

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: P546464

Luminaire Tested: **FMR-24-4-LD4-1HI-40-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: P546464
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-40-UNV-81-85-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR PC 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

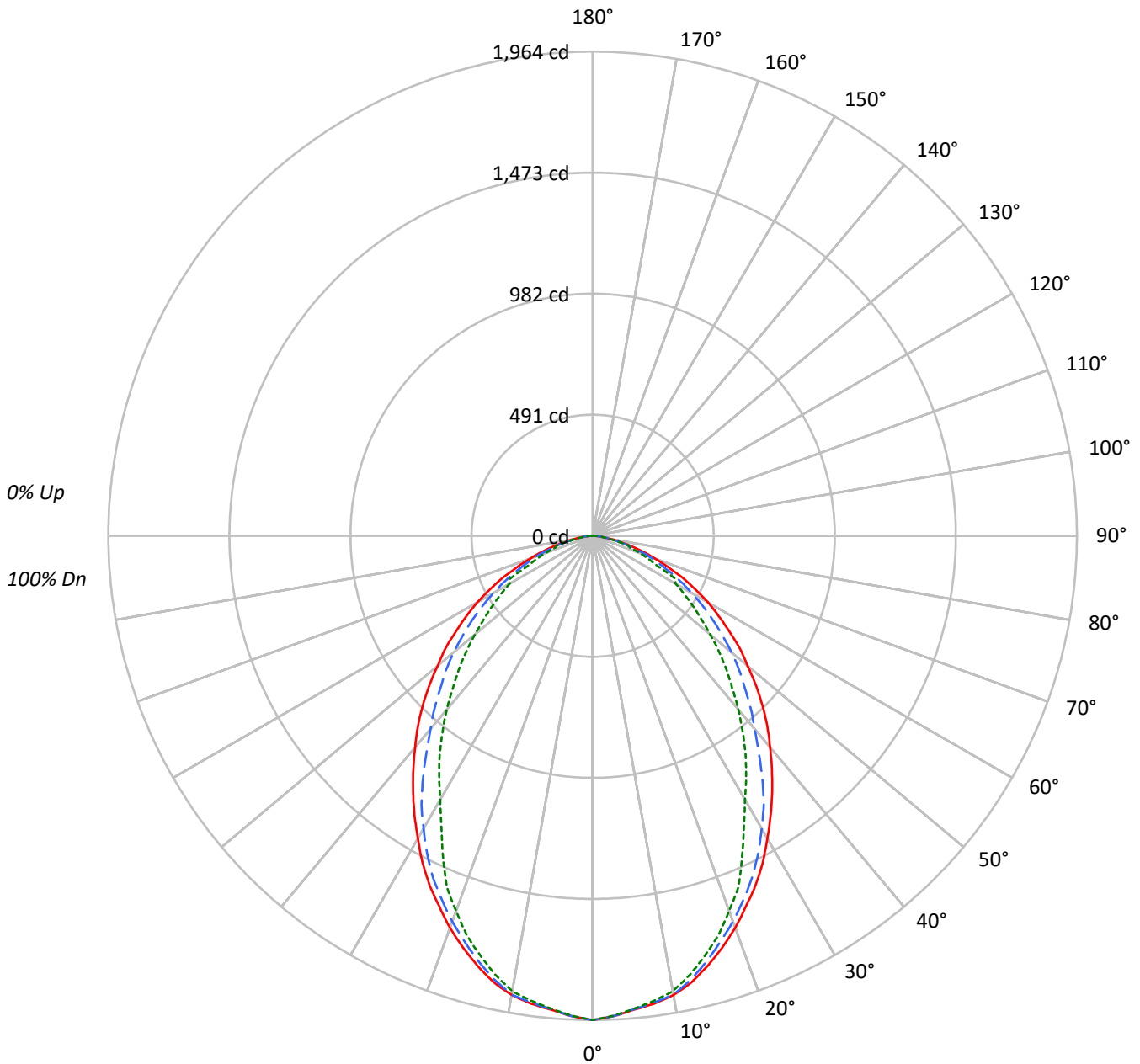
Lumens per Lamp: N/A
Luminaire Lumens: 3856.0 lumens
Efficiency: N/A
Efficacy: 89.3 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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°	2643	2643	2643
5°	2607	2604	2601
10°	2584	2581	2563
15°	2515	2489	2455
20°	2422	2383	2318
25°	2323	2272	2131
30°	2201	2131	1919
35°	2085	1969	1775
40°	1966	1795	1615
45°	1854	1659	1460
50°	1716	1540	1302
55°	1587	1396	1167
60°	1454	1246	1045
65°	1280	1092	926
70°	1054	956	786
75°	838	732	767
80°	563	528	493
85°	350	420	491



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	182.8	4.7
10°-20°	501.8	13.0
20°-30°	694.7	18.0
30°-40°	740.8	19.2
40°-50°	675.8	17.5
50°-60°	529.4	13.7
60°-70°	345.0	8.9
70°-80°	152.9	4.0
80°-90°	32.8	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°	1379.3	35.8
0°-40°	2120.1	55.0
0°-60°	3325.3	86.2
0°-90°	3856.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3856.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1964	1964	1964	1964	1964	
5°	1930	1928	1928	1926	1926	183
15°	1805	1805	1787	1769	1762	507
25°	1564	1556	1530	1476	1435	718
35°	1269	1260	1199	1108	1081	794
45°	974	954	872	799	768	750
55°	677	656	595	524	497	607
65°	402	379	343	350	291	396
75°	161	150	141	134	148	173
85°	23	25	27	30	32	31
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1964.2	1964.2	1964.2	1964.2	1964.2
2.5°	1950.6	1950.6	1950.6	1948.3	1948.3
5°	1930.1	1927.9	1927.9	1925.6	1925.6
7.5°	1914.2	1912.0	1909.7	1907.4	1902.9
10°	1891.5	1891.5	1889.3	1877.9	1875.6
12.5°	1855.2	1852.9	1843.8	1828.0	1823.4
15°	1805.2	1805.2	1787.1	1768.9	1762.1
17.5°	1750.7	1748.5	1725.8	1707.6	1698.5
20°	1691.7	1687.2	1664.5	1634.9	1619.0
22.5°	1625.9	1625.9	1598.6	1560.0	1544.1
25°	1564.5	1555.5	1530.5	1476.0	1435.1
27.5°	1494.2	1480.5	1453.3	1376.1	1328.4
30°	1416.9	1410.1	1371.5	1271.6	1235.3
32.5°	1344.3	1332.9	1292.1	1187.6	1158.1
35°	1269.3	1260.3	1199.0	1108.1	1080.9
37.5°	1194.4	1183.1	1105.9	1033.2	999.1
40°	1119.5	1105.9	1021.8	956.0	919.7
42.5°	1049.1	1030.9	949.2	878.8	837.9
45°	974.1	953.7	872.0	799.3	767.5
47.5°	899.2	881.0	806.1	731.2	694.8
50°	819.7	803.8	735.7	660.8	622.2
52.5°	753.9	728.9	663.1	588.1	556.3
55°	676.7	656.2	594.9	524.5	497.3
57.5°	606.3	585.9	529.1	463.2	440.5
60°	540.4	510.9	463.2	406.5	388.3
62.5°	467.8	445.1	404.2	356.5	379.2
65°	401.9	379.2	342.9	349.7	290.7
67.5°	329.3	317.9	286.1	254.3	245.2
70°	267.9	254.3	243.0	208.9	199.8
72.5°	213.5	199.8	183.9	165.8	159.0
75°	161.2	149.9	140.8	134.0	147.6
77.5°	111.3	106.7	99.9	93.1	90.8
80°	72.7	70.4	68.1	65.9	63.6
82.5°	43.1	43.1	43.1	43.1	43.1
85°	22.7	25.0	27.2	29.5	31.8
87.5°	13.6	13.6	15.9	18.2	20.4
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)