

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: P546220

Luminaire Tested: **FMR-12-4-LD4-2LO-35-UNV-82-94-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: P546220
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-82-94-EDD
Description: 1X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

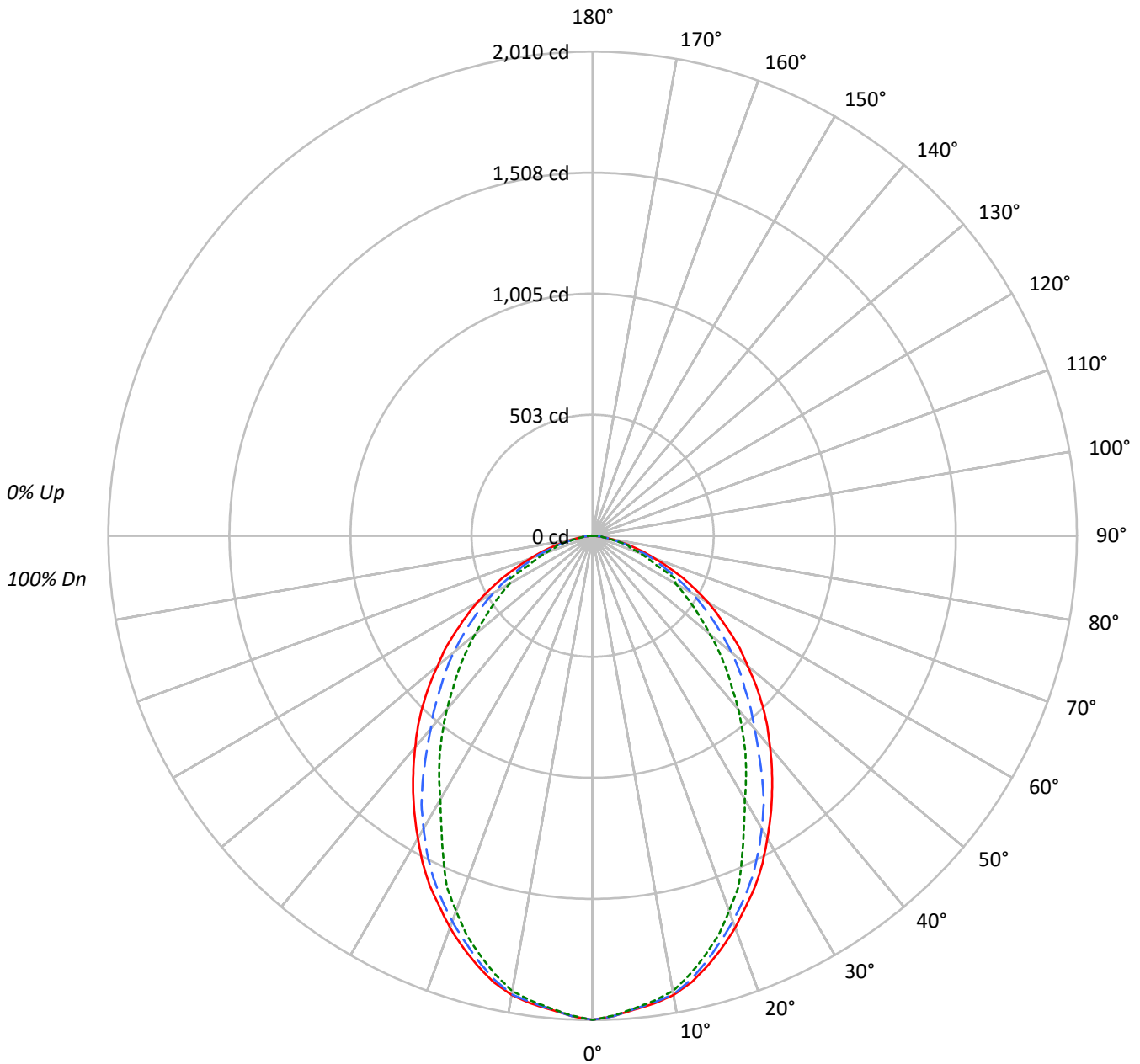
Lumens per Lamp: N/A
Luminaire Lumens: 3945.0 lumens
Efficiency: N/A
Efficacy: 84.3 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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°	5408	5408	5408
5°	5334	5328	5321
10°	5288	5282	5243
15°	5145	5093	5022
20°	4956	4877	4743
25°	4753	4649	4359
30°	4504	4360	3927
35°	4266	4029	3633
40°	4023	3672	3305
45°	3793	3395	2988
50°	3511	3151	2665
55°	3248	2856	2387
60°	2976	2551	2138
65°	2618	2234	1894
70°	2157	1956	1608
75°	1714	1497	1570
80°	1151	1080	1007
85°	716	861	1003



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	187.1	4.7
10°-20°	513.4	13.0
20°-30°	710.7	18.0
30°-40°	757.8	19.2
40°-50°	691.4	17.5
50°-60°	541.6	13.7
60°-70°	353.0	8.9
70°-80°	156.4	4.0
80°-90°	33.6	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°	1411.2	35.8
0°-40°	2169.0	55.0
0°-60°	3402.0	86.2
0°-90°	3945.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3945.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2010	2010	2010	2010	2010	
5°	1975	1972	1972	1970	1970	187
15°	1847	1847	1828	1810	1803	519
25°	1601	1591	1566	1510	1468	735
35°	1299	1289	1227	1134	1106	812
45°	997	976	892	818	785	768
55°	692	671	609	537	509	621
65°	411	388	351	358	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°	2009.5	2009.5	2009.5	2009.5	2009.5
2.5°	1995.6	1995.6	1995.6	1993.3	1993.3
5°	1974.7	1972.4	1972.4	1970.0	1970.0
7.5°	1958.4	1956.1	1953.8	1951.5	1946.8
10°	1935.2	1935.2	1932.9	1921.3	1918.9
12.5°	1898.0	1895.7	1886.4	1870.1	1865.5
15°	1846.9	1846.9	1828.3	1809.7	1802.8
17.5°	1791.2	1788.8	1765.6	1747.0	1737.7
20°	1730.8	1726.1	1702.9	1672.7	1656.4
22.5°	1663.4	1663.4	1635.5	1596.0	1579.7
25°	1600.7	1591.4	1565.8	1510.1	1468.2
27.5°	1528.6	1514.7	1486.8	1407.8	1359.0
30°	1449.6	1442.7	1403.2	1301.0	1263.8
32.5°	1375.3	1363.7	1321.9	1215.0	1184.8
35°	1298.6	1289.4	1226.6	1133.7	1105.8
37.5°	1222.0	1210.4	1131.4	1057.0	1022.2
40°	1145.3	1131.4	1045.4	978.0	940.9
42.5°	1073.3	1054.7	971.1	899.1	857.2
45°	996.6	975.7	892.1	817.8	785.2
47.5°	920.0	901.4	824.7	748.1	710.9
50°	838.7	822.4	752.7	676.0	636.5
52.5°	771.3	745.7	678.4	601.7	569.2
55°	692.3	671.4	608.7	536.6	508.8
57.5°	620.3	599.4	541.3	473.9	450.7
60°	552.9	522.7	473.9	415.8	397.3
62.5°	478.6	455.3	413.5	364.7	388.0
65°	411.2	388.0	350.8	357.8	297.4
67.5°	336.9	325.2	292.7	260.2	250.9
70°	274.1	260.2	248.6	213.7	204.4
72.5°	218.4	204.4	188.2	169.6	162.6
75°	164.9	153.3	144.0	137.1	151.0
77.5°	113.8	109.2	102.2	95.2	92.9
80°	74.3	72.0	69.7	67.4	65.0
82.5°	44.1	44.1	44.1	44.1	44.1
85°	23.2	25.6	27.9	30.2	32.5
87.5°	13.9	13.9	16.3	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)