

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: P546445

Luminaire Tested: **FMR-24-4-LD4-1HI-35-UNV-82-96-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: P546445
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-82-96-EDD
Description: 2X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

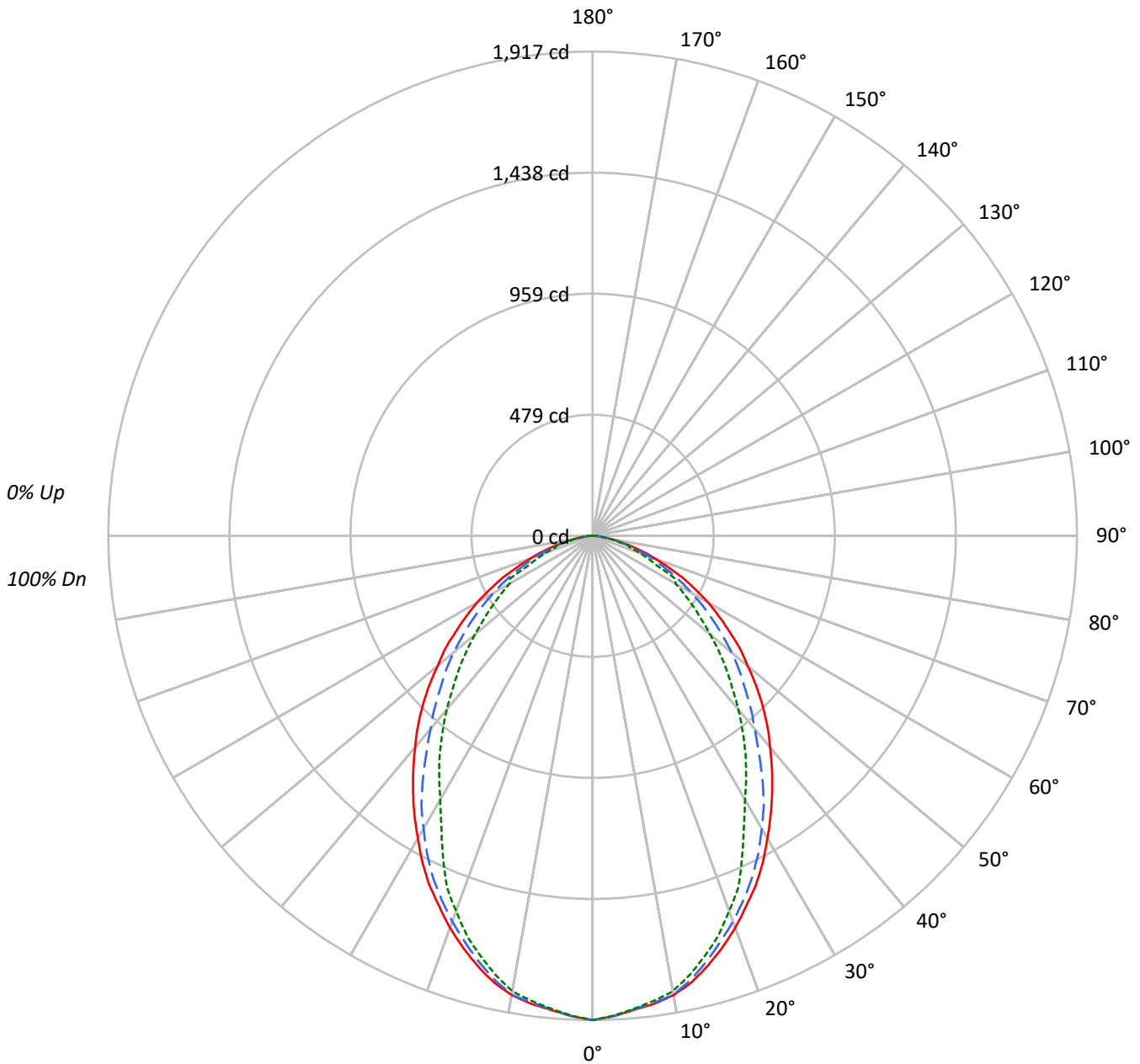
Lumens per Lamp: N/A
Luminaire Lumens: 3764.0 lumens
Efficiency: N/A
Efficacy: 87.1 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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°	2580	2580	2580
5°	2545	2542	2539
10°	2523	2520	2501
15°	2455	2430	2396
20°	2364	2326	2263
25°	2267	2218	2080
30°	2149	2080	1873
35°	2035	1922	1733
40°	1919	1752	1577
45°	1809	1620	1426
50°	1675	1503	1271
55°	1549	1362	1139
60°	1419	1217	1020
65°	1249	1066	903
70°	1029	933	768
75°	818	714	749
80°	549	515	481
85°	343	411	479



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	178.5	4.7
10°-20°	489.8	13.0
20°-30°	678.1	18.0
30°-40°	723.1	19.2
40°-50°	659.7	17.5
50°-60°	516.8	13.7
60°-70°	336.8	8.9
70°-80°	149.2	4.0
80°-90°	32.0	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°	1346.4	35.8
0°-40°	2069.5	55.0
0°-60°	3245.9	86.2
0°-90°	3764.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3764.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1917	1917	1917	1917	1917	
5°	1884	1882	1882	1880	1880	179
15°	1762	1762	1744	1727	1720	495
25°	1527	1518	1494	1441	1401	701
35°	1239	1230	1170	1082	1055	775
45°	951	931	851	780	749	732
55°	660	641	581	512	485	592
65°	392	370	335	341	284	387
75°	157	146	137	131	144	169
85°	22	24	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°	1917.3	1917.3	1917.3	1917.3	1917.3
2.5°	1904.0	1904.0	1904.0	1901.8	1901.8
5°	1884.1	1881.9	1881.9	1879.6	1879.6
7.5°	1868.6	1866.4	1864.1	1861.9	1857.5
10°	1846.4	1846.4	1844.2	1833.1	1830.9
12.5°	1810.9	1808.7	1799.9	1784.3	1779.9
15°	1762.2	1762.2	1744.4	1726.7	1720.1
17.5°	1709.0	1706.8	1684.6	1666.9	1658.0
20°	1651.3	1646.9	1624.7	1595.9	1580.4
22.5°	1587.1	1587.1	1560.5	1522.8	1507.3
25°	1527.2	1518.3	1494.0	1440.8	1400.9
27.5°	1458.5	1445.2	1418.6	1343.2	1296.7
30°	1383.1	1376.5	1338.8	1241.3	1205.8
32.5°	1312.2	1301.1	1261.2	1159.3	1130.4
35°	1239.1	1230.2	1170.3	1081.7	1055.1
37.5°	1165.9	1154.8	1079.5	1008.5	975.3
40°	1092.8	1079.5	997.5	933.2	897.7
42.5°	1024.1	1006.3	926.5	857.8	817.9
45°	950.9	931.0	851.2	780.2	749.2
47.5°	877.8	860.0	786.9	713.7	678.3
50°	800.2	784.7	718.2	645.0	607.3
52.5°	735.9	711.5	647.2	574.1	543.1
55°	660.5	640.6	580.7	512.0	485.4
57.5°	591.8	571.9	516.5	452.2	430.0
60°	527.5	498.7	452.2	396.8	379.0
62.5°	456.6	434.4	394.5	348.0	370.2
65°	392.3	370.2	334.7	341.4	283.7
67.5°	321.4	310.3	279.3	248.3	239.4
70°	261.6	248.3	237.2	203.9	195.1
72.5°	208.4	195.1	179.5	161.8	155.2
75°	157.4	146.3	137.4	130.8	144.1
77.5°	108.6	104.2	97.5	90.9	88.7
80°	70.9	68.7	66.5	64.3	62.1
82.5°	42.1	42.1	42.1	42.1	42.1
85°	22.2	24.4	26.6	28.8	31.0
87.5°	13.3	13.3	15.5	17.7	19.9
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)