

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: P546642

Luminaire Tested: **FMR-24-4-LD4-1STD-40-UNV-93-87-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: P546642
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-93-87-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

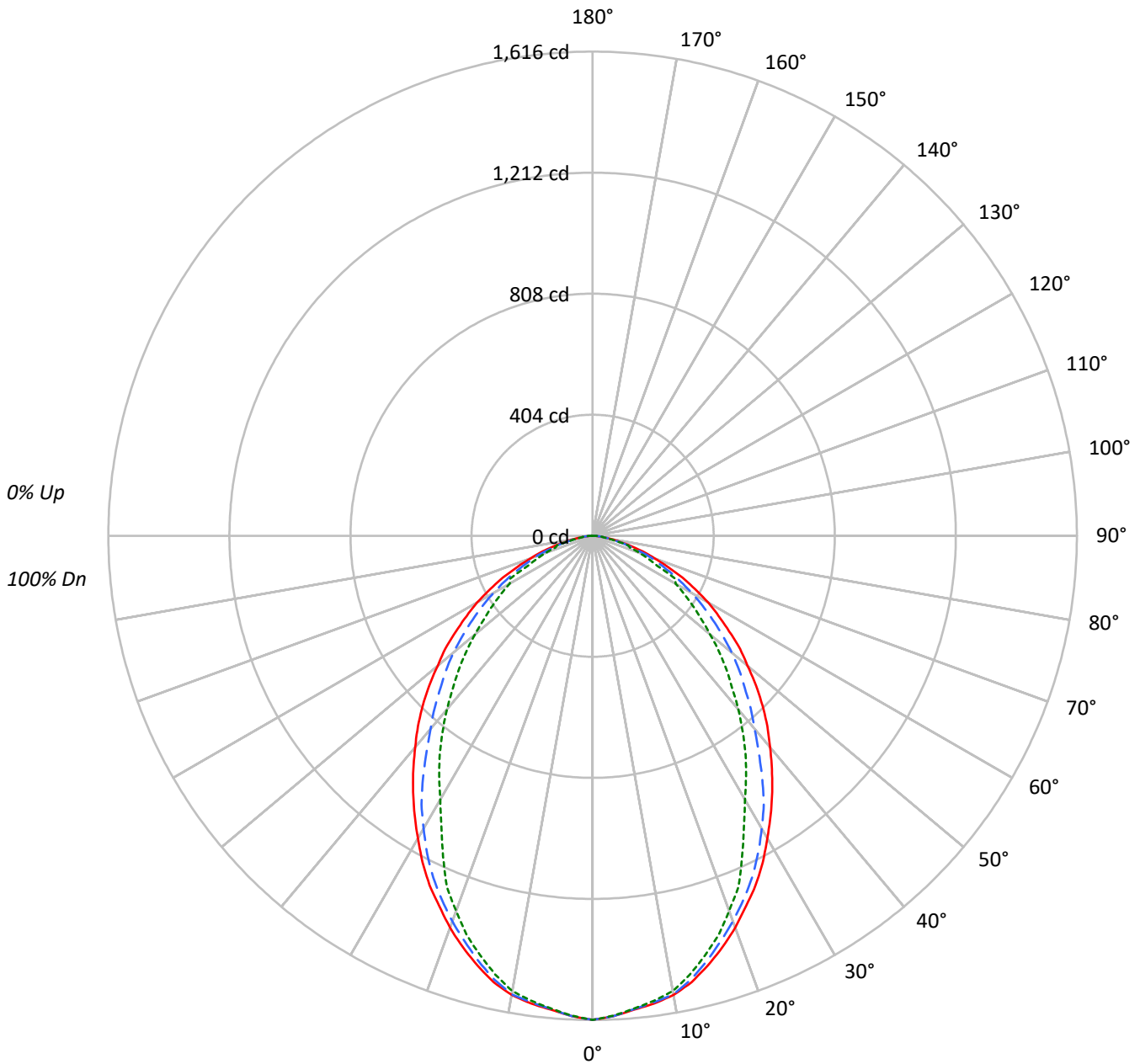
Lumens per Lamp: N/A
Luminaire Lumens: 3172.0 lumens
Efficiency: N/A
Efficacy: 95.3 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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				20				20	
RC	80				70				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				100
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87				87
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75				75
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65				65
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56				56
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50				50
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44				44
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40				40
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36				36
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33				33
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30				30

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2174	2174	2174
5°	2145	2142	2139
10°	2126	2123	2108
15°	2069	2048	2019
20°	1993	1960	1907
25°	1911	1869	1753
30°	1811	1753	1579
35°	1715	1620	1460
40°	1617	1476	1329
45°	1525	1365	1201
50°	1411	1267	1071
55°	1306	1148	960
60°	1196	1026	859
65°	1053	898	761
70°	867	786	647
75°	689	602	631
80°	463	434	405
85°	289	346	404



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	150.4	4.7
10°-20°	412.8	13.0
20°-30°	571.5	18.0
30°-40°	609.4	19.2
40°-50°	555.9	17.5
50°-60°	435.5	13.7
60°-70°	283.8	8.9
70°-80°	125.8	4.0
80°-90°	27.0	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°	1134.6	35.8
0°-40°	1744.0	55.0
0°-60°	2735.4	86.2
0°-90°	3172.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3172.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1616	1616	1616	1616	1616	
5°	1588	1586	1586	1584	1584	151
15°	1485	1485	1470	1455	1450	417
25°	1287	1280	1259	1214	1180	591
35°	1044	1037	986	912	889	653
45°	801	784	717	658	631	617
55°	557	540	489	432	409	499
65°	331	312	282	288	239	326
75°	133	123	116	110	121	142
85°	19	20	22	24	26	26
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1615.8	1615.8	1615.8	1615.8	1615.8
2.5°	1604.6	1604.6	1604.6	1602.7	1602.7
5°	1587.8	1585.9	1585.9	1584.0	1584.0
7.5°	1574.7	1572.8	1570.9	1569.1	1565.3
10°	1556.0	1556.0	1554.1	1544.8	1542.9
12.5°	1526.1	1524.2	1516.8	1503.7	1500.0
15°	1485.0	1485.0	1470.1	1455.1	1449.5
17.5°	1440.2	1438.3	1419.6	1404.7	1397.2
20°	1391.6	1387.9	1369.2	1344.9	1331.8
22.5°	1337.5	1337.5	1315.0	1283.3	1270.2
25°	1287.0	1279.5	1259.0	1214.2	1180.5
27.5°	1229.1	1217.9	1195.5	1132.0	1092.7
30°	1165.6	1160.0	1128.2	1046.1	1016.2
32.5°	1105.8	1096.5	1062.9	976.9	952.7
35°	1044.2	1036.7	986.3	911.6	889.1
37.5°	982.5	973.2	909.7	849.9	821.9
40°	920.9	909.7	840.6	786.4	756.5
42.5°	863.0	848.0	780.8	722.9	689.3
45°	801.3	784.5	717.3	657.5	631.4
47.5°	739.7	724.8	663.1	601.5	571.6
50°	674.3	661.3	605.2	543.6	511.8
52.5°	620.2	599.6	545.4	483.8	457.6
55°	556.6	539.8	489.4	431.5	409.1
57.5°	498.7	481.9	435.2	381.1	362.4
60°	444.6	420.3	381.1	334.4	319.4
62.5°	384.8	366.1	332.5	293.3	311.9
65°	330.6	311.9	282.1	287.7	239.1
67.5°	270.9	261.5	235.4	209.2	201.7
70°	220.4	209.2	199.9	171.9	164.4
72.5°	175.6	164.4	151.3	136.4	130.8
75°	132.6	123.3	115.8	110.2	121.4
77.5°	91.5	87.8	82.2	76.6	74.7
80°	59.8	57.9	56.0	54.2	52.3
82.5°	35.5	35.5	35.5	35.5	35.5
85°	18.7	20.5	22.4	24.3	26.2
87.5°	11.2	11.2	13.1	14.9	16.8
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)