

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: P546601

Luminaire Tested: **FMR-24-4-LD4-1STD-35-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: P546601
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-82-86-EDD
Description: 2X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

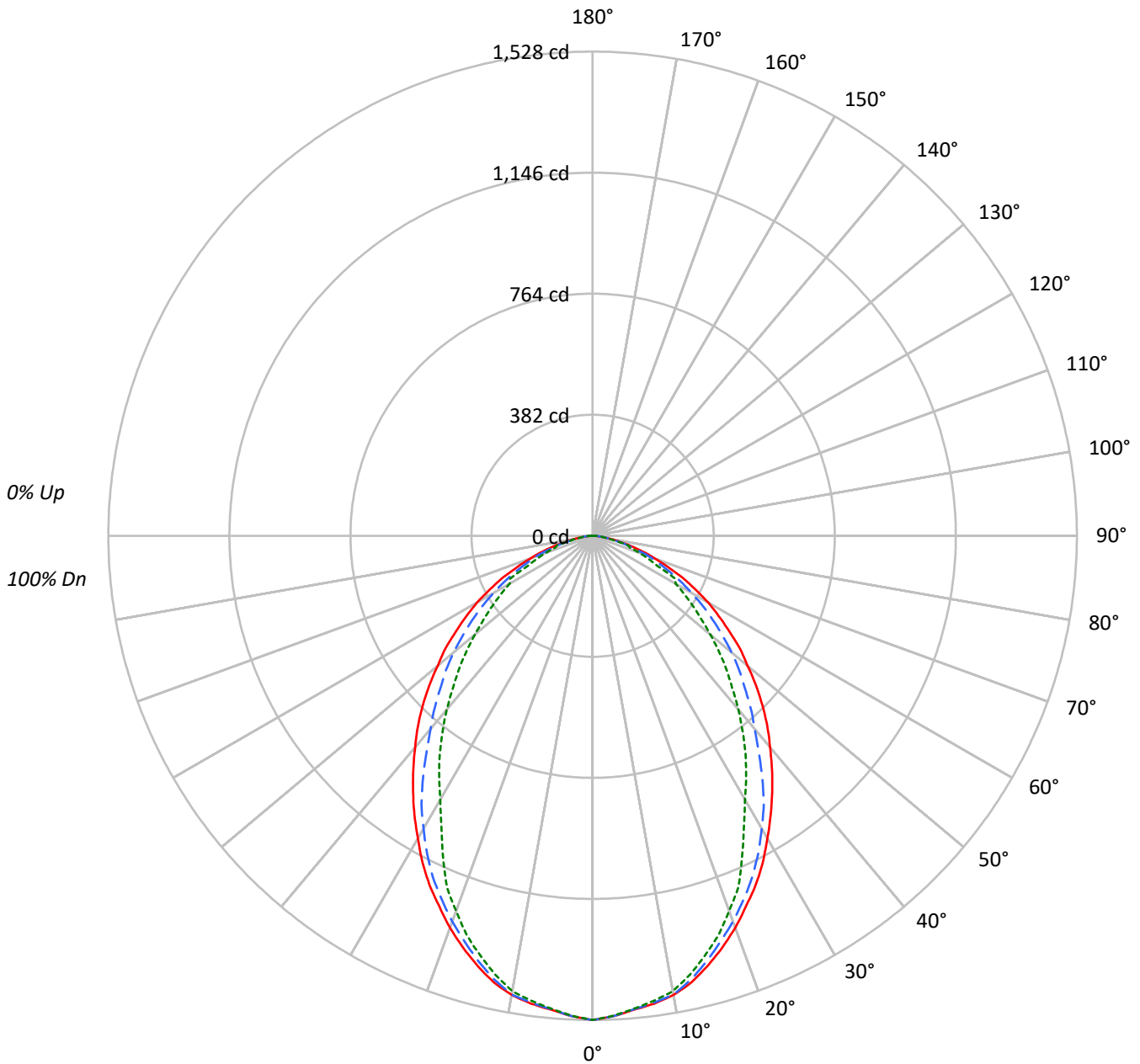
Lumens per Lamp: N/A
Luminaire Lumens: 3000.0 lumens
Efficiency: N/A
Efficacy: 90.1 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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°	2056	2056	2056
5°	2028	2026	2023
10°	2011	2008	1994
15°	1956	1937	1910
20°	1885	1854	1804
25°	1807	1768	1658
30°	1713	1658	1493
35°	1622	1532	1381
40°	1530	1396	1257
45°	1442	1291	1136
50°	1335	1198	1013
55°	1235	1086	908
60°	1132	970	813
65°	996	849	720
70°	820	744	612
75°	652	569	597
80°	438	411	384
85°	273	327	381



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	142.3	4.7
10°-20°	390.4	13.0
20°-30°	540.5	18.0
30°-40°	576.3	19.2
40°-50°	525.8	17.5
50°-60°	411.9	13.7
60°-70°	268.5	8.9
70°-80°	118.9	4.0
80°-90°	25.5	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°	1073.1	35.8
0°-40°	1649.4	55.0
0°-60°	2587.1	86.2
0°-90°	3000.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3000.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1528	1528	1528	1528	1528	
5°	1502	1500	1500	1498	1498	143
15°	1404	1404	1390	1376	1371	395
25°	1217	1210	1191	1148	1116	559
35°	988	980	933	862	841	617
45°	758	742	678	622	597	584
55°	526	511	463	408	387	472
65°	313	295	267	272	226	308
75°	125	117	110	104	115	134
85°	18	19	21	23	25	25
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1528.2	1528.2	1528.2	1528.2	1528.2
2.5°	1517.6	1517.6	1517.6	1515.8	1515.8
5°	1501.7	1499.9	1499.9	1498.1	1498.1
7.5°	1489.3	1487.5	1485.8	1484.0	1480.5
10°	1471.6	1471.6	1469.9	1461.0	1459.3
12.5°	1443.4	1441.6	1434.5	1422.2	1418.6
15°	1404.5	1404.5	1390.4	1376.2	1370.9
17.5°	1362.1	1360.3	1342.7	1328.5	1321.5
20°	1316.2	1312.6	1295.0	1272.0	1259.6
22.5°	1264.9	1264.9	1243.7	1213.7	1201.3
25°	1217.2	1210.2	1190.7	1148.3	1116.5
27.5°	1162.5	1151.9	1130.7	1070.6	1033.5
30°	1102.4	1097.1	1067.1	989.3	961.1
32.5°	1045.9	1037.0	1005.2	924.0	901.0
35°	987.6	980.5	932.8	862.1	840.9
37.5°	929.3	920.4	860.4	803.8	777.3
40°	871.0	860.4	795.0	743.8	715.5
42.5°	816.2	802.1	738.5	683.7	651.9
45°	757.9	742.0	678.4	621.9	597.1
47.5°	699.6	685.5	627.2	568.9	540.6
50°	637.8	625.4	572.4	514.1	484.1
52.5°	586.5	567.1	515.9	457.6	432.8
55°	526.5	510.6	462.9	408.1	386.9
57.5°	471.7	455.8	411.6	360.4	342.7
60°	420.5	397.5	360.4	316.2	302.1
62.5°	363.9	346.3	314.5	277.4	295.0
65°	312.7	295.0	266.8	272.1	226.1
67.5°	256.2	247.3	222.6	197.9	190.8
70°	208.5	197.9	189.0	162.5	155.5
72.5°	166.1	155.5	143.1	129.0	123.7
75°	125.4	116.6	109.5	104.2	114.8
77.5°	86.6	83.0	77.7	72.4	70.7
80°	56.5	54.8	53.0	51.2	49.5
82.5°	33.6	33.6	33.6	33.6	33.6
85°	17.7	19.4	21.2	23.0	24.7
87.5°	10.6	10.6	12.4	14.1	15.9
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)