

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: P546659

Luminaire Tested: **FMR-24-4-LD4-1STD-50-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: P546659
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-81-88-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

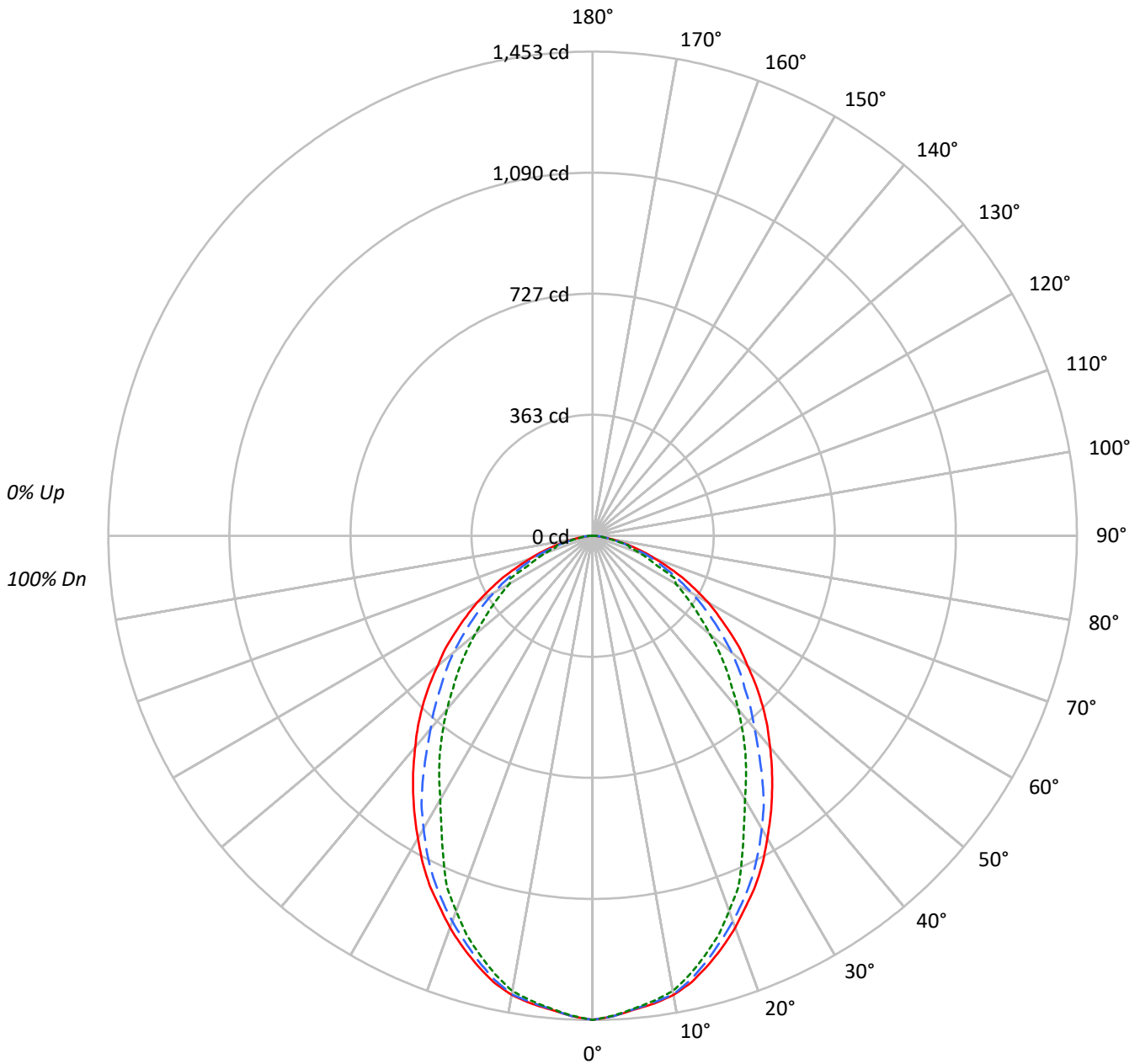
Lumens per Lamp: N/A
Luminaire Lumens: 2852.0 lumens
Efficiency: N/A
Efficacy: 85.6 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 33.3
Input Voltage (V): NR
Input Current (A_{in}): 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°	1955	1955	1955
5°	1928	1926	1924
10°	1911	1909	1895
15°	1860	1841	1815
20°	1792	1763	1715
25°	1718	1681	1576
30°	1628	1576	1420
35°	1542	1457	1313
40°	1454	1327	1195
45°	1371	1227	1080
50°	1269	1139	963
55°	1174	1032	863
60°	1076	922	773
65°	947	807	684
70°	780	707	581
75°	620	541	568
80°	416	391	364
85°	259	312	363



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	135.2	4.7
10°-20°	371.1	13.0
20°-30°	513.8	18.0
30°-40°	547.9	19.2
40°-50°	499.8	17.5
50°-60°	391.6	13.7
60°-70°	255.2	8.9
70°-80°	113.1	4.0
80°-90°	24.3	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°	1020.2	35.8
0°-40°	1568.1	55.0
0°-60°	2459.4	86.2
0°-90°	2852.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2852.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1453	1453	1453	1453	1453	
5°	1428	1426	1426	1424	1424	136
15°	1335	1335	1322	1308	1303	375
25°	1157	1150	1132	1092	1061	531
35°	939	932	887	820	799	587
45°	720	705	645	591	568	555
55°	500	485	440	388	368	449
65°	297	280	254	259	215	293
75°	119	111	104	99	109	128
85°	17	18	20	22	24	23
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1452.8	1452.8	1452.8	1452.8	1452.8
2.5°	1442.7	1442.7	1442.7	1441.0	1441.0
5°	1427.6	1425.9	1425.9	1424.2	1424.2
7.5°	1415.8	1414.1	1412.5	1410.8	1407.4
10°	1399.0	1399.0	1397.3	1388.9	1387.3
12.5°	1372.2	1370.5	1363.8	1352.0	1348.6
15°	1335.2	1335.2	1321.8	1308.3	1303.3
17.5°	1294.9	1293.2	1276.4	1263.0	1256.3
20°	1251.2	1247.9	1231.1	1209.2	1197.5
22.5°	1202.5	1202.5	1182.4	1153.8	1142.1
25°	1157.2	1150.5	1132.0	1091.7	1061.4
27.5°	1105.1	1095.0	1074.9	1017.8	982.5
30°	1048.0	1043.0	1014.4	940.5	913.7
32.5°	994.3	985.9	955.6	878.4	856.5
35°	938.8	932.1	886.8	819.6	799.4
37.5°	883.4	875.0	817.9	764.2	739.0
40°	828.0	817.9	755.8	707.1	680.2
42.5°	775.9	762.5	702.0	650.0	619.7
45°	720.5	705.4	644.9	591.2	567.7
47.5°	665.1	651.6	596.2	540.8	513.9
50°	606.3	594.5	544.2	488.7	460.2
52.5°	557.6	539.1	490.4	435.0	411.5
55°	500.5	485.4	440.0	388.0	367.8
57.5°	448.4	433.3	391.3	342.6	325.8
60°	399.7	377.9	342.6	300.6	287.2
62.5°	346.0	329.2	299.0	263.7	280.5
65°	297.3	280.5	253.6	258.6	215.0
67.5°	243.5	235.1	211.6	188.1	181.4
70°	198.2	188.1	179.7	154.5	147.8
72.5°	157.9	147.8	136.0	122.6	117.6
75°	119.2	110.8	104.1	99.1	109.2
77.5°	82.3	78.9	73.9	68.9	67.2
80°	53.7	52.1	50.4	48.7	47.0
82.5°	31.9	31.9	31.9	31.9	31.9
85°	16.8	18.5	20.2	21.8	23.5
87.5°	10.1	10.1	11.8	13.4	15.1
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)