

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: P546217

Luminaire Tested: **FMR-12-4-LD4-2LO-35-UNV-82-86-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: P546217
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-82-86-EDD
Description: 1X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

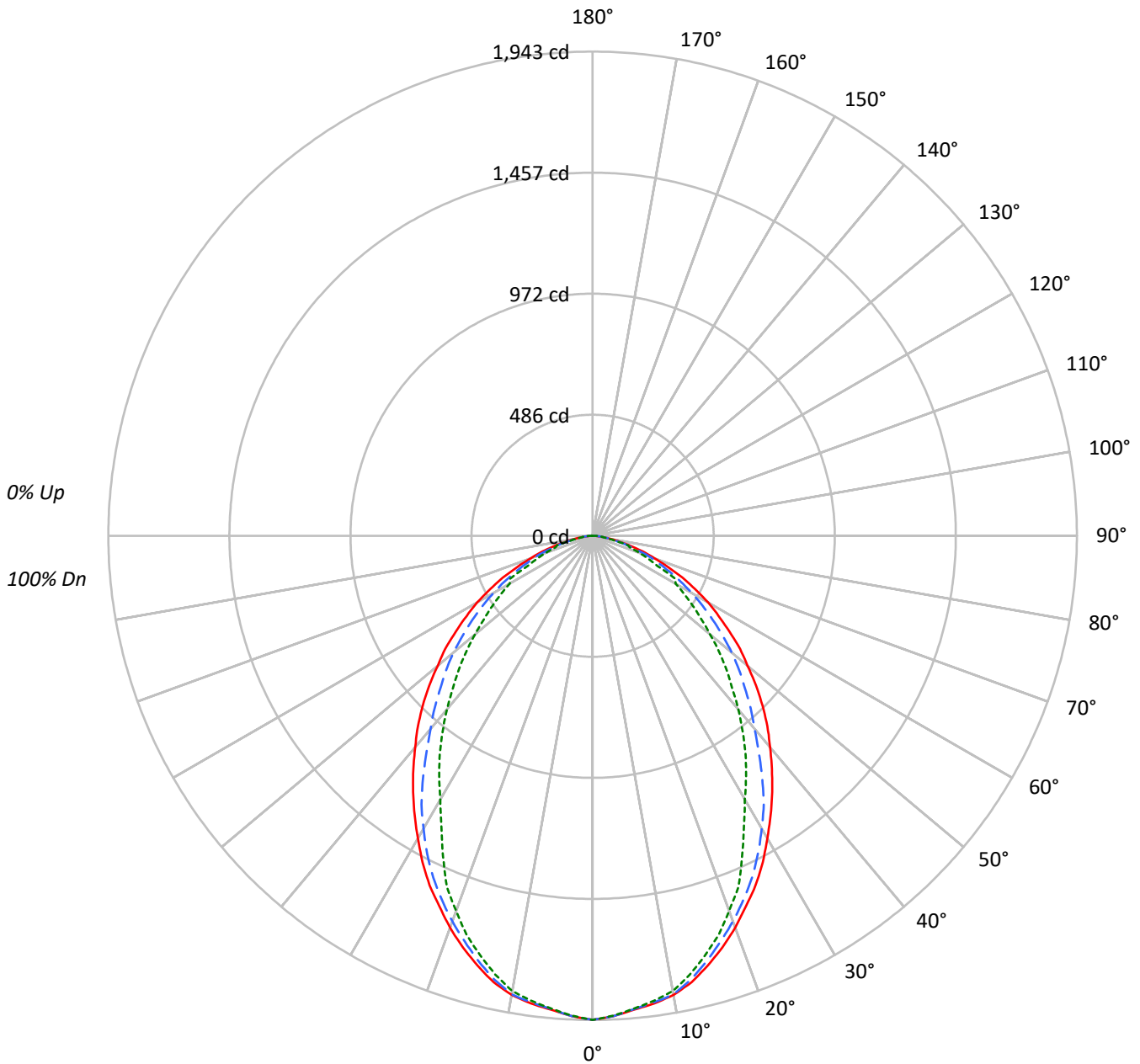
Lumens per Lamp: N/A
Luminaire Lumens: 3814.0 lumens
Efficiency: N/A
Efficacy: 81.5 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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°	5228	5228	5228
5°	5157	5151	5145
10°	5112	5106	5069
15°	4975	4924	4856
20°	4792	4714	4586
25°	4595	4495	4215
30°	4355	4215	3796
35°	4124	3896	3512
40°	3890	3550	3195
45°	3667	3282	2889
50°	3394	3046	2576
55°	3140	2761	2308
60°	2877	2466	2067
65°	2531	2159	1831
70°	2085	1891	1555
75°	1658	1448	1518
80°	1114	1044	975
85°	695	834	969



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	180.8	4.7
10°-20°	496.3	13.0
20°-30°	687.1	18.0
30°-40°	732.7	19.2
40°-50°	668.4	17.5
50°-60°	523.7	13.7
60°-70°	341.3	8.9
70°-80°	151.2	4.0
80°-90°	32.5	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°	1364.3	35.8
0°-40°	2097.0	55.0
0°-60°	3289.0	86.2
0°-90°	3814.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3814.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1943	1943	1943	1943	1943	
5°	1909	1907	1907	1905	1905	181
15°	1786	1786	1768	1750	1743	502
25°	1548	1538	1514	1460	1420	710
35°	1256	1246	1186	1096	1069	785
45°	964	943	862	791	759	742
55°	669	649	588	519	492	600
65°	398	375	339	346	288	392
75°	160	148	139	132	146	171
85°	22	25	27	29	31	31
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1942.8	1942.8	1942.8	1942.8	1942.8
2.5°	1929.3	1929.3	1929.3	1927.1	1927.1
5°	1909.1	1906.9	1906.9	1904.6	1904.6
7.5°	1893.4	1891.1	1888.9	1886.7	1882.2
10°	1870.9	1870.9	1868.7	1857.5	1855.2
12.5°	1835.0	1832.7	1823.8	1808.0	1803.5
15°	1785.6	1785.6	1767.6	1749.6	1742.9
17.5°	1731.7	1729.4	1707.0	1689.0	1680.0
20°	1673.3	1668.8	1646.3	1617.1	1601.4
22.5°	1608.1	1608.1	1581.2	1543.0	1527.3
25°	1547.5	1538.5	1513.8	1459.9	1419.5
27.5°	1477.9	1464.4	1437.4	1361.1	1313.9
30°	1401.5	1394.8	1356.6	1257.8	1221.8
32.5°	1329.6	1318.4	1278.0	1174.7	1145.5
35°	1255.5	1246.5	1185.9	1096.1	1069.1
37.5°	1181.4	1170.2	1093.8	1021.9	988.2
40°	1107.3	1093.8	1010.7	945.6	909.6
42.5°	1037.7	1019.7	938.8	869.2	828.8
45°	963.5	943.3	862.5	790.6	759.2
47.5°	889.4	871.5	797.3	723.2	687.3
50°	810.8	795.1	727.7	653.6	615.4
52.5°	745.7	721.0	655.8	581.7	550.3
55°	669.3	649.1	588.5	518.8	491.9
57.5°	599.7	579.5	523.3	458.2	435.7
60°	534.6	505.4	458.2	402.0	384.1
62.5°	462.7	440.2	399.8	352.6	375.1
65°	397.5	375.1	339.1	345.9	287.5
67.5°	325.7	314.4	283.0	251.6	242.6
70°	265.0	251.6	240.3	206.6	197.6
72.5°	211.1	197.6	181.9	164.0	157.2
75°	159.5	148.2	139.3	132.5	146.0
77.5°	110.1	105.6	98.8	92.1	89.8
80°	71.9	69.6	67.4	65.1	62.9
82.5°	42.7	42.7	42.7	42.7	42.7
85°	22.5	24.7	27.0	29.2	31.4
87.5°	13.5	13.5	15.7	18.0	20.2
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)