

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: P546784

Luminaire Tested: **FMR-24-4-LD4-2LO-35-UNV-81-85-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: P546784
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-LD4-2LO-35-UNV-81-85-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

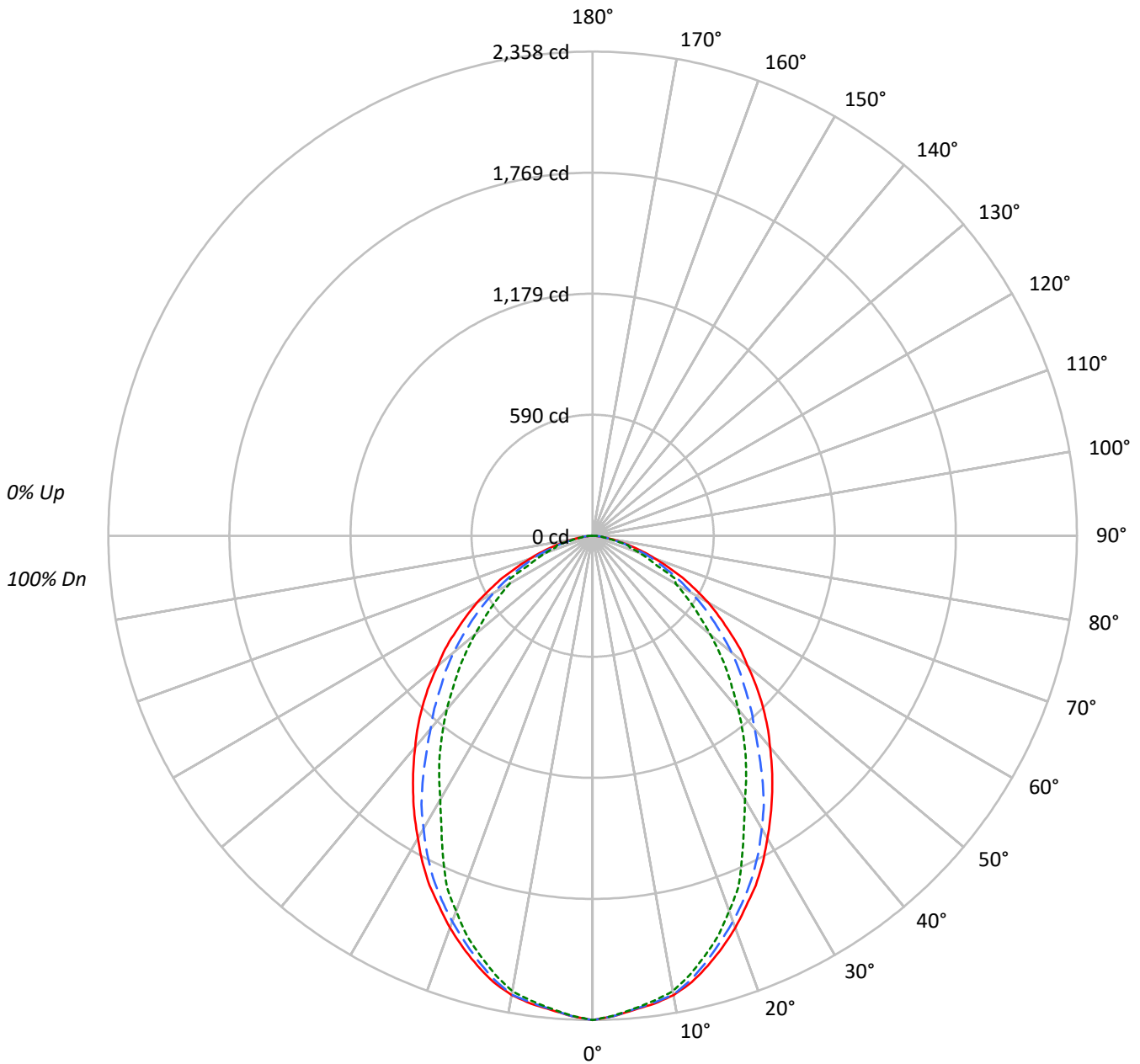
Lumens per Lamp: N/A
Luminaire Lumens: 4630.0 lumens
Efficiency: N/A
Efficacy: 98.9 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 46.8
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°	3173	3173	3173
5°	3130	3126	3123
10°	3103	3099	3077
15°	3019	2989	2947
20°	2908	2862	2783
25°	2789	2728	2558
30°	2643	2559	2304
35°	2503	2365	2132
40°	2361	2155	1940
45°	2226	1992	1754
50°	2060	1849	1564
55°	1906	1676	1401
60°	1746	1497	1255
65°	1536	1311	1111
70°	1266	1148	944
75°	1006	879	921
80°	676	634	591
85°	421	505	590



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	219.5	4.7
10°-20°	602.5	13.0
20°-30°	834.1	18.0
30°-40°	889.4	19.2
40°-50°	811.4	17.5
50°-60°	635.7	13.7
60°-70°	414.3	8.9
70°-80°	183.6	4.0
80°-90°	39.4	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°	1656.2	35.8
0°-40°	2545.6	55.0
0°-60°	3992.7	86.2
0°-90°	4630.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4630.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2358	2358	2358	2358	2358	
5°	2318	2315	2315	2312	2312	220
15°	2168	2168	2146	2124	2116	609
25°	1879	1868	1838	1772	1723	862
35°	1524	1513	1440	1331	1298	953
45°	1170	1145	1047	960	922	901
55°	812	788	714	630	597	729
65°	483	455	412	420	349	476
75°	194	180	169	161	177	207
85°	27	30	33	35	38	38
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2358.5	2358.5	2358.5	2358.5	2358.5
2.5°	2342.1	2342.1	2342.1	2339.4	2339.4
5°	2317.6	2314.8	2314.8	2312.1	2312.1
7.5°	2298.5	2295.7	2293.0	2290.3	2284.8
10°	2271.2	2271.2	2268.5	2254.9	2252.1
12.5°	2227.6	2224.9	2214.0	2194.9	2189.4
15°	2167.6	2167.6	2145.8	2124.0	2115.8
17.5°	2102.2	2099.4	2072.2	2050.4	2039.5
20°	2031.3	2025.8	1998.6	1963.1	1944.0
22.5°	1952.2	1952.2	1919.5	1873.1	1854.0
25°	1878.6	1867.7	1837.7	1772.3	1723.2
27.5°	1794.1	1777.7	1745.0	1652.3	1595.0
30°	1701.4	1693.2	1646.8	1526.9	1483.2
32.5°	1614.1	1600.5	1551.4	1426.0	1390.5
35°	1524.1	1513.2	1439.6	1330.6	1297.8
37.5°	1434.2	1420.5	1327.8	1240.6	1199.7
40°	1344.2	1327.8	1226.9	1147.9	1104.3
42.5°	1259.7	1237.9	1139.7	1055.2	1006.1
45°	1169.7	1145.1	1047.0	959.7	921.6
47.5°	1079.7	1057.9	967.9	877.9	834.3
50°	984.3	965.2	883.4	793.4	747.1
52.5°	905.2	875.2	796.2	706.2	668.0
55°	812.5	788.0	714.4	629.8	597.1
57.5°	728.0	703.4	635.3	556.2	528.9
60°	648.9	613.5	556.2	488.1	466.2
62.5°	561.7	534.4	485.3	428.1	455.3
65°	482.6	455.3	411.7	419.9	349.0
67.5°	395.3	381.7	343.5	305.4	294.5
70°	321.7	305.4	291.7	250.8	239.9
72.5°	256.3	239.9	220.9	199.0	190.9
75°	193.6	180.0	169.0	160.9	177.2
77.5°	133.6	128.1	120.0	111.8	109.1
80°	87.2	84.5	81.8	79.1	76.3
82.5°	51.8	51.8	51.8	51.8	51.8
85°	27.3	30.0	32.7	35.4	38.2
87.5°	16.4	16.4	19.1	21.8	24.5
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)