

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: P546232

Luminaire Tested: **FMR-12-4-LD4-2LO-40-UNV-80-85-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: P546232
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-40-UNV-80-85-EDD
Description: 1X4 FMR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

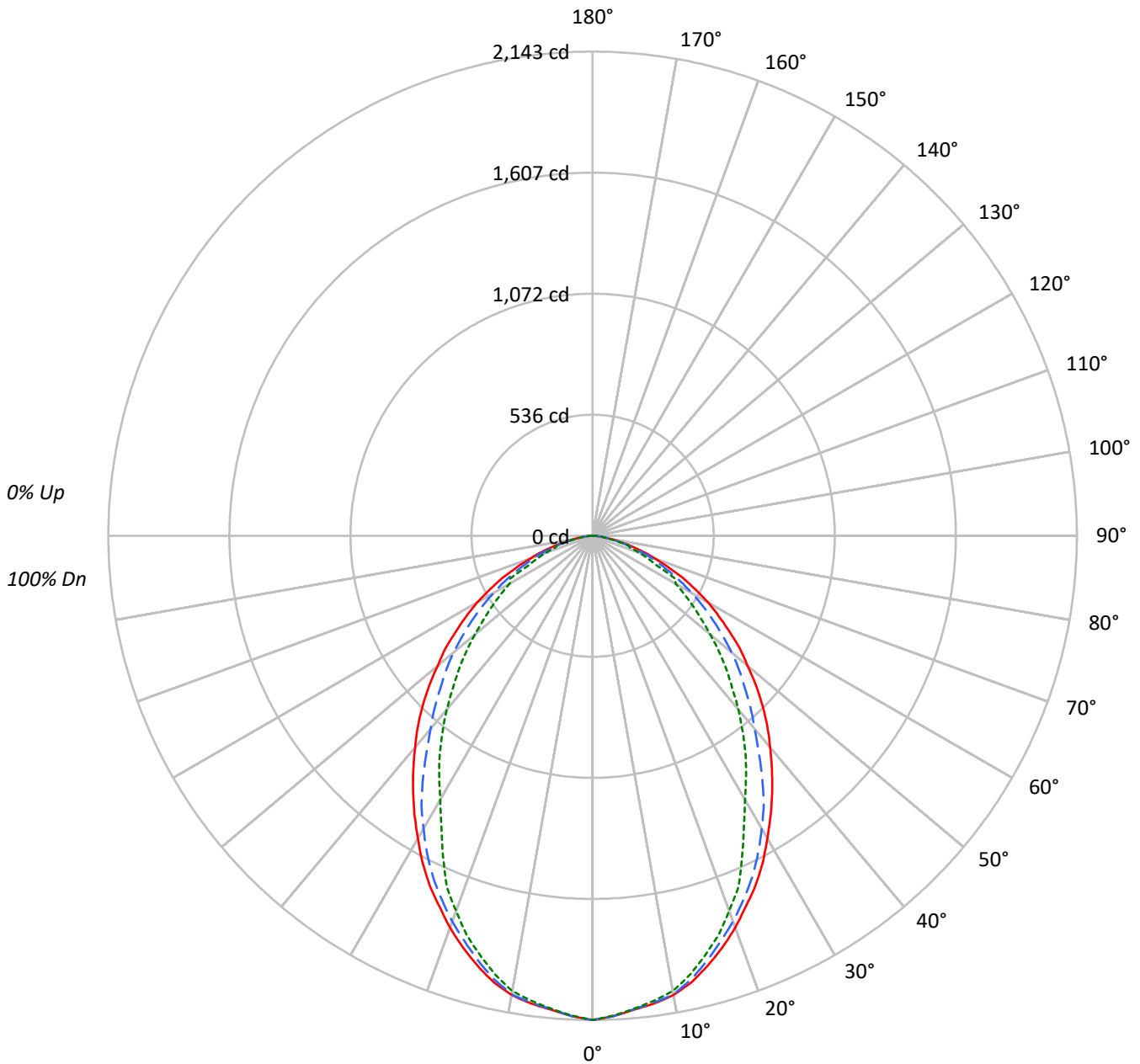
Lumens per Lamp: N/A
Luminaire Lumens: 4207.0 lumens
Efficiency: N/A
Efficacy: 89.9 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 46.8
Input Voltage (V): NR
Input Current (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									
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°	5767	5767	5767
5°	5688	5682	5675
10°	5639	5632	5592
15°	5487	5432	5356
20°	5285	5200	5058
25°	5068	4958	4649
30°	4804	4650	4188
35°	4550	4297	3874
40°	4291	3916	3525
45°	4045	3620	3187
50°	3744	3360	2842
55°	3464	3045	2546
60°	3173	2720	2280
65°	2792	2382	2019
70°	2300	2086	1715
75°	1829	1597	1674
80°	1229	1151	1075
85°	766	917	1071



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	199.5	4.7
10°-20°	547.5	13.0
20°-30°	757.9	18.0
30°-40°	808.2	19.2
40°-50°	737.3	17.5
50°-60°	577.6	13.7
60°-70°	376.5	8.9
70°-80°	166.8	4.0
80°-90°	35.8	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°	1504.9	35.8
0°-40°	2313.1	55.0
0°-60°	3628.0	86.2
0°-90°	4207.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4207.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2143	2143	2143	2143	2143	
5°	2106	2103	2103	2101	2101	200
15°	1970	1970	1950	1930	1922	554
25°	1707	1697	1670	1610	1566	784
35°	1385	1375	1308	1209	1179	866
45°	1063	1040	951	872	837	819
55°	738	716	649	572	543	662
65°	438	414	374	382	317	432
75°	176	164	154	146	161	189
85°	25	27	30	32	35	34
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2143.0	2143.0	2143.0	2143.0	2143.0
2.5°	2128.1	2128.1	2128.1	2125.6	2125.6
5°	2105.8	2103.4	2103.4	2100.9	2100.9
7.5°	2088.5	2086.0	2083.5	2081.1	2076.1
10°	2063.7	2063.7	2061.2	2048.8	2046.4
12.5°	2024.1	2021.6	2011.7	1994.3	1989.4
15°	1969.6	1969.6	1949.7	1929.9	1922.5
17.5°	1910.1	1907.6	1882.9	1863.0	1853.1
20°	1845.7	1840.7	1816.0	1783.8	1766.4
22.5°	1773.9	1773.9	1744.1	1702.0	1684.7
25°	1707.0	1697.0	1669.8	1610.3	1565.7
27.5°	1630.2	1615.3	1585.6	1501.3	1449.3
30°	1545.9	1538.5	1496.4	1387.4	1347.7
32.5°	1466.6	1454.3	1409.7	1295.7	1263.5
35°	1384.9	1375.0	1308.1	1209.0	1179.3
37.5°	1303.1	1290.7	1206.5	1127.2	1090.1
40°	1221.4	1206.5	1114.9	1043.0	1003.4
42.5°	1144.6	1124.8	1035.6	958.8	914.2
45°	1062.8	1040.5	951.3	872.1	837.4
47.5°	981.1	961.2	879.5	797.7	758.1
50°	894.4	877.0	802.7	720.9	678.8
52.5°	822.5	795.3	723.4	641.7	607.0
55°	738.3	716.0	649.1	572.3	542.6
57.5°	661.5	639.2	577.2	505.4	480.6
60°	589.6	557.4	505.4	443.5	423.6
62.5°	510.4	485.6	441.0	389.0	413.7
65°	438.5	413.7	374.1	381.5	317.1
67.5°	359.2	346.8	312.2	277.5	267.6
70°	292.3	277.5	265.1	227.9	218.0
72.5°	232.9	218.0	200.7	180.9	173.4
75°	175.9	163.5	153.6	146.2	161.0
77.5°	121.4	116.4	109.0	101.6	99.1
80°	79.3	76.8	74.3	71.8	69.4
82.5°	47.1	47.1	47.1	47.1	47.1
85°	24.8	27.3	29.7	32.2	34.7
87.5°	14.9	14.9	17.3	19.8	22.3
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)