

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: P546577

Luminaire Tested: **FMR-24-4-LD4-1LO-50-UNV-93-86-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: P546577
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-LD4-1LO-50-UNV-93-86-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

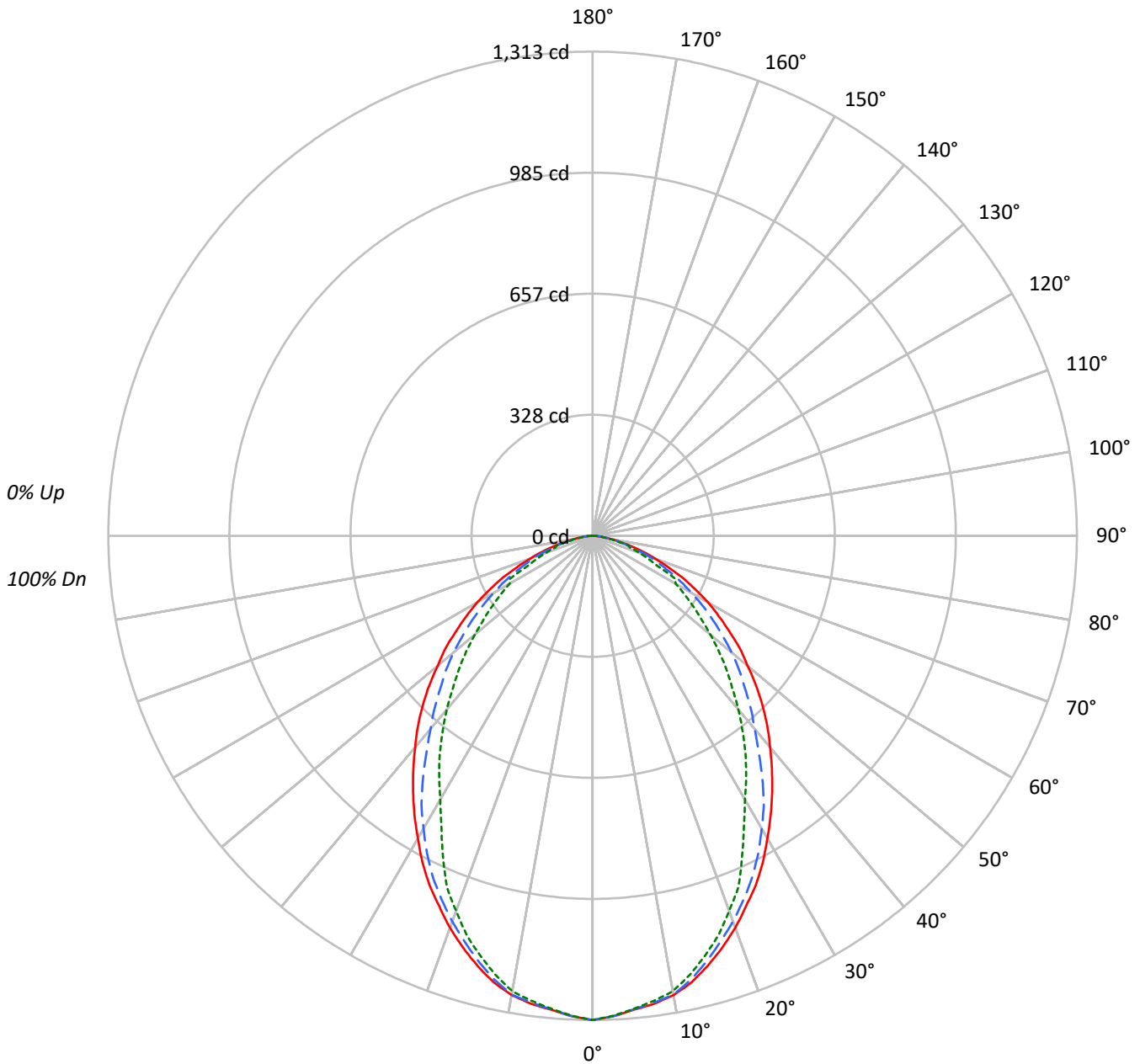
Lumens per Lamp: N/A
Luminaire Lumens: 2578.0 lumens
Efficiency: N/A
Efficacy: 110.2 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 23.4
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°	1767	1767	1767
5°	1743	1741	1739
10°	1728	1726	1713
15°	1681	1664	1641
20°	1619	1593	1550
25°	1553	1519	1424
30°	1472	1425	1283
35°	1394	1317	1187
40°	1314	1200	1080
45°	1239	1109	976
50°	1147	1030	871
55°	1061	933	780
60°	972	833	699
65°	855	730	619
70°	705	639	526
75°	560	489	513
80°	377	353	329
85°	235	281	329



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	122.2	4.7
10°-20°	335.5	13.0
20°-30°	464.4	18.0
30°-40°	495.2	19.2
40°-50°	451.8	17.5
50°-60°	353.9	13.7
60°-70°	230.7	8.9
70°-80°	102.2	4.0
80°-90°	21.9	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°	922.2	35.8
0°-40°	1417.4	55.0
0°-60°	2223.2	86.2
0°-90°	2578.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2578.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1313	1313	1313	1313	1313	
5°	1290	1289	1289	1287	1287	122
15°	1207	1207	1195	1183	1178	339
25°	1046	1040	1023	987	960	480
35°	849	843	802	741	723	531
45°	651	638	583	534	513	502
55°	452	439	398	351	332	406
65°	269	254	229	234	194	265
75°	108	100	94	90	99	116
85°	15	17	18	20	21	21
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	<i>1313.2</i>	<i>1313.2</i>	<i>1313.2</i>	<i>1313.2</i>	<i>1313.2</i>
2.5°	<i>1304.1</i>	1304.1	1304.1	1302.6	1302.6
5°	<i>1290.4</i>	1288.9	1288.9	1287.4	1287.4
7.5°	<i>1279.8</i>	1278.3	1276.8	1275.2	1272.2
10°	<i>1264.6</i>	1264.6	1263.1	1255.5	1254.0
12.5°	<i>1240.3</i>	1238.8	1232.7	1222.1	1219.1
15°	<i>1206.9</i>	1206.9	1194.8	1182.6	1178.1
17.5°	<i>1170.5</i>	1169.0	1153.8	1141.6	1135.6
20°	<i>1131.0</i>	1128.0	1112.8	1093.1	1082.4
22.5°	<i>1087.0</i>	1087.0	1068.8	1043.0	1032.3
25°	<i>1046.0</i>	1039.9	1023.2	986.8	959.5
27.5°	<i>998.9</i>	989.8	971.6	920.0	888.1
30°	<i>947.3</i>	942.8	917.0	850.2	825.9
32.5°	<i>898.7</i>	891.2	863.8	794.0	774.3
35°	<i>848.6</i>	842.6	801.6	740.9	722.6
37.5°	<i>798.5</i>	791.0	739.3	690.8	668.0
40°	<i>748.4</i>	739.3	683.2	639.1	614.9
42.5°	<i>701.4</i>	689.2	634.6	587.5	560.2
45°	<i>651.3</i>	637.6	583.0	534.4	513.1
47.5°	<i>601.2</i>	589.0	538.9	488.8	464.6
50°	<i>548.1</i>	537.4	491.9	441.8	416.0
52.5°	<i>504.0</i>	487.3	443.3	393.2	371.9
55°	<i>452.4</i>	438.7	397.8	350.7	332.5
57.5°	<i>405.3</i>	391.7	353.7	309.7	294.5
60°	<i>361.3</i>	341.6	309.7	271.7	259.6
62.5°	<i>312.7</i>	297.6	270.2	238.3	253.5
65°	<i>268.7</i>	253.5	229.2	233.8	194.3
67.5°	<i>220.1</i>	212.5	191.3	170.0	164.0
70°	<i>179.1</i>	170.0	162.4	139.7	133.6
72.5°	<i>142.7</i>	133.6	123.0	110.8	106.3
75°	<i>107.8</i>	100.2	94.1	89.6	98.7
77.5°	<i>74.4</i>	71.4	66.8	62.2	60.7
80°	<i>48.6</i>	47.1	45.5	44.0	42.5
82.5°	<i>28.8</i>	28.8	28.8	28.8	28.8
85°	<i>15.2</i>	16.7	18.2	19.7	21.3
87.5°	<i>9.1</i>	9.1	10.6	12.1	13.7
90°	<i>0.0</i>	0.0	0.0	0.0	0.0



Report Generated By 670246072 / DESKTOP-MV3F9LC





— 0°-180° - - 45°-225° - - - - 90°-270°







(END OF REPORT)