

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: P546678

Luminaire Tested: **FMR-24-4-LD4-1STD-50-UNV-93-97-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: P546678
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-50-UNV-93-97-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

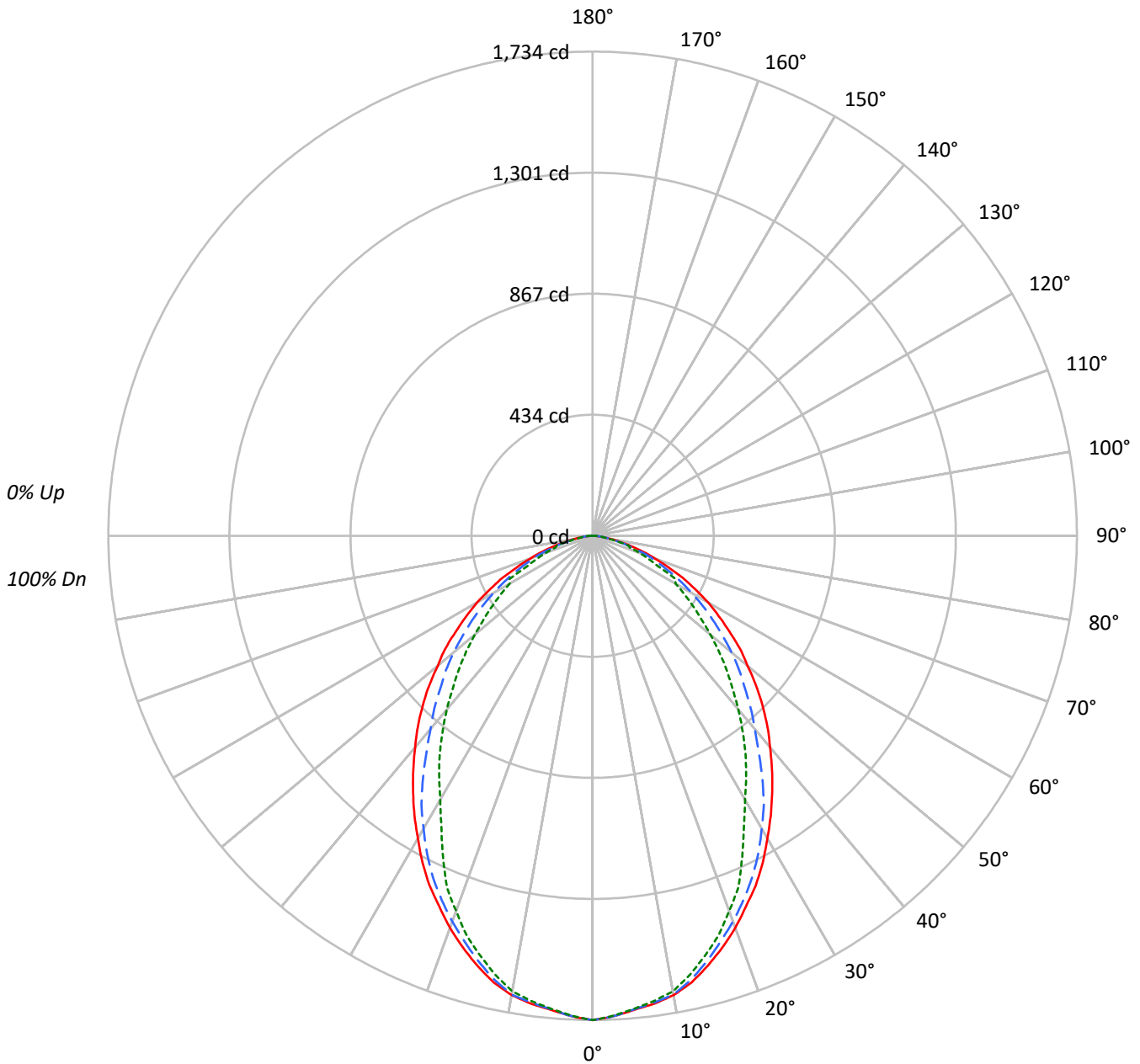
Lumens per Lamp: N/A
Luminaire Lumens: 3405.0 lumens
Efficiency: N/A
Efficacy: 102.3 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 33.3
Input Voltage (V): NR
Input Current (A_{in}): 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°	2334	2334	2334
5°	2302	2299	2297
10°	2282	2279	2263
15°	2221	2198	2167
20°	2139	2105	2047
25°	2051	2006	1881
30°	1944	1882	1695
35°	1841	1739	1568
40°	1736	1585	1426
45°	1637	1465	1290
50°	1515	1360	1150
55°	1402	1232	1030
60°	1284	1101	923
65°	1130	964	817
70°	931	844	694
75°	740	646	677
80°	497	466	435
85°	310	372	434



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	161.5	4.7
10°-20°	443.1	13.0
20°-30°	613.4	18.0
30°-40°	654.1	19.2
40°-50°	596.7	17.5
50°-60°	467.5	13.7
60°-70°	304.7	8.9
70°-80°	135.0	4.0
80°-90°	29.0	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°	1218.0	35.8
0°-40°	1872.1	55.0
0°-60°	2936.3	86.2
0°-90°	3405.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3405.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1734	1734	1734	1734	1734	
5°	1704	1702	1702	1700	1700	162
15°	1594	1594	1578	1562	1556	448
25°	1382	1374	1352	1303	1267	634
35°	1121	1113	1059	978	954	701
45°	860	842	770	706	678	663
55°	598	580	525	463	439	536
65°	355	335	303	309	257	350
75°	142	132	124	118	130	153
85°	20	22	24	26	28	28
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1734.5	1734.5	1734.5	1734.5	1734.5
2.5°	1722.4	1722.4	1722.4	1720.4	1720.4
5°	1704.4	1702.4	1702.4	1700.4	1700.4
7.5°	1690.3	1688.3	1686.3	1684.3	1680.3
10°	1670.3	1670.3	1668.3	1658.3	1656.3
12.5°	1638.2	1636.2	1628.2	1614.2	1610.1
15°	1594.1	1594.1	1578.1	1562.0	1556.0
17.5°	1546.0	1544.0	1523.9	1507.9	1499.9
20°	1493.8	1489.8	1469.8	1443.7	1429.7
22.5°	1435.7	1435.7	1411.6	1377.5	1363.5
25°	1381.6	1373.5	1351.5	1303.4	1267.3
27.5°	1319.4	1307.4	1283.3	1215.1	1173.0
30°	1251.2	1245.2	1211.1	1122.9	1090.8
32.5°	1187.1	1177.0	1140.9	1048.7	1022.6
35°	1120.9	1112.9	1058.7	978.5	954.5
37.5°	1054.7	1044.7	976.5	912.3	882.3
40°	988.5	976.5	902.3	844.2	812.1
42.5°	926.4	910.3	838.2	776.0	739.9
45°	860.2	842.2	770.0	705.8	677.7
47.5°	794.0	778.0	711.8	645.7	613.6
50°	723.9	709.8	649.7	583.5	549.4
52.5°	665.7	643.7	585.5	519.3	491.3
55°	597.5	579.5	525.4	463.2	439.1
57.5°	535.4	517.3	467.2	409.1	389.0
60°	477.2	451.2	409.1	358.9	342.9
62.5°	413.1	393.0	356.9	314.8	334.9
65°	354.9	334.9	302.8	308.8	256.7
67.5°	290.7	280.7	252.6	224.6	216.6
70°	236.6	224.6	214.6	184.5	176.5
72.5°	188.5	176.5	162.4	146.4	140.4
75°	142.4	132.3	124.3	118.3	130.3
77.5°	98.3	94.2	88.2	82.2	80.2
80°	64.2	62.2	60.2	58.1	56.1
82.5°	38.1	38.1	38.1	38.1	38.1
85°	20.1	22.1	24.1	26.1	28.1
87.5°	12.0	12.0	14.0	16.0	18.0
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)