

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: P546627

Luminaire Tested: **FMR-24-4-LD4-1STD-40-UNV-81-88-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: P546627
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-81-88-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

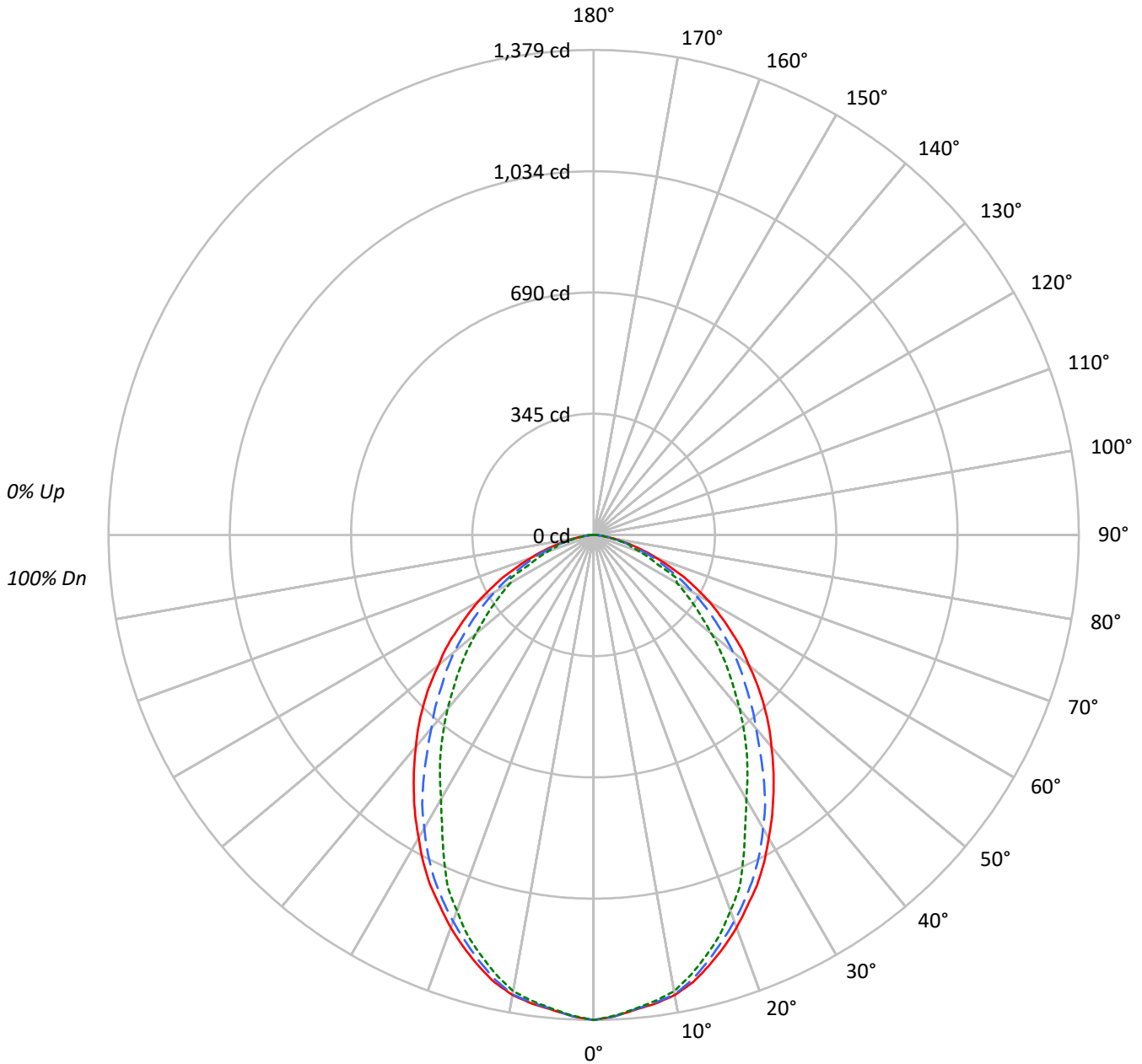
Lumens per Lamp: N/A
Luminaire Lumens: 2708.0 lumens
Efficiency: N/A
Efficacy: 81.3 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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°	1856	1856	1856
5°	1831	1829	1826
10°	1815	1813	1800
15°	1766	1748	1724
20°	1701	1674	1628
25°	1631	1596	1496
30°	1546	1496	1348
35°	1464	1383	1247
40°	1381	1260	1134
45°	1302	1165	1026
50°	1205	1082	915
55°	1115	980	819
60°	1021	875	734
65°	899	767	650
70°	740	671	552
75°	588	514	539
80°	395	370	346
85°	245	295	344



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	128.4	4.7
10°-20°	352.4	13.0
20°-30°	487.9	18.0
30°-40°	520.2	19.2
40°-50°	474.6	17.5
50°-60°	371.8	13.7
60°-70°	242.3	8.9
70°-80°	107.4	4.0
80°-90°	23.0	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°	968.7	35.8
0°-40°	1488.9	55.0
0°-60°	2335.3	86.2
0°-90°	2708.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2708.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1379	1379	1379	1379	1379	
5°	1356	1354	1354	1352	1352	129
15°	1268	1268	1255	1242	1238	356
25°	1099	1092	1075	1037	1008	504
35°	891	885	842	778	759	557
45°	684	670	612	561	539	527
55°	475	461	418	368	349	426
65°	282	266	241	246	204	278
75°	113	105	99	94	104	121
85°	16	18	19	21	22	22
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1379.4	1379.4	1379.4	1379.4	1379.4
2.5°	1369.9	1369.9	1369.9	1368.3	1368.3
5°	1355.5	1353.9	1353.9	1352.3	1352.3
7.5°	1344.3	1342.7	1341.1	1339.6	1336.4
10°	1328.4	1328.4	1326.8	1318.8	1317.2
12.5°	1302.9	1301.3	1294.9	1283.7	1280.5
15°	1267.8	1267.8	1255.0	1242.3	1237.5
17.5°	1229.5	1227.9	1212.0	1199.2	1192.8
20°	1188.1	1184.9	1168.9	1148.2	1137.0
22.5°	1141.8	1141.8	1122.7	1095.6	1084.4
25°	1098.8	1092.4	1074.8	1036.6	1007.9
27.5°	1049.3	1039.7	1020.6	966.4	932.9
30°	995.1	990.3	963.2	893.0	867.5
32.5°	944.1	936.1	907.4	834.0	813.3
35°	891.4	885.1	842.0	778.2	759.1
37.5°	838.8	830.8	776.6	725.6	701.7
40°	786.2	776.6	717.6	671.4	645.9
42.5°	736.8	724.0	666.6	617.2	588.4
45°	684.1	669.8	612.4	561.3	539.0
47.5°	631.5	618.7	566.1	513.5	488.0
50°	575.7	564.5	516.7	464.1	436.9
52.5°	529.4	511.9	465.7	413.0	390.7
55°	475.2	460.9	417.8	368.4	349.2
57.5°	425.8	411.4	371.6	325.3	309.4
60°	379.5	358.8	325.3	285.5	272.7
62.5°	328.5	312.6	283.9	250.4	266.3
65°	282.3	266.3	240.8	245.6	204.1
67.5°	231.2	223.3	200.9	178.6	172.2
70°	188.2	178.6	170.6	146.7	140.3
72.5°	149.9	140.3	129.2	116.4	111.6
75°	113.2	105.3	98.9	94.1	103.7
77.5°	78.1	75.0	70.2	65.4	63.8
80°	51.0	49.4	47.8	46.2	44.7
82.5°	30.3	30.3	30.3	30.3	30.3
85°	15.9	17.5	19.1	20.7	22.3
87.5°	9.6	9.6	11.2	12.8	14.4
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)