

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: P546283

Luminaire Tested: **FMR-12-4-LD4-2LO-50-UNV-82-88-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: P546283
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-12-4-LD4-2LO-50-UNV-82-88-EDD
Description: 1X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

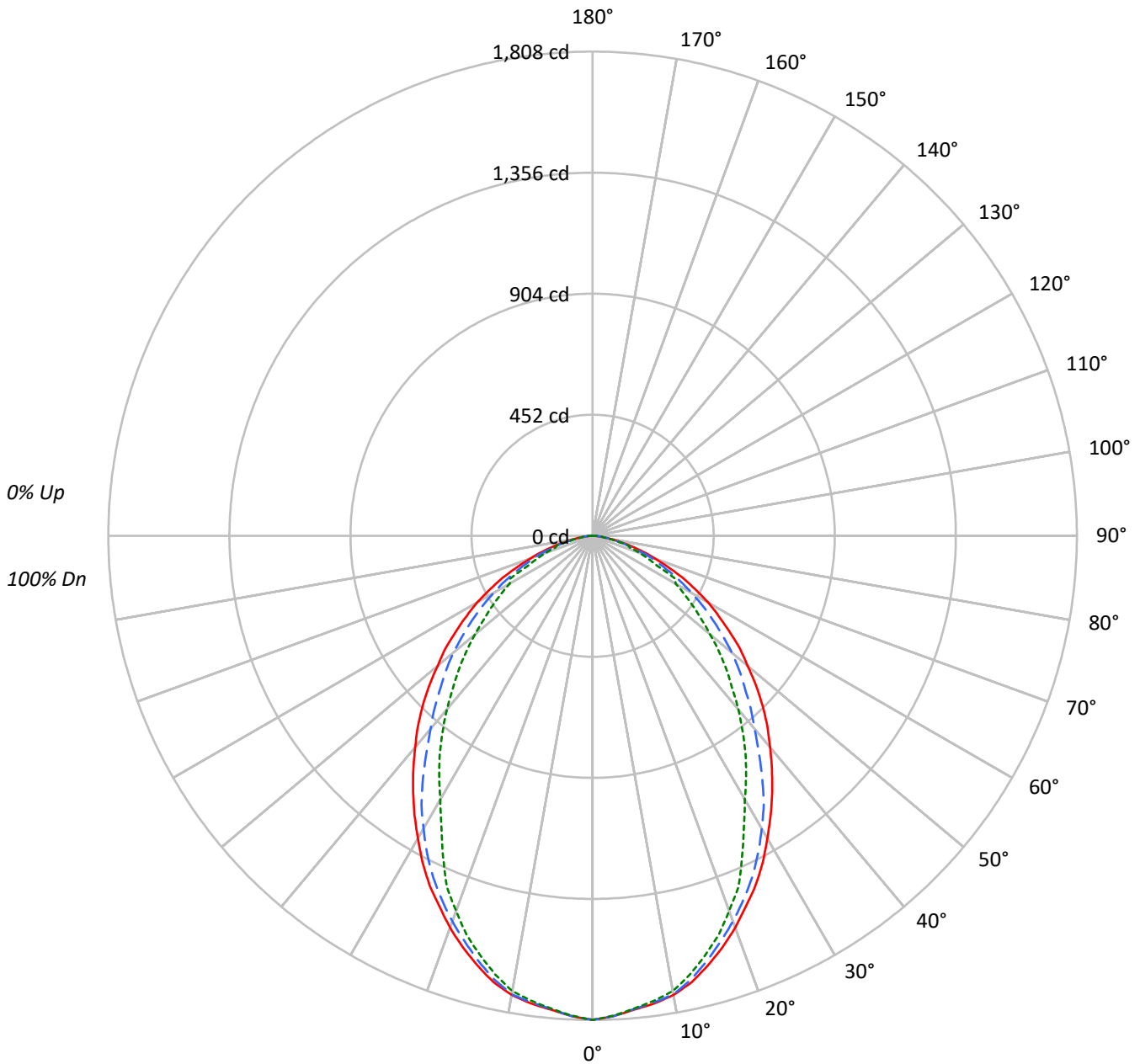
Lumens per Lamp: N/A
Luminaire Lumens: 3549.0 lumens
Efficiency: N/A
Efficacy: 75.8 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 46.8
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									
RC	80									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																			
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87																			
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75																			
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65																			
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56																			
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50																			
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44																			
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40																			
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36																			
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33																			
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30																			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	4865	4865	4865
5°	4799	4793	4787
10°	4757	4751	4717
15°	4629	4582	4518
20°	4459	4387	4267
25°	4276	4182	3922
30°	4052	3922	3533
35°	3838	3625	3268
40°	3619	3304	2973
45°	3412	3054	2688
50°	3159	2835	2397
55°	2922	2569	2147
60°	2677	2295	1924
65°	2355	2010	1703
70°	1940	1759	1447
75°	1543	1347	1412
80°	1037	972	907
85°	645	775	905



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	168.3	4.7
10°-20°	461.8	13.0
20°-30°	639.4	18.0
30°-40°	681.8	19.2
40°-50°	622.0	17.5
50°-60°	487.3	13.7
60°-70°	317.6	8.9
70°-80°	140.7	4.0
80°-90°	30.2	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°	1269.5	35.8
0°-40°	1951.3	55.0
0°-60°	3060.5	86.2
0°-90°	3549.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3549.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1808	1808	1808	1808	1808	
5°	1776	1774	1774	1772	1772	169
15°	1662	1662	1645	1628	1622	467
25°	1440	1432	1409	1358	1321	661
35°	1168	1160	1104	1020	995	730
45°	897	878	802	736	706	691
55°	623	604	548	483	458	559
65°	370	349	316	322	268	365
75°	148	138	130	123	136	159
85°	21	23	25	27	29	29
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1807.8	1807.8	1807.8	1807.8	1807.8
2.5°	1795.3	1795.3	1795.3	1793.2	1793.2
5°	1776.5	1774.4	1774.4	1772.3	1772.3
7.5°	1761.8	1759.7	1757.7	1755.6	1751.4
10°	1740.9	1740.9	1738.8	1728.4	1726.3
12.5°	1707.5	1705.4	1697.0	1682.4	1678.2
15°	1661.5	1661.5	1644.8	1628.1	1621.8
17.5°	1611.4	1609.3	1588.4	1571.6	1563.3
20°	1557.0	1552.8	1531.9	1504.8	1490.1
22.5°	1496.4	1496.4	1471.3	1435.8	1421.2
25°	1440.0	1431.6	1408.6	1358.5	1320.9
27.5°	1375.2	1362.7	1337.6	1266.5	1222.6
30°	1304.1	1297.9	1262.3	1170.4	1136.9
32.5°	1237.3	1226.8	1189.2	1093.0	1065.9
35°	1168.3	1159.9	1103.5	1019.9	994.8
37.5°	1099.3	1088.9	1017.8	950.9	919.6
40°	1030.3	1017.8	940.5	879.9	846.4
42.5°	965.6	948.8	873.6	808.8	771.2
45°	896.6	877.8	802.5	735.7	706.4
47.5°	827.6	810.9	741.9	673.0	639.5
50°	754.5	739.8	677.1	608.2	572.6
52.5°	693.9	670.9	610.3	541.3	512.0
55°	622.8	604.0	547.6	482.8	457.7
57.5°	558.0	539.2	487.0	426.4	405.5
60°	497.4	470.2	426.4	374.1	357.4
62.5°	430.5	409.6	372.0	328.1	349.0
65°	369.9	349.0	315.6	321.9	267.5
67.5°	303.0	292.6	263.3	234.1	225.7
70°	246.6	234.1	223.6	192.3	183.9
72.5°	196.5	183.9	169.3	152.6	146.3
75°	148.4	137.9	129.6	123.3	135.8
77.5°	102.4	98.2	92.0	85.7	83.6
80°	66.9	64.8	62.7	60.6	58.5
82.5°	39.7	39.7	39.7	39.7	39.7
85°	20.9	23.0	25.1	27.2	29.3
87.5°	12.5	12.5	14.6	16.7	18.8
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)