

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: P546465

Luminaire Tested: **FMR-24-4-LD4-1HI-40-UNV-81-86-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: P546465
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-81-86-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

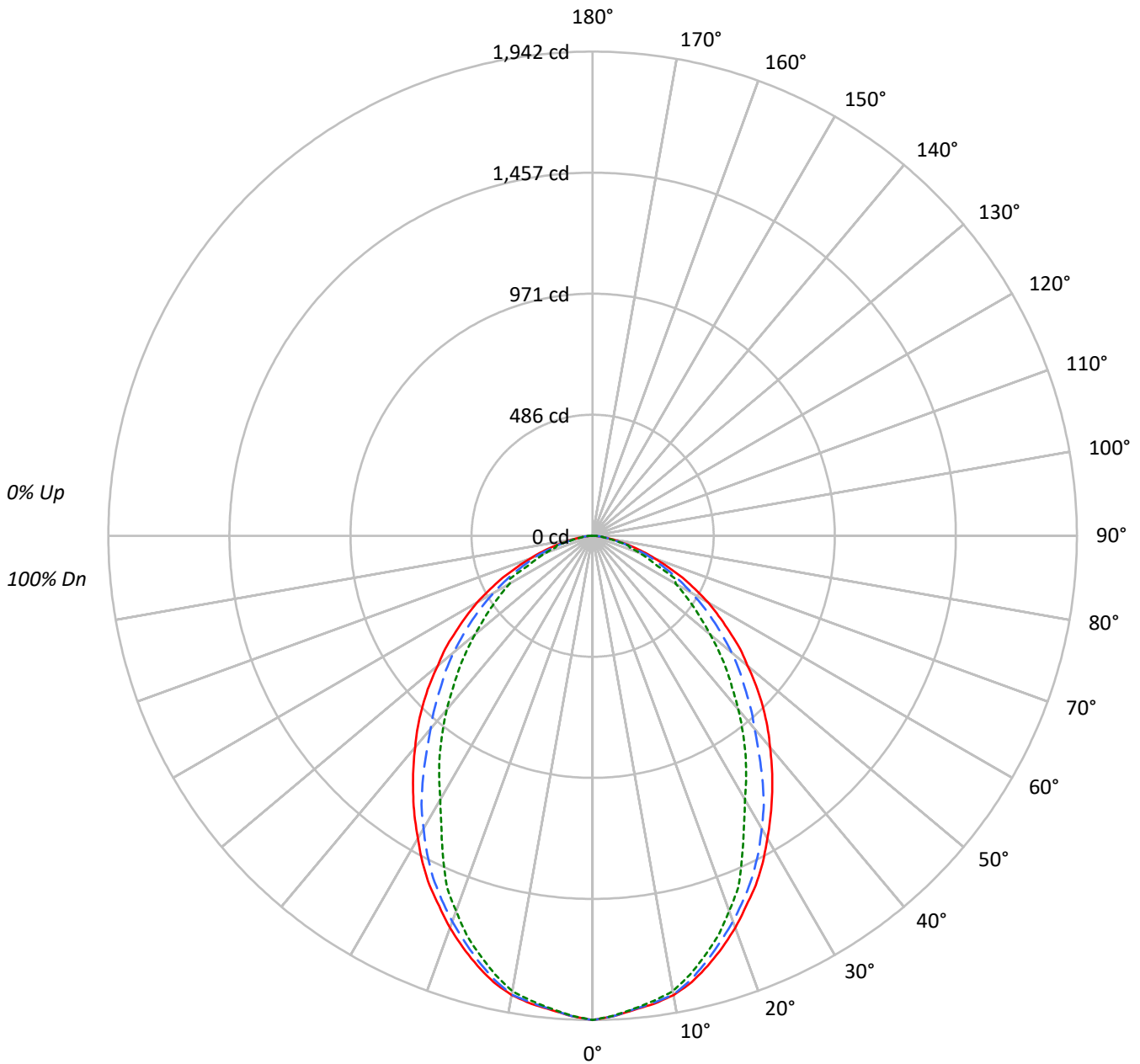
Lumens per Lamp: N/A
Luminaire Lumens: 3813.0 lumens
Efficiency: N/A
Efficacy: 88.3 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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°	2613	2613	2613
5°	2578	2575	2572
10°	2555	2552	2534
15°	2487	2461	2427
20°	2395	2357	2292
25°	2297	2247	2107
30°	2177	2107	1898
35°	2062	1947	1756
40°	1944	1775	1597
45°	1833	1641	1444
50°	1697	1523	1288
55°	1570	1380	1153
60°	1438	1233	1033
65°	1265	1080	915
70°	1042	945	777
75°	829	724	759
80°	557	522	487
85°	347	415	485



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	180.8	4.7
10°-20°	496.2	13.0
20°-30°	686.9	18.0
30°-40°	732.5	19.2
40°-50°	668.2	17.5
50°-60°	523.5	13.7
60°-70°	341.2	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°	1363.9	35.8
0°-40°	2096.4	55.0
0°-60°	3288.2	86.2
0°-90°	3813.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3813.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1942	1942	1942	1942	1942	
5°	1909	1906	1906	1904	1904	181
15°	1785	1785	1767	1749	1742	502
25°	1547	1538	1513	1460	1419	710
35°	1255	1246	1186	1096	1069	785
45°	963	943	862	790	759	742
55°	669	649	588	519	492	600
65°	397	375	339	346	287	392
75°	159	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°	1942.3	1942.3	1942.3	1942.3	1942.3
2.5°	1928.8	1928.8	1928.8	1926.6	1926.6
5°	1908.6	1906.4	1906.4	1904.1	1904.1
7.5°	1892.9	1890.6	1888.4	1886.2	1881.7
10°	1870.4	1870.4	1868.2	1857.0	1854.7
12.5°	1834.5	1832.3	1823.3	1807.6	1803.1
15°	1785.1	1785.1	1767.1	1749.2	1742.4
17.5°	1731.2	1729.0	1706.5	1688.6	1679.6
20°	1672.8	1668.3	1645.9	1616.7	1601.0
22.5°	1607.7	1607.7	1580.8	1542.6	1526.9
25°	1547.1	1538.1	1513.4	1459.5	1419.1
27.5°	1477.5	1464.0	1437.1	1360.7	1313.6
30°	1401.1	1394.4	1356.2	1257.4	1221.5
32.5°	1329.3	1318.1	1277.6	1174.4	1145.2
35°	1255.2	1246.2	1185.6	1095.8	1068.8
37.5°	1181.1	1169.9	1093.5	1021.7	988.0
40°	1107.0	1093.5	1010.4	945.3	909.4
42.5°	1037.4	1019.4	938.6	869.0	828.6
45°	963.3	943.1	862.2	790.4	759.0
47.5°	889.2	871.2	797.1	723.0	687.1
50°	810.6	794.9	727.5	653.4	615.2
52.5°	745.5	720.8	655.7	581.6	550.1
55°	669.1	648.9	588.3	518.7	491.7
57.5°	599.5	579.3	523.2	458.1	435.6
60°	534.4	505.2	458.1	401.9	384.0
62.5°	462.6	440.1	399.7	352.5	375.0
65°	397.4	375.0	339.1	345.8	287.4
67.5°	325.6	314.4	282.9	251.5	242.5
70°	265.0	251.5	240.3	206.6	197.6
72.5°	211.1	197.6	181.9	163.9	157.2
75°	159.4	148.2	139.2	132.5	146.0
77.5°	110.0	105.5	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	26.9	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)