

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: P546636

Luminaire Tested: **FMR-24-4-LD4-1STD-40-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: P546636
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-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 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

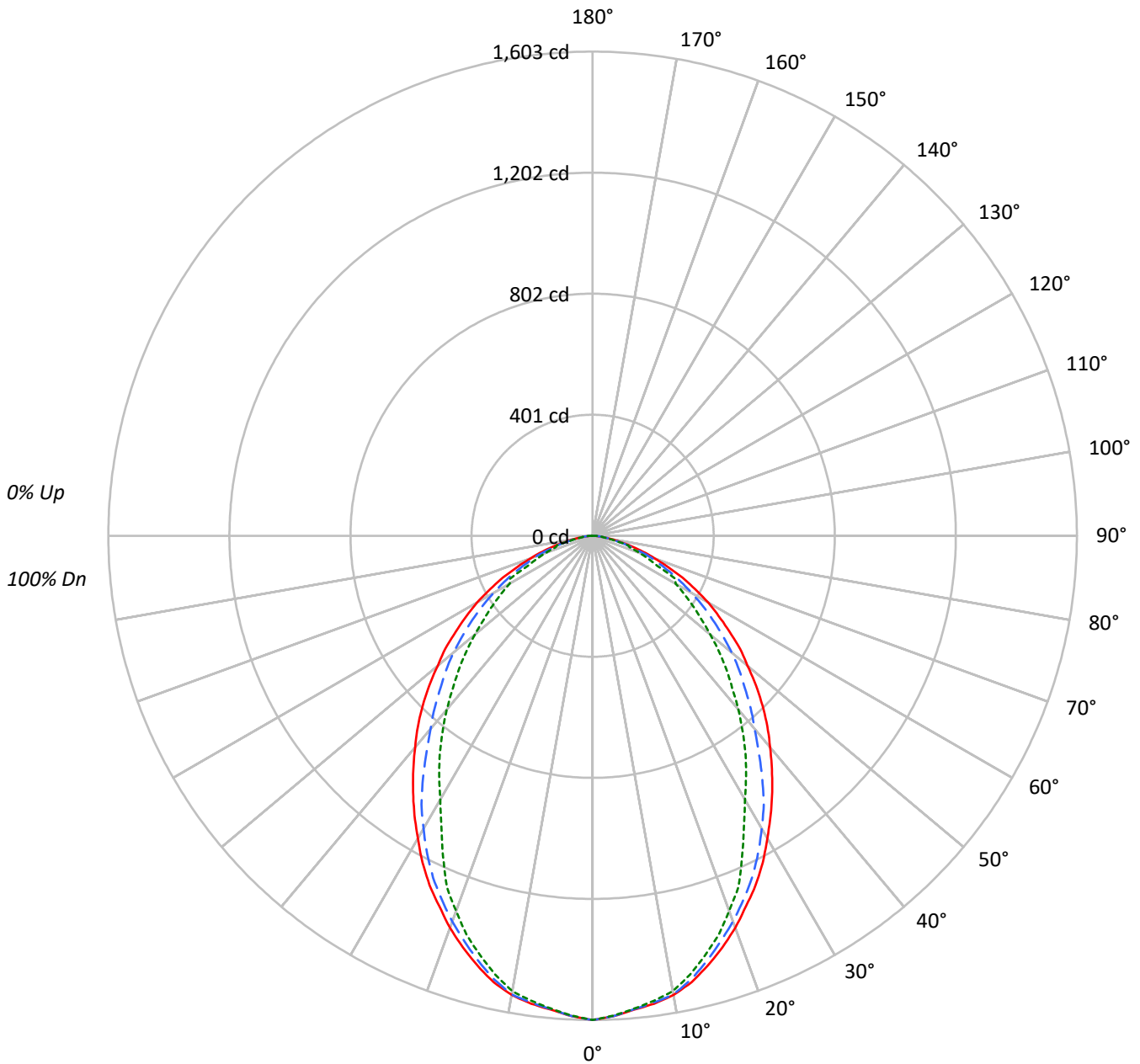
Lumens per Lamp: N/A
Luminaire Lumens: 3147.0 lumens
Efficiency: N/A
Efficacy: 94.5 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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

TEST NUMBER: P546636

CATALOG NUMBER: FMR-24-4-LD4-1STD-40-UNV-82-94-EDD

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°	2157	2157	2157
5°	2128	2125	2123
10°	2109	2107	2091
15°	2052	2032	2003
20°	1977	1945	1892
25°	1896	1854	1739
30°	1797	1739	1566
35°	1702	1607	1449
40°	1605	1465	1318
45°	1513	1354	1192
50°	1400	1257	1063
55°	1296	1139	952
60°	1187	1017	853
65°	1044	891	755
70°	860	780	642
75°	684	597	626
80°	459	431	402
85°	286	343	400



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	149.2	4.7
10°-20°	409.5	13.0
20°-30°	567.0	18.0
30°-40°	604.5	19.2
40°-50°	551.5	17.5
50°-60°	432.1	13.7
60°-70°	281.6	8.9
70°-80°	124.8	4.0
80°-90°	26.8	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°	1125.7	35.8
0°-40°	1730.2	55.0
0°-60°	2713.8	86.2
0°-90°	3147.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3147.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1603	1603	1603	1603	1603	
5°	1575	1573	1573	1572	1572	150
15°	1473	1473	1458	1444	1438	414
25°	1277	1270	1249	1205	1171	586
35°	1036	1028	978	904	882	648
45°	795	778	712	652	626	612
55°	552	536	486	428	406	495
65°	328	310	280	285	237	323
75°	132	122	115	109	120	141
85°	18	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°	1603.0	1603.0	1603.0	1603.0	1603.0
2.5°	1591.9	1591.9	1591.9	1590.1	1590.1
5°	1575.2	1573.4	1573.4	1571.5	1571.5
7.5°	1562.3	1560.4	1558.6	1556.7	1553.0
10°	1543.7	1543.7	1541.9	1532.6	1530.8
12.5°	1514.1	1512.2	1504.8	1491.8	1488.1
15°	1473.3	1473.3	1458.5	1443.7	1438.1
17.5°	1428.8	1427.0	1408.5	1393.6	1386.2
20°	1380.7	1376.9	1358.4	1334.3	1321.3
22.5°	1326.9	1326.9	1304.7	1273.2	1260.2
25°	1276.9	1269.5	1249.1	1204.6	1171.2
27.5°	1219.4	1208.3	1186.1	1123.1	1084.1
30°	1156.4	1150.9	1119.3	1037.8	1008.2
32.5°	1097.1	1087.8	1054.5	969.2	945.1
35°	1036.0	1028.5	978.5	904.4	882.1
37.5°	974.8	965.5	902.5	843.2	815.4
40°	913.6	902.5	834.0	780.2	750.6
42.5°	856.2	841.4	774.6	717.2	683.8
45°	795.0	778.4	711.6	652.3	626.4
47.5°	733.9	719.1	657.9	596.7	567.1
50°	669.0	656.0	600.4	539.3	507.8
52.5°	615.3	594.9	541.1	480.0	454.0
55°	552.3	535.6	485.5	428.1	405.9
57.5°	494.8	478.1	431.8	378.1	359.5
60°	441.1	417.0	378.1	331.7	316.9
62.5°	381.8	363.2	329.9	291.0	309.5
65°	328.0	309.5	279.8	285.4	237.2
67.5°	268.7	259.5	233.5	207.6	200.1
70°	218.7	207.6	198.3	170.5	163.1
72.5°	174.2	163.1	150.1	135.3	129.7
75°	131.6	122.3	114.9	109.3	120.5
77.5°	90.8	87.1	81.5	76.0	74.1
80°	59.3	57.4	55.6	53.7	51.9
82.5°	35.2	35.2	35.2	35.2	35.2
85°	18.5	20.4	22.2	24.1	25.9
87.5°	11.1	11.1	13.0	14.8	16.7
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)