

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: P546208

Luminaire Tested: **FMR-12-4-LD4-2LO-35-UNV-81-85-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: P546208
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-35-UNV-81-85-EDD
Description: 1X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

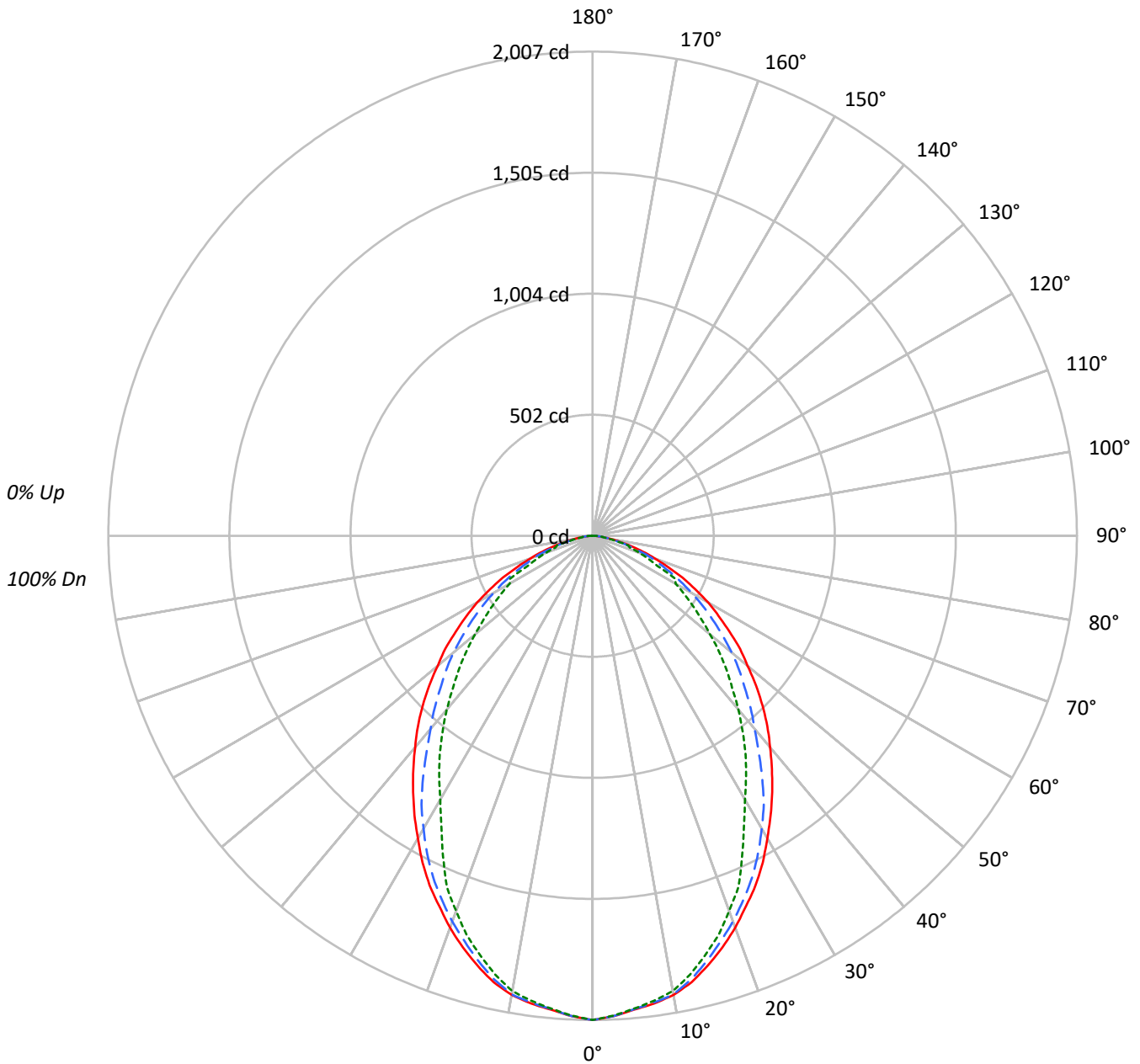
Lumens per Lamp: N/A
Luminaire Lumens: 3940.0 lumens
Efficiency: N/A
Efficacy: 84.2 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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°	5401	5401	5401
5°	5327	5321	5315
10°	5281	5275	5237
15°	5139	5087	5016
20°	4950	4870	4737
25°	4747	4643	4354
30°	4499	4355	3922
35°	4261	4025	3628
40°	4018	3668	3301
45°	3788	3391	2984
50°	3507	3147	2661
55°	3244	2852	2384
60°	2972	2547	2136
65°	2615	2231	1891
70°	2154	1954	1607
75°	1712	1496	1568
80°	1150	1079	1007
85°	716	858	1003



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	186.8	4.7
10°-20°	512.7	13.0
20°-30°	709.8	18.0
30°-40°	756.9	19.2
40°-50°	690.5	17.5
50°-60°	540.9	13.7
60°-70°	352.6	8.9
70°-80°	156.2	4.0
80°-90°	33.5	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°	1409.4	35.8
0°-40°	2166.2	55.0
0°-60°	3397.7	86.2
0°-90°	3940.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3940.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2007	2007	2007	2007	2007	
5°	1972	1970	1970	1968	1968	187
15°	1845	1845	1826	1807	1800	519
25°	1599	1589	1564	1508	1466	734
35°	1297	1288	1225	1132	1104	811
45°	995	974	891	817	784	767
55°	691	670	608	536	508	620
65°	411	388	350	357	297	405
75°	165	153	144	137	151	177
85°	23	26	28	30	32	32
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2007.0	2007.0	2007.0	2007.0	2007.0
2.5°	1993.1	1993.1	1993.1	1990.7	1990.7
5°	1972.2	1969.9	1969.9	1967.5	1967.5
7.5°	1955.9	1953.6	1951.3	1949.0	1944.3
10°	1932.7	1932.7	1930.4	1918.8	1916.5
12.5°	1895.6	1893.3	1884.0	1867.8	1863.1
15°	1844.6	1844.6	1826.0	1807.4	1800.5
17.5°	1788.9	1786.6	1763.4	1744.8	1735.5
20°	1728.6	1723.9	1700.7	1670.6	1654.3
22.5°	1661.3	1661.3	1633.4	1594.0	1577.7
25°	1598.6	1589.3	1563.8	1508.1	1466.4
27.5°	1526.7	1512.8	1484.9	1406.0	1357.3
30°	1447.8	1440.9	1401.4	1299.3	1262.2
32.5°	1373.6	1362.0	1320.2	1213.5	1183.3
35°	1297.0	1287.7	1225.1	1132.3	1104.4
37.5°	1220.4	1208.8	1129.9	1055.7	1020.9
40°	1143.9	1129.9	1044.1	976.8	939.7
42.5°	1071.9	1053.4	969.8	897.9	856.2
45°	995.4	974.5	891.0	816.7	784.2
47.5°	918.8	900.2	823.7	747.1	710.0
50°	837.6	821.4	751.7	675.2	635.7
52.5°	770.3	744.8	677.5	600.9	568.5
55°	691.4	670.5	607.9	536.0	508.1
57.5°	619.5	598.6	540.6	473.3	450.1
60°	552.2	522.0	473.3	415.3	396.8
62.5°	478.0	454.8	413.0	364.3	387.5
65°	410.7	387.5	350.4	357.3	297.0
67.5°	336.4	324.8	292.3	259.9	250.6
70°	273.8	259.9	248.3	213.5	204.2
72.5°	218.1	204.2	187.9	169.4	162.4
75°	164.7	153.1	143.9	136.9	150.8
77.5°	113.7	109.0	102.1	95.1	92.8
80°	74.2	71.9	69.6	67.3	65.0
82.5°	44.1	44.1	44.1	44.1	44.1
85°	23.2	25.5	27.8	30.2	32.5
87.5°	13.9	13.9	16.2	18.6	20.9
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)