

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: P546603

Luminaire Tested: **FMR-24-4-LD4-1STD-35-UNV-82-88-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: P546603
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-82-88-EDD
Description: 2X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

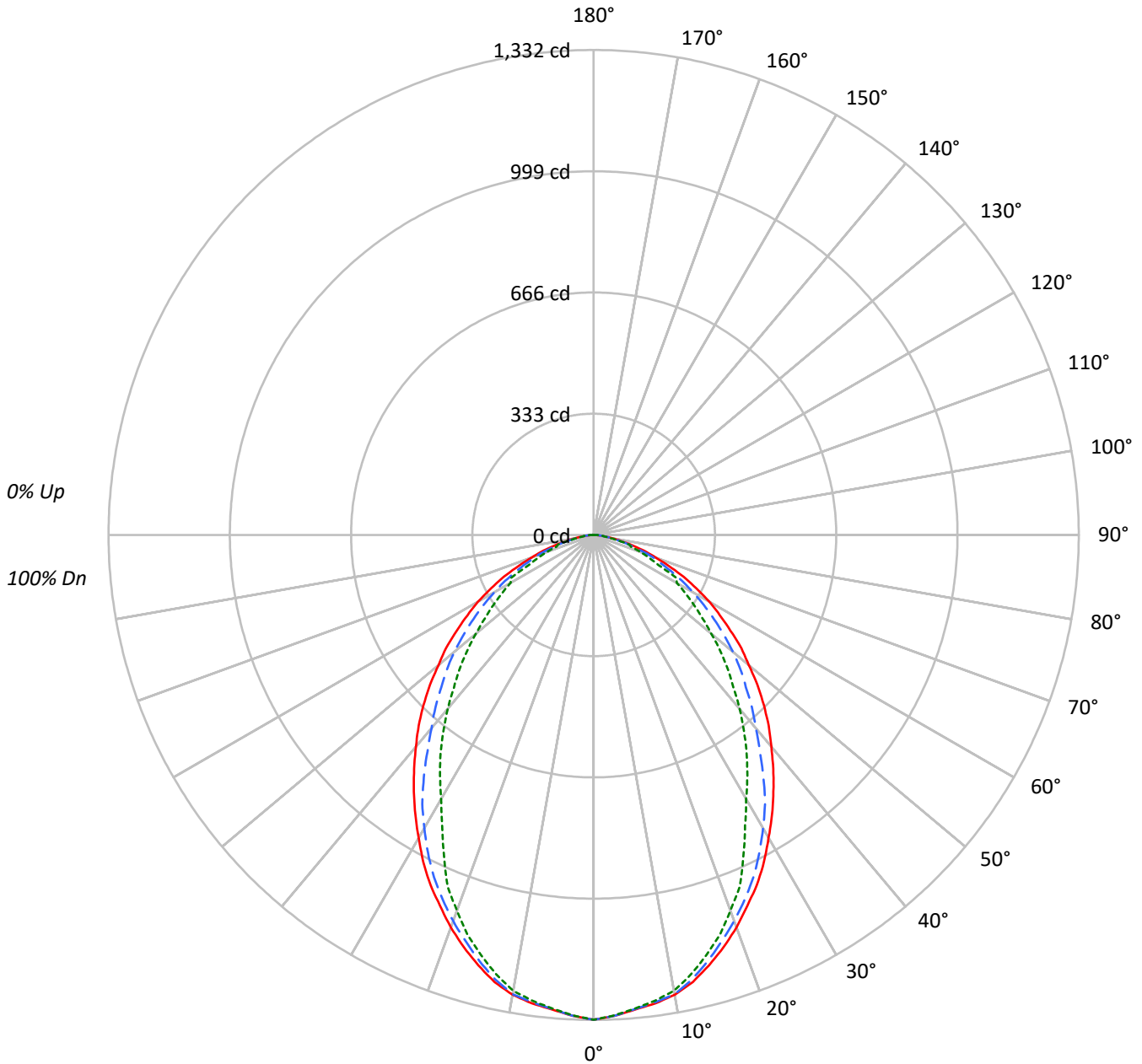
Lumens per Lamp: N/A
Luminaire Lumens: 2614.0 lumens
Efficiency: N/A
Efficacy: 78.5 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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°	1792	1792	1792
5°	1767	1765	1763
10°	1752	1750	1737
15°	1705	1688	1664
20°	1642	1616	1572
25°	1575	1540	1444
30°	1492	1445	1301
35°	1413	1335	1203
40°	1333	1217	1095
45°	1257	1125	990
50°	1163	1044	883
55°	1076	946	791
60°	986	845	708
65°	868	740	627
70°	714	648	533
75°	568	496	520
80°	382	358	334
85°	238	286	333



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	123.9	4.7
10°-20°	340.2	13.0
20°-30°	470.9	18.0
30°-40°	502.2	19.2
40°-50°	458.1	17.5
50°-60°	358.9	13.7
60°-70°	233.9	8.9
70°-80°	103.6	4.0
80°-90°	22.2	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°	935.1	35.8
0°-40°	1437.2	55.0
0°-60°	2254.2	86.2
0°-90°	2614.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2614.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1332	1332	1332	1332	1332	
5°	1308	1307	1307	1305	1305	124
15°	1224	1224	1212	1199	1194	344
25°	1061	1054	1038	1001	973	487
35°	860	854	813	751	733	538
45°	660	646	591	542	520	509
55°	459	445	403	356	337	411
65°	272	257	232	237	197	269
75°	109	102	95	91	100	117
85°	15	17	18	20	22	21
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1331.5	1331.5	1331.5	1331.5	1331.5
2.5°	1322.3	1322.3	1322.3	1320.8	1320.8
5°	1308.4	1306.9	1306.9	1305.4	1305.4
7.5°	1297.7	1296.1	1294.6	1293.1	1290.0
10°	1282.3	1282.3	1280.7	1273.0	1271.5
12.5°	1257.6	1256.1	1250.0	1239.2	1236.1
15°	1223.8	1223.8	1211.5	1199.2	1194.5
17.5°	1186.8	1185.3	1169.9	1157.6	1151.4
20°	1146.8	1143.7	1128.3	1108.3	1097.6
22.5°	1102.2	1102.2	1083.7	1057.5	1046.8
25°	1060.6	1054.5	1037.5	1000.6	972.9
27.5°	1012.9	1003.7	985.2	932.8	900.5
30°	960.6	955.9	929.8	862.0	837.4
32.5°	911.3	903.6	875.9	805.1	785.1
35°	860.5	854.3	812.8	751.2	732.7
37.5°	809.7	802.0	749.7	700.4	677.3
40°	758.9	749.7	692.7	648.1	623.4
42.5°	711.2	698.9	643.4	595.7	568.0
45°	660.4	646.5	591.1	541.9	520.3
47.5°	609.6	597.3	546.5	495.7	471.0
50°	555.7	544.9	498.7	448.0	421.8
52.5°	511.1	494.1	449.5	398.7	377.1
55°	458.7	444.9	403.3	355.6	337.1
57.5°	411.0	397.2	358.7	314.0	298.6
60°	366.4	346.4	314.0	275.5	263.2
62.5°	317.1	301.7	274.0	241.7	257.1
65°	272.5	257.1	232.4	237.1	197.0
67.5°	223.2	215.5	194.0	172.4	166.2
70°	181.6	172.4	164.7	141.6	135.5
72.5°	144.7	135.5	124.7	112.4	107.8
75°	109.3	101.6	95.4	90.8	100.1
77.5°	75.4	72.3	67.7	63.1	61.6
80°	49.3	47.7	46.2	44.6	43.1
82.5°	29.2	29.2	29.2	29.2	29.2
85°	15.4	16.9	18.5	20.0	21.6
87.5°	9.2	9.2	10.8	12.3	13.9
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)