

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: P546645

Luminaire Tested: **FMR-24-4-LD4-1STD-40-UNV-93-96-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: P546645
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-93-96-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS 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

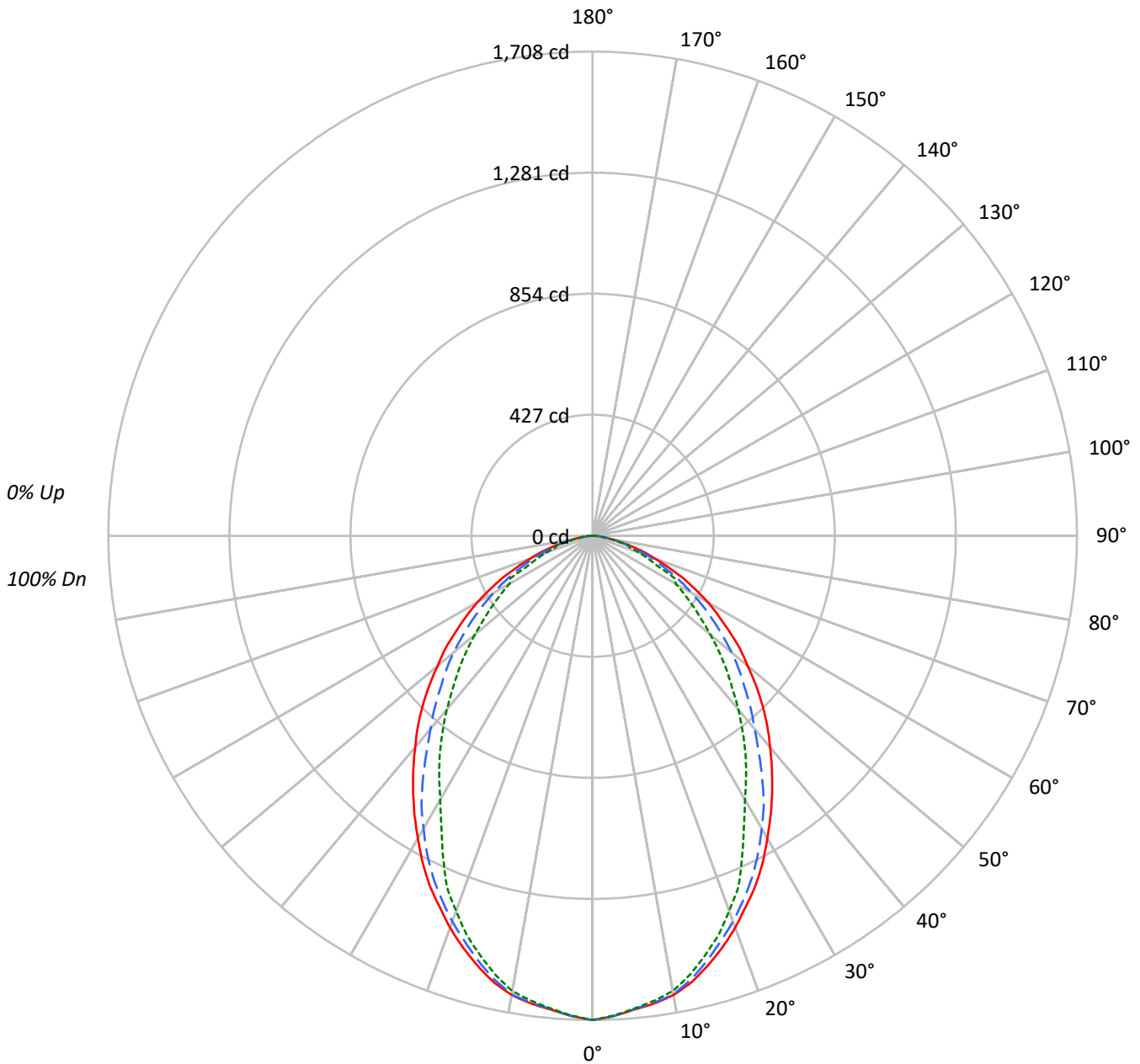
Lumens per Lamp: N/A
Luminaire Lumens: 3353.0 lumens
Efficiency: N/A
Efficacy: 100.7 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2298	2298	2298
5°	2267	2264	2261
10°	2247	2244	2228
15°	2187	2165	2134
20°	2106	2072	2016
25°	2020	1976	1853
30°	1914	1853	1669
35°	1813	1713	1544
40°	1710	1561	1405
45°	1612	1443	1270
50°	1492	1339	1132
55°	1380	1213	1014
60°	1264	1084	908
65°	1113	949	805
70°	917	831	684
75°	729	636	667
80°	490	459	428
85°	304	366	426



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	159.0	4.7
10°-20°	436.3	13.0
20°-30°	604.1	18.0
30°-40°	644.1	19.2
40°-50°	587.6	17.5
50°-60°	460.3	13.7
60°-70°	300.0	8.9
70°-80°	132.9	4.0
80°-90°	28.5	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°	1199.4	35.8
0°-40°	1843.5	55.0
0°-60°	2891.5	86.2
0°-90°	3353.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3353.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1708	1708	1708	1708	1708	
5°	1678	1676	1676	1674	1674	159
15°	1570	1570	1554	1538	1532	441
25°	1360	1353	1331	1283	1248	625
35°	1104	1096	1043	964	940	690
45°	847	829	758	695	667	652
55°	588	571	517	456	432	528
65°	350	330	298	304	253	344
75°	140	130	122	116	128	150
85°	20	22	24	26	28	27
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1708.0	1708.0	1708.0	1708.0	1708.0
2.5°	1696.1	1696.1	1696.1	1694.2	1694.2
5°	1678.4	1676.4	1676.4	1674.4	1674.4
7.5°	1664.5	1662.6	1660.6	1658.6	1654.7
10°	1644.8	1644.8	1642.8	1632.9	1631.0
12.5°	1613.2	1611.2	1603.3	1589.5	1585.6
15°	1569.8	1569.8	1554.0	1538.2	1532.2
17.5°	1522.4	1520.4	1500.6	1484.9	1477.0
20°	1471.0	1467.1	1447.3	1421.7	1407.8
22.5°	1413.8	1413.8	1390.1	1356.5	1342.7
25°	1360.5	1352.6	1330.8	1283.4	1247.9
27.5°	1299.2	1287.4	1263.7	1196.6	1155.1
30°	1232.1	1226.2	1192.6	1105.7	1074.1
32.5°	1168.9	1159.1	1123.5	1032.7	1007.0
35°	1103.8	1095.9	1042.6	963.6	939.9
37.5°	1038.6	1028.7	961.6	898.4	868.8
40°	973.4	961.6	888.5	831.3	799.7
42.5°	912.2	896.4	825.4	764.1	728.6
45°	847.1	829.3	758.2	695.0	667.4
47.5°	781.9	766.1	701.0	635.8	604.2
50°	712.8	699.0	639.7	574.6	541.0
52.5°	655.5	633.8	576.6	511.4	483.8
55°	588.4	570.6	517.3	456.1	432.4
57.5°	527.2	509.4	460.1	402.8	383.1
60°	469.9	444.3	402.8	353.4	337.6
62.5°	406.8	387.0	351.5	310.0	329.7
65°	349.5	329.7	298.2	304.1	252.7
67.5°	286.3	276.4	248.8	221.1	213.2
70°	233.0	221.1	211.3	181.7	173.8
72.5°	185.6	173.8	159.9	144.1	138.2
75°	140.2	130.3	122.4	116.5	128.3
77.5°	96.8	92.8	86.9	81.0	79.0
80°	63.2	61.2	59.2	57.3	55.3
82.5°	37.5	37.5	37.5	37.5	37.5
85°	19.7	21.7	23.7	25.7	27.6
87.5°	11.8	11.8	13.8	15.8	17.8
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)