	1233
45°	1415	1267	1115
50°	1310	1176	994
55°	1212	1065	891
60°	1110	952	798
65°	977	833	706
70°	805	730	600
75°	640	559	586
80°	430	403	376
85°	267	321	375



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	139.6	4.7
10°-20°	383.1	13.0
20°-30°	530.4	18.0
30°-40°	565.5	19.2
40°-50°	515.9	17.5
50°-60°	404.2	13.7
60°-70°	263.4	8.9
70°-80°	116.7	4.0
80°-90°	25.0	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°	1053.1	35.8
0°-40°	1618.6	55.0
0°-60°	2538.8	86.2
0°-90°	2944.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2944.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1500	1500	1500	1500	1500	
5°	1474	1472	1472	1470	1470	140
15°	1378	1378	1364	1350	1345	387
25°	1194	1188	1168	1127	1096	548
35°	969	962	915	846	825	606
45°	744	728	666	610	586	573
55°	517	501	454	400	380	463
65°	307	290	262	267	222	302
75°	123	114	108	102	113	132
85°	17	19	21	22	24	24
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1499.6	1499.6	1499.6	1499.6	1499.6
2.5°	1489.2	1489.2	1489.2	1487.5	1487.5
5°	1473.6	1471.9	1471.9	1470.2	1470.2
7.5°	1461.5	1459.8	1458.0	1456.3	1452.8
10°	1444.2	1444.2	1442.4	1433.8	1432.0
12.5°	1416.4	1414.7	1407.7	1395.6	1392.1
15°	1378.3	1378.3	1364.4	1350.5	1345.3
17.5°	1336.7	1334.9	1317.6	1303.7	1296.8
20°	1291.6	1288.1	1270.8	1248.3	1236.1
22.5°	1241.3	1241.3	1220.5	1191.0	1178.9
25°	1194.5	1187.6	1168.5	1126.9	1095.7
27.5°	1140.8	1130.4	1109.6	1050.6	1014.2
30°	1081.8	1076.6	1047.1	970.9	943.1
32.5°	1026.3	1017.7	986.5	906.7	884.2
35°	969.1	962.2	915.4	846.0	825.2
37.5°	911.9	903.2	844.3	788.8	762.8
40°	854.7	844.3	780.2	729.9	702.1
42.5°	801.0	787.1	724.7	670.9	639.7
45°	743.7	728.1	665.7	610.3	586.0
47.5°	686.5	672.7	615.5	558.2	530.5
50°	625.9	613.7	561.7	504.5	475.0
52.5°	575.6	556.5	506.2	449.0	424.8
55°	516.6	501.0	454.2	400.5	379.7
57.5°	462.9	447.3	403.9	353.7	336.3
60°	412.6	390.1	353.7	310.3	296.5
62.5°	357.1	339.8	308.6	272.2	289.5
65°	306.9	289.5	261.8	267.0	221.9
67.5°	251.4	242.7	218.4	194.2	187.2
70°	204.6	194.2	185.5	159.5	152.6
72.5°	163.0	152.6	140.4	126.6	121.4
75°	123.1	114.4	107.5	102.3	112.7
77.5°	85.0	81.5	76.3	71.1	69.3
80°	55.5	53.7	52.0	50.3	48.5
82.5°	32.9	32.9	32.9	32.9	32.9
85°	17.3	19.1	20.8	22.5	24.3
87.5°	10.4	10.4	12.1	13.9	15.6
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)