

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: P546431

Luminaire Tested: **FMR-24-4-LD4-1HI-35-UNV-81-84-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: P546431
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-24-4-LD4-1HI-35-UNV-81-84-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

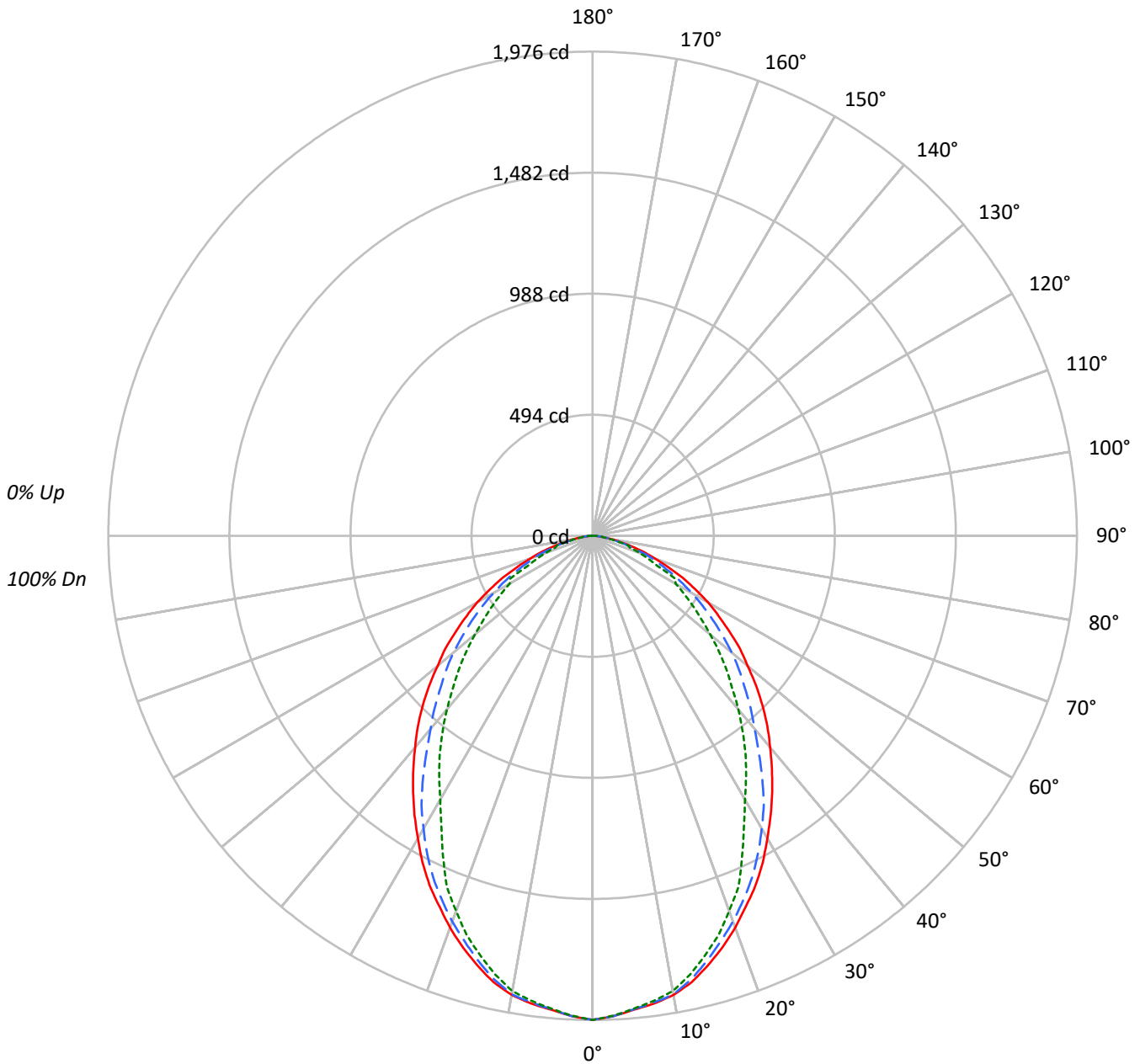
Lumens per Lamp: N/A
Luminaire Lumens: 3879.0 lumens
Efficiency: N/A
Efficacy: 89.8 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 43.2
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°	2659	2659	2659
5°	2622	2619	2616
10°	2600	2597	2578
15°	2530	2504	2469
20°	2437	2397	2332
25°	2337	2286	2143
30°	2215	2144	1931
35°	2097	1981	1786
40°	1978	1805	1625
45°	1865	1669	1469
50°	1726	1549	1310
55°	1597	1404	1174
60°	1463	1254	1051
65°	1287	1098	931
70°	1060	961	791
75°	843	736	772
80°	566	531	496
85°	352	423	494



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	183.9	4.7
10°-20°	504.8	13.0
20°-30°	698.8	18.0
30°-40°	745.2	19.2
40°-50°	679.8	17.5
50°-60°	532.6	13.7
60°-70°	347.1	8.9
70°-80°	153.8	4.0
80°-90°	33.0	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°	1387.6	35.8
0°-40°	2132.7	55.0
0°-60°	3345.1	86.2
0°-90°	3879.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3879.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1976	1976	1976	1976	1976	
5°	1942	1939	1939	1937	1937	184
15°	1816	1816	1798	1780	1773	511
25°	1574	1565	1540	1485	1444	723
35°	1277	1268	1206	1115	1087	798
45°	980	959	877	804	772	755
55°	681	660	598	528	500	611
65°	404	382	345	352	292	398
75°	162	151	142	135	148	174
85°	23	25	27	30	32	32
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1975.9	1975.9	1975.9	1975.9	1975.9
2.5°	1962.2	1962.2	1962.2	1959.9	1959.9
5°	1941.6	1939.4	1939.4	1937.1	1937.1
7.5°	1925.7	1923.4	1921.1	1918.8	1914.2
10°	1902.8	1902.8	1900.5	1889.1	1886.8
12.5°	1866.3	1864.0	1854.8	1838.9	1834.3
15°	1816.0	1816.0	1797.7	1779.5	1772.6
17.5°	1761.2	1758.9	1736.1	1717.8	1708.6
20°	1701.8	1697.2	1674.4	1644.7	1628.7
22.5°	1635.6	1635.6	1608.1	1569.3	1553.3
25°	1573.9	1564.7	1539.6	1484.8	1443.7
27.5°	1503.1	1489.4	1461.9	1384.3	1336.3
30°	1425.4	1418.5	1379.7	1279.2	1242.7
32.5°	1352.3	1340.9	1299.8	1194.7	1165.0
35°	1276.9	1267.8	1206.1	1114.7	1087.3
37.5°	1201.5	1190.1	1112.4	1039.4	1005.1
40°	1126.2	1112.4	1027.9	961.7	925.1
42.5°	1055.3	1037.1	954.8	884.0	842.9
45°	980.0	959.4	877.2	804.1	772.1
47.5°	904.6	886.3	810.9	735.5	699.0
50°	824.6	808.6	740.1	664.7	625.9
52.5°	758.4	733.3	667.0	591.6	559.7
55°	680.7	660.2	598.5	527.7	500.3
57.5°	609.9	589.3	532.2	466.0	443.2
60°	543.7	514.0	466.0	408.9	390.6
62.5°	470.6	447.7	406.6	358.6	381.5
65°	404.3	381.5	344.9	351.8	292.4
67.5°	331.2	319.8	287.8	255.8	246.7
70°	269.5	255.8	244.4	210.2	201.0
72.5°	214.7	201.0	185.0	166.8	159.9
75°	162.2	150.8	141.6	134.8	148.5
77.5°	111.9	107.4	100.5	93.7	91.4
80°	73.1	70.8	68.5	66.2	64.0
82.5°	43.4	43.4	43.4	43.4	43.4
85°	22.8	25.1	27.4	29.7	32.0
87.5°	13.7	13.7	16.0	18.3	20.6
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)