

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: P546665

Luminaire Tested: **FMR-24-4-LD4-1STD-50-UNV-82-86-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: P546665
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-50-UNV-82-86-EDD
Description: 2X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

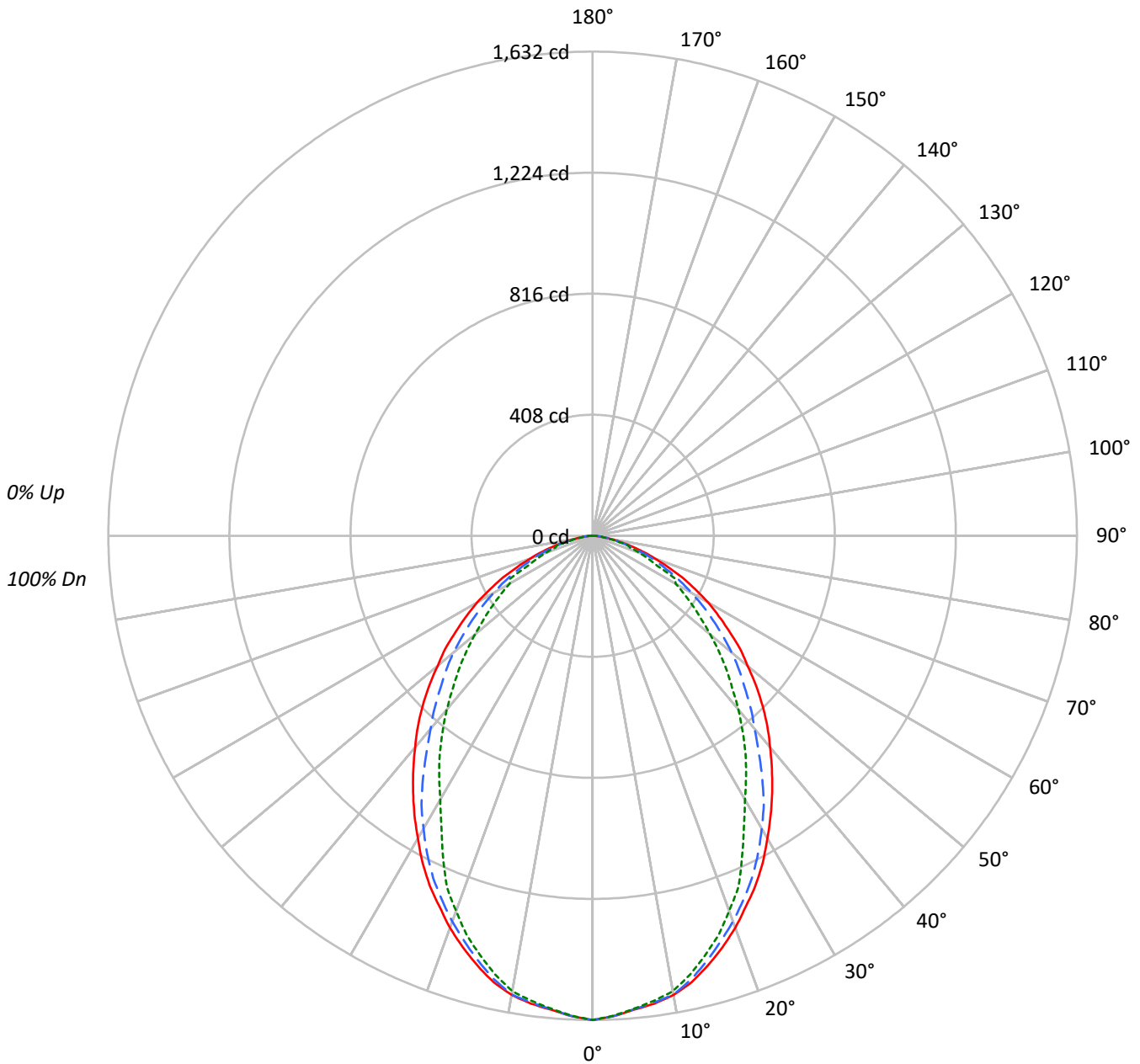
Lumens per Lamp: N/A
Luminaire Lumens: 3204.0 lumens
Efficiency: N/A
Efficacy: 96.2 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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°	2196	2196	2196
5°	2166	2164	2161
10°	2147	2145	2129
15°	2089	2068	2040
20°	2013	1980	1926
25°	1930	1888	1770
30°	1829	1771	1595
35°	1732	1636	1475
40°	1634	1491	1342
45°	1540	1379	1213
50°	1426	1280	1082
55°	1319	1160	969
60°	1209	1036	868
65°	1063	907	769
70°	876	794	653
75°	697	608	637
80°	468	439	409
85°	292	349	408



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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)