

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: P546656

Luminaire Tested: **FMR-24-4-LD4-1STD-50-UNV-81-85-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: P546656
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-81-85-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

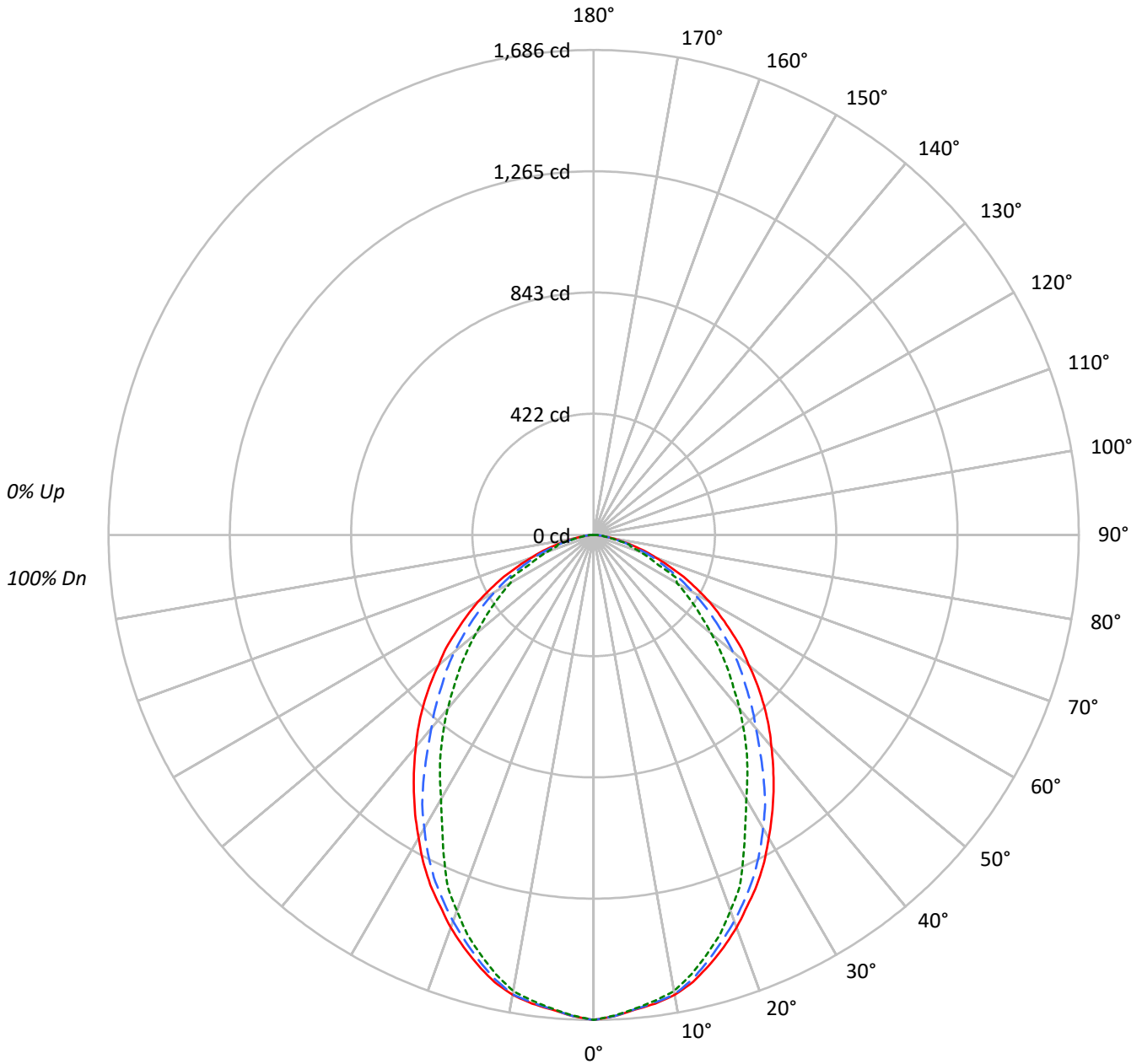
Lumens per Lamp: N/A
Luminaire Lumens: 3310.0 lumens
Efficiency: N/A
Efficacy: 99.4 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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				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°	2269	2269	2269
5°	2238	2235	2232
10°	2218	2216	2200
15°	2159	2137	2107
20°	2079	2046	1990
25°	1994	1950	1829
30°	1890	1829	1647
35°	1790	1691	1524
40°	1688	1541	1387
45°	1591	1424	1254
50°	1473	1322	1118
55°	1363	1198	1001
60°	1248	1070	897
65°	1098	937	794
70°	905	821	675
75°	719	629	659
80°	483	453	423
85°	301	361	421



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	156.9	4.7
10°-20°	430.7	13.0
20°-30°	596.3	18.0
30°-40°	635.9	19.2
40°-50°	580.1	17.5
50°-60°	454.4	13.7
60°-70°	296.2	8.9
70°-80°	131.2	4.0
80°-90°	28.2	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°	1184.0	35.8
0°-40°	1819.9	55.0
0°-60°	2854.4	86.2
0°-90°	3310.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3310.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1686	1686	1686	1686	1686	
5°	1657	1655	1655	1653	1653	157
15°	1550	1550	1534	1518	1513	436
25°	1343	1335	1314	1267	1232	617
35°	1090	1082	1029	951	928	681
45°	836	819	748	686	659	644
55°	581	563	511	450	427	521
65°	345	326	294	300	250	340
75°	138	129	121	115	127	148
85°	20	21	23	25	27	27
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1686.1	1686.1	1686.1	1686.1	1686.1
2.5°	1674.4	1674.4	1674.4	1672.4	1672.4
5°	1656.8	1654.9	1654.9	1652.9	1652.9
7.5°	1643.2	1641.2	1639.3	1637.3	1633.4
10°	1623.7	1623.7	1621.7	1612.0	1610.1
12.5°	1592.5	1590.6	1582.8	1569.1	1565.2
15°	1549.6	1549.6	1534.0	1518.4	1512.6
17.5°	1502.8	1500.9	1481.4	1465.8	1458.0
20°	1452.2	1448.3	1428.8	1403.4	1389.8
22.5°	1395.6	1395.6	1372.2	1339.1	1325.5
25°	1343.0	1335.2	1313.8	1267.0	1231.9
27.5°	1282.6	1270.9	1247.5	1181.2	1140.3
30°	1216.3	1210.5	1177.3	1091.6	1060.4
32.5°	1153.9	1144.2	1109.1	1019.4	994.1
35°	1089.6	1081.8	1029.2	951.2	927.8
37.5°	1025.3	1015.5	949.3	886.9	857.7
40°	961.0	949.3	877.1	820.6	789.4
42.5°	900.5	884.9	814.8	754.3	719.3
45°	836.2	818.7	748.5	686.1	658.8
47.5°	771.9	756.3	692.0	627.6	596.5
50°	703.7	690.0	631.5	567.2	534.1
52.5°	647.1	625.7	569.2	504.8	477.6
55°	580.9	563.3	510.7	450.3	426.9
57.5°	520.4	502.9	454.2	397.6	378.1
60°	463.9	438.6	397.6	348.9	333.3
62.5°	401.5	382.0	347.0	306.0	325.5
65°	345.0	325.5	294.3	300.2	249.5
67.5°	282.6	272.9	245.6	218.3	210.5
70°	230.0	218.3	208.6	179.3	171.5
72.5°	183.2	171.5	157.9	142.3	136.4
75°	138.4	128.6	120.9	115.0	126.7
77.5°	95.5	91.6	85.8	79.9	78.0
80°	62.4	60.4	58.5	56.5	54.6
82.5°	37.0	37.0	37.0	37.0	37.0
85°	19.5	21.4	23.4	25.3	27.3
87.5°	11.7	11.7	13.6	15.6	17.5
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)