

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: P546498

Luminaire Tested: **FMR-24-4-LD4-1HI-50-UNV-81-87-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: P546498
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-LD4-1HI-50-UNV-81-87-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

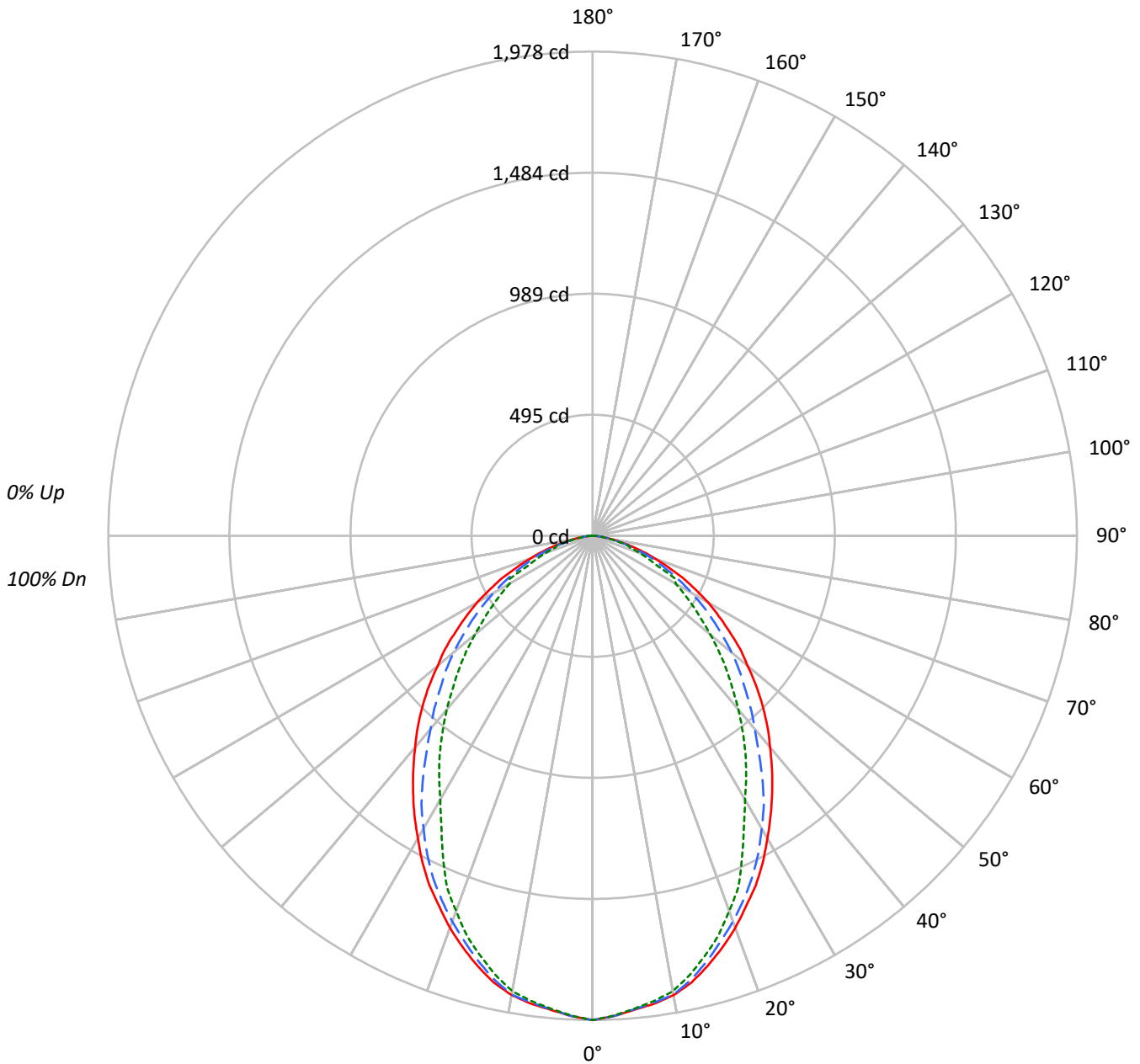
Lumens per Lamp: N/A
Luminaire Lumens: 3884.0 lumens
Efficiency: N/A
Efficacy: 89.9 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 43.2
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: P546498

CATALOG NUMBER: FMR-24-4-LD4-1HI-50-UNV-81-87-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°	2662	2662	2662
5°	2626	2623	2620
10°	2603	2600	2581
15°	2533	2507	2472
20°	2440	2400	2335
25°	2340	2289	2146
30°	2217	2146	1933
35°	2100	1984	1788
40°	1981	1808	1627
45°	1867	1671	1471
50°	1728	1551	1312
55°	1599	1406	1175
60°	1465	1256	1052
65°	1289	1100	932
70°	1062	963	792
75°	844	737	773
80°	567	532	496
85°	354	423	494



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	184.2	4.7
10°-20°	505.4	13.0
20°-30°	699.7	18.0
30°-40°	746.1	19.2
40°-50°	680.7	17.5
50°-60°	533.3	13.7
60°-70°	347.6	8.9
70°-80°	154.0	4.0
80°-90°	33.1	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°	1389.3	35.8
0°-40°	2135.5	55.0
0°-60°	3349.4	86.2
0°-90°	3884.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3884.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1978	1978	1978	1978	1978	
5°	1944	1942	1942	1940	1940	185
15°	1818	1818	1800	1782	1775	511
25°	1576	1567	1542	1487	1446	723
35°	1279	1269	1208	1116	1089	799
45°	981	961	878	805	773	756
55°	682	661	599	528	501	611
65°	405	382	345	352	293	399
75°	162	151	142	135	149	174
85°	23	25	27	30	32	32
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1978.5	1978.5	1978.5	1978.5	1978.5
2.5°	1964.7	1964.7	1964.7	1962.4	1962.4
5°	1944.1	1941.9	1941.9	1939.6	1939.6
7.5°	1928.1	1925.9	1923.6	1921.3	1916.7
10°	1905.3	1905.3	1903.0	1891.5	1889.3
12.5°	1868.7	1866.4	1857.2	1841.2	1836.6
15°	1818.4	1818.4	1800.1	1781.8	1774.9
17.5°	1763.5	1761.2	1738.3	1720.0	1710.9
20°	1704.0	1699.4	1676.5	1646.8	1630.8
22.5°	1637.7	1637.7	1610.2	1571.3	1555.3
25°	1575.9	1566.8	1541.6	1486.7	1445.5
27.5°	1505.0	1491.3	1463.8	1386.1	1338.0
30°	1427.2	1420.4	1381.5	1280.9	1244.3
32.5°	1354.0	1342.6	1301.4	1196.2	1166.5
35°	1278.6	1269.4	1207.7	1116.2	1088.7
37.5°	1203.1	1191.6	1113.9	1040.7	1006.4
40°	1127.6	1113.9	1029.3	962.9	926.3
42.5°	1056.7	1038.4	956.1	885.2	844.0
45°	981.2	960.6	878.3	805.1	773.1
47.5°	905.7	887.4	812.0	736.5	699.9
50°	825.7	809.7	741.1	665.6	626.7
52.5°	759.4	734.2	667.9	592.4	560.4
55°	681.6	661.0	599.3	528.4	500.9
57.5°	610.7	590.1	532.9	466.6	443.7
60°	544.4	514.6	466.6	409.4	391.1
62.5°	471.2	448.3	407.1	359.1	382.0
65°	404.8	382.0	345.4	352.2	292.8
67.5°	331.6	320.2	288.2	256.2	247.0
70°	269.9	256.2	244.7	210.4	201.3
72.5°	215.0	201.3	185.3	167.0	160.1
75°	162.4	151.0	141.8	134.9	148.7
77.5°	112.1	107.5	100.6	93.8	91.5
80°	73.2	70.9	68.6	66.3	64.0
82.5°	43.5	43.5	43.5	43.5	43.5
85°	22.9	25.2	27.4	29.7	32.0
87.5°	13.7	13.7	16.0	18.3	20.6
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)