

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: P546604

Luminaire Tested: **FMR-24-4-LD4-1STD-35-UNV-82-94-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: P546604
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-82-94-EDD
Description: 2X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

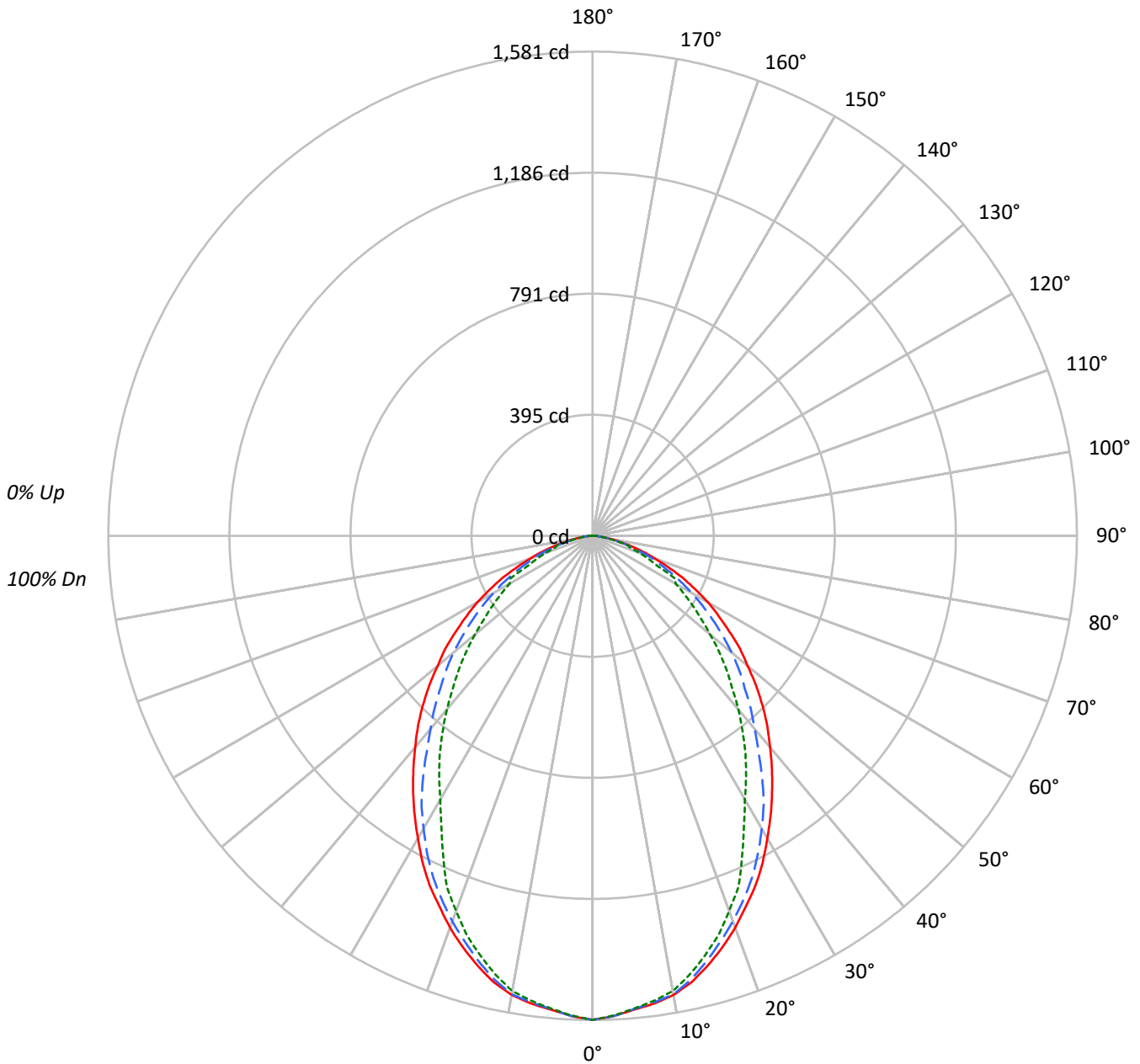
Lumens per Lamp: N/A
Luminaire Lumens: 3103.0 lumens
Efficiency: N/A
Efficacy: 93.2 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 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°	2127	2127	2127
5°	2098	2095	2093
10°	2080	2077	2062
15°	2024	2003	1975
20°	1949	1918	1866
25°	1869	1828	1715
30°	1771	1715	1544
35°	1678	1585	1429
40°	1582	1444	1300
45°	1492	1335	1175
50°	1381	1239	1048
55°	1277	1123	939
60°	1170	1003	841
65°	1030	878	745
70°	848	769	633
75°	674	589	618
80°	453	425	397
85°	283	338	395



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	147.1	4.7
10°-20°	403.8	13.0
20°-30°	559.0	18.0
30°-40°	596.1	19.2
40°-50°	543.8	17.5
50°-60°	426.0	13.7
60°-70°	277.7	8.9
70°-80°	123.0	4.0
80°-90°	26.4	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°	1110.0	35.8
0°-40°	1706.1	55.0
0°-60°	2675.9	86.2
0°-90°	3103.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3103.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1581	1581	1581	1581	1581	
5°	1553	1551	1551	1550	1550	147
15°	1453	1453	1438	1424	1418	408
25°	1259	1252	1232	1188	1155	578
35°	1022	1014	965	892	870	639
45°	784	768	702	643	618	604
55°	544	528	479	422	400	488
65°	323	305	276	281	234	319
75°	130	121	113	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°	1580.6	1580.6	1580.6	1580.6	1580.6
2.5°	1569.7	1569.7	1569.7	1567.8	1567.8
5°	1553.2	1551.4	1551.4	1549.6	1549.6
7.5°	1540.4	1538.6	1536.8	1534.9	1531.3
10°	1522.2	1522.2	1520.3	1511.2	1509.4
12.5°	1492.9	1491.1	1483.8	1471.0	1467.3
15°	1452.7	1452.7	1438.1	1423.5	1418.0
17.5°	1408.9	1407.0	1388.8	1374.1	1366.8
20°	1361.3	1357.7	1339.4	1315.7	1302.9
22.5°	1308.4	1308.4	1286.4	1255.4	1242.6
25°	1259.0	1251.7	1231.6	1187.8	1154.9
27.5°	1202.4	1191.4	1169.5	1107.4	1069.0
30°	1140.2	1134.8	1103.7	1023.3	994.1
32.5°	1081.8	1072.6	1039.7	955.7	931.9
35°	1021.5	1014.2	964.8	891.7	869.8
37.5°	961.2	952.0	889.9	831.4	804.0
40°	900.9	889.9	822.3	769.3	740.1
42.5°	844.2	829.6	763.8	707.2	674.3
45°	783.9	767.5	701.7	643.2	617.6
47.5°	723.6	709.0	648.7	588.4	559.2
50°	659.7	646.9	592.0	531.7	500.7
52.5°	606.7	586.6	533.6	473.3	447.7
55°	544.5	528.1	478.8	422.1	400.2
57.5°	487.9	471.4	425.8	372.8	354.5
60°	434.9	411.1	372.8	327.1	312.5
62.5°	376.4	358.2	325.3	286.9	305.2
65°	323.4	305.2	275.9	281.4	233.9
67.5°	265.0	255.8	230.2	204.7	197.3
70°	215.6	204.7	195.5	168.1	160.8
72.5°	171.8	160.8	148.0	133.4	127.9
75°	129.7	120.6	113.3	107.8	118.8
77.5°	89.5	85.9	80.4	74.9	73.1
80°	58.5	56.6	54.8	53.0	51.2
82.5°	34.7	34.7	34.7	34.7	34.7
85°	18.3	20.1	21.9	23.8	25.6
87.5°	11.0	11.0	12.8	14.6	16.4
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)