

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: P546823

Luminaire Tested: **FMR-24-4-LD4-2LO-40-UNV-82-84-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: P546823
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-LD4-2LO-40-UNV-82-84-EDD
Description: 2X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

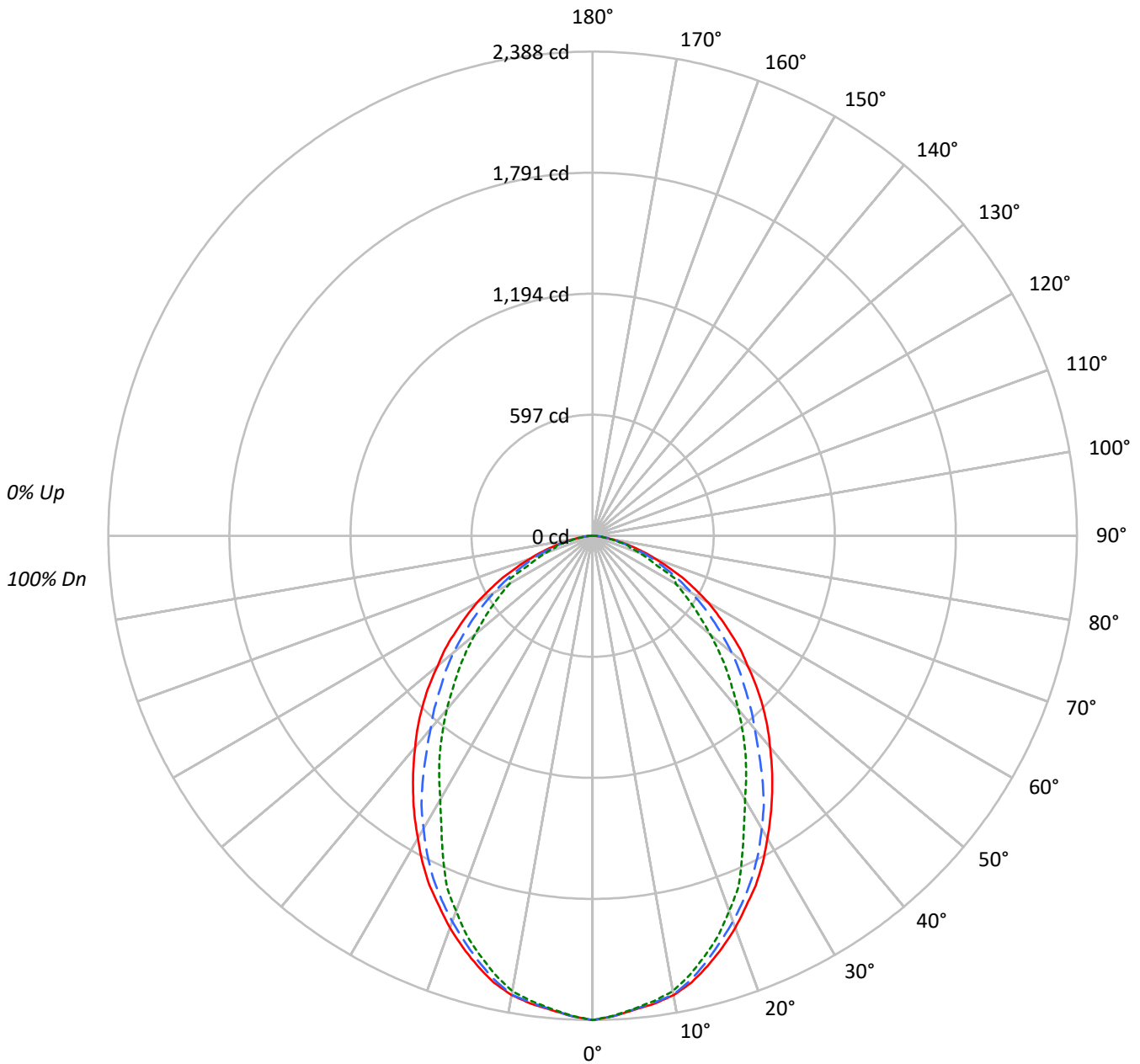
Lumens per Lamp: N/A
Luminaire Lumens: 4689.0 lumens
Efficiency: N/A
Efficacy: 100.2 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 46.8
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
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°	3214	3214	3214
5°	3170	3166	3163
10°	3143	3139	3116
15°	3058	3027	2985
20°	2946	2898	2819
25°	2824	2763	2591
30°	2677	2591	2334
35°	2535	2395	2159
40°	2391	2183	1964
45°	2254	2018	1776
50°	2087	1873	1584
55°	1930	1697	1418
60°	1769	1516	1271
65°	1556	1328	1125
70°	1282	1162	956
75°	1019	890	933
80°	685	642	599
85°	426	511	597



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	222.3	4.7
10°-20°	610.2	13.0
20°-30°	844.8	18.0
30°-40°	900.8	19.2
40°-50°	821.8	17.5
50°-60°	643.8	13.7
60°-70°	419.6	8.9
70°-80°	185.9	4.0
80°-90°	39.9	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°	1677.3	35.8
0°-40°	2578.1	55.0
0°-60°	4043.6	86.2
0°-90°	4689.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4689.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2388	2388	2388	2388	2388	
5°	2347	2344	2344	2342	2342	223
15°	2195	2195	2173	2151	2143	617
25°	1902	1892	1861	1795	1745	873
35°	1544	1532	1458	1348	1314	965
45°	1185	1160	1060	972	933	912
55°	823	798	724	638	605	738
65°	489	461	417	425	353	482
75°	196	182	171	163	180	210
85°	28	30	33	36	39	38
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2388.5	2388.5	2388.5	2388.5	2388.5
2.5°	2371.9	2371.9	2371.9	2369.2	2369.2
5°	2347.1	2344.3	2344.3	2341.6	2341.6
7.5°	2327.8	2325.0	2322.2	2319.5	2314.0
10°	2300.2	2300.2	2297.4	2283.6	2280.8
12.5°	2256.0	2253.2	2242.2	2222.8	2217.3
15°	2195.2	2195.2	2173.1	2151.0	2142.8
17.5°	2129.0	2126.2	2098.6	2076.5	2065.4
20°	2057.2	2051.6	2024.0	1988.1	1968.8
22.5°	1977.1	1977.1	1943.9	1897.0	1877.7
25°	1902.5	1891.5	1861.1	1794.8	1745.1
27.5°	1816.9	1800.4	1767.2	1673.3	1615.4
30°	1723.0	1714.8	1667.8	1546.3	1502.1
32.5°	1634.7	1620.9	1571.2	1444.2	1408.3
35°	1543.6	1532.5	1458.0	1347.5	1314.4
37.5°	1452.4	1438.6	1344.7	1256.4	1215.0
40°	1361.3	1344.7	1242.6	1162.5	1118.3
42.5°	1275.7	1253.6	1154.2	1068.6	1018.9
45°	1184.6	1159.7	1060.3	972.0	933.3
47.5°	1093.5	1071.4	980.3	889.1	845.0
50°	996.8	977.5	894.7	803.5	756.6
52.5°	916.7	886.4	806.3	715.2	676.5
55°	822.9	798.0	723.5	637.9	604.7
57.5°	737.3	712.4	643.4	563.3	535.7
60°	657.2	621.3	563.3	494.3	472.2
62.5°	568.8	541.2	491.5	433.5	461.1
65°	488.7	461.1	417.0	425.2	353.4
67.5°	400.4	386.6	347.9	309.3	298.2
70°	325.8	309.3	295.5	254.0	243.0
72.5°	259.6	243.0	223.7	201.6	193.3
75°	196.1	182.2	171.2	162.9	179.5
77.5°	135.3	129.8	121.5	113.2	110.5
80°	88.4	85.6	82.8	80.1	77.3
82.5°	52.5	52.5	52.5	52.5	52.5
85°	27.6	30.4	33.1	35.9	38.7
87.5°	16.6	16.6	19.3	22.1	24.9
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)