

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: P546637

Luminaire Tested: **FMR-24-4-LD4-1STD-40-UNV-82-96-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: P546637
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-82-96-EDD
Description: 2X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

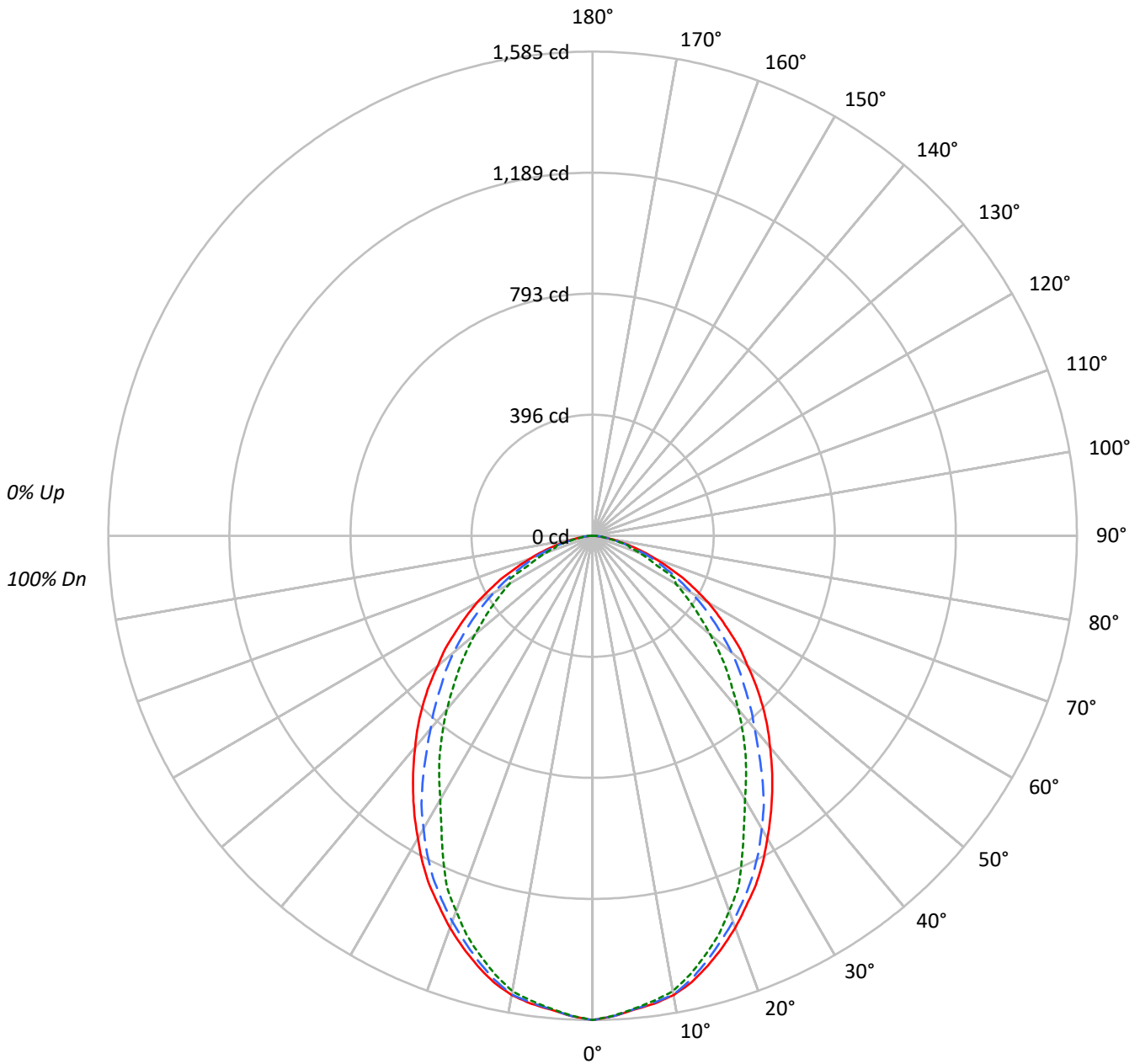
Lumens per Lamp: N/A
Luminaire Lumens: 3112.0 lumens
Efficiency: N/A
Efficacy: 93.5 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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°	2133	2133	2133
5°	2104	2101	2099
10°	2086	2083	2068
15°	2029	2009	1981
20°	1955	1923	1871
25°	1875	1834	1719
30°	1777	1720	1549
35°	1683	1589	1433
40°	1587	1449	1304
45°	1496	1339	1179
50°	1385	1243	1051
55°	1281	1126	941
60°	1174	1006	843
65°	1033	881	747
70°	851	771	635
75°	676	591	619
80°	454	426	397
85°	283	340	397



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	147.6	4.7
10°-20°	405.0	13.0
20°-30°	560.7	18.0
30°-40°	597.8	19.2
40°-50°	545.4	17.5
50°-60°	427.3	13.7
60°-70°	278.5	8.9
70°-80°	123.4	4.0
80°-90°	26.5	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°	1113.2	35.8
0°-40°	1711.0	55.0
0°-60°	2683.7	86.2
0°-90°	3112.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3112.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1585	1585	1585	1585	1585	
5°	1558	1556	1556	1554	1554	148
15°	1457	1457	1442	1428	1422	410
25°	1263	1255	1235	1191	1158	580
35°	1024	1017	968	894	872	640
45°	786	770	704	645	619	606
55°	546	530	480	423	401	490
65°	324	306	277	282	235	320
75°	130	121	114	108	119	139
85°	18	20	22	24	26	25
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1585.2	1585.2	1585.2	1585.2	1585.2
2.5°	1574.2	1574.2	1574.2	1572.4	1572.4
5°	1557.7	1555.9	1555.9	1554.1	1554.1
7.5°	1544.9	1543.1	1541.2	1539.4	1535.7
10°	1526.6	1526.6	1524.7	1515.6	1513.7
12.5°	1497.2	1495.4	1488.1	1475.3	1471.6
15°	1456.9	1456.9	1442.3	1427.6	1422.1
17.5°	1412.9	1411.1	1392.8	1378.1	1370.8
20°	1365.3	1361.6	1343.3	1319.5	1306.7
22.5°	1312.2	1312.2	1290.2	1259.0	1246.2
25°	1262.7	1255.3	1235.2	1191.2	1158.2
27.5°	1205.9	1194.9	1172.9	1110.6	1072.1
30°	1143.6	1138.1	1106.9	1026.3	996.9
32.5°	1084.9	1075.7	1042.8	958.5	934.6
35°	1024.4	1017.1	967.6	894.3	872.3
37.5°	964.0	954.8	892.5	833.8	806.4
40°	903.5	892.5	824.7	771.5	742.2
42.5°	846.7	832.0	766.0	709.2	676.2
45°	786.2	769.7	703.7	645.1	619.4
47.5°	725.7	711.1	650.6	590.1	560.8
50°	661.6	648.7	593.8	533.3	502.1
52.5°	608.4	588.3	535.1	474.6	449.0
55°	546.1	529.6	480.1	423.3	401.3
57.5°	489.3	472.8	427.0	373.9	355.5
60°	436.2	412.3	373.9	328.0	313.4
62.5°	377.5	359.2	326.2	287.7	306.0
65°	324.4	306.0	276.7	282.2	234.6
67.5°	265.7	256.6	230.9	205.3	197.9
70°	216.2	205.3	196.1	168.6	161.3
72.5°	172.3	161.3	148.4	133.8	128.3
75°	130.1	121.0	113.6	108.1	119.1
77.5°	89.8	86.1	80.6	75.1	73.3
80°	58.6	56.8	55.0	53.1	51.3
82.5°	34.8	34.8	34.8	34.8	34.8
85°	18.3	20.2	22.0	23.8	25.7
87.5°	11.0	11.0	12.8	14.7	16.5
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)