

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: P546472

Luminaire Tested: **FMR-24-4-LD4-1HI-40-UNV-82-85-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: P546472
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-82-85-EDD
Description: 2X4 FMR TROFFER WITH .187 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

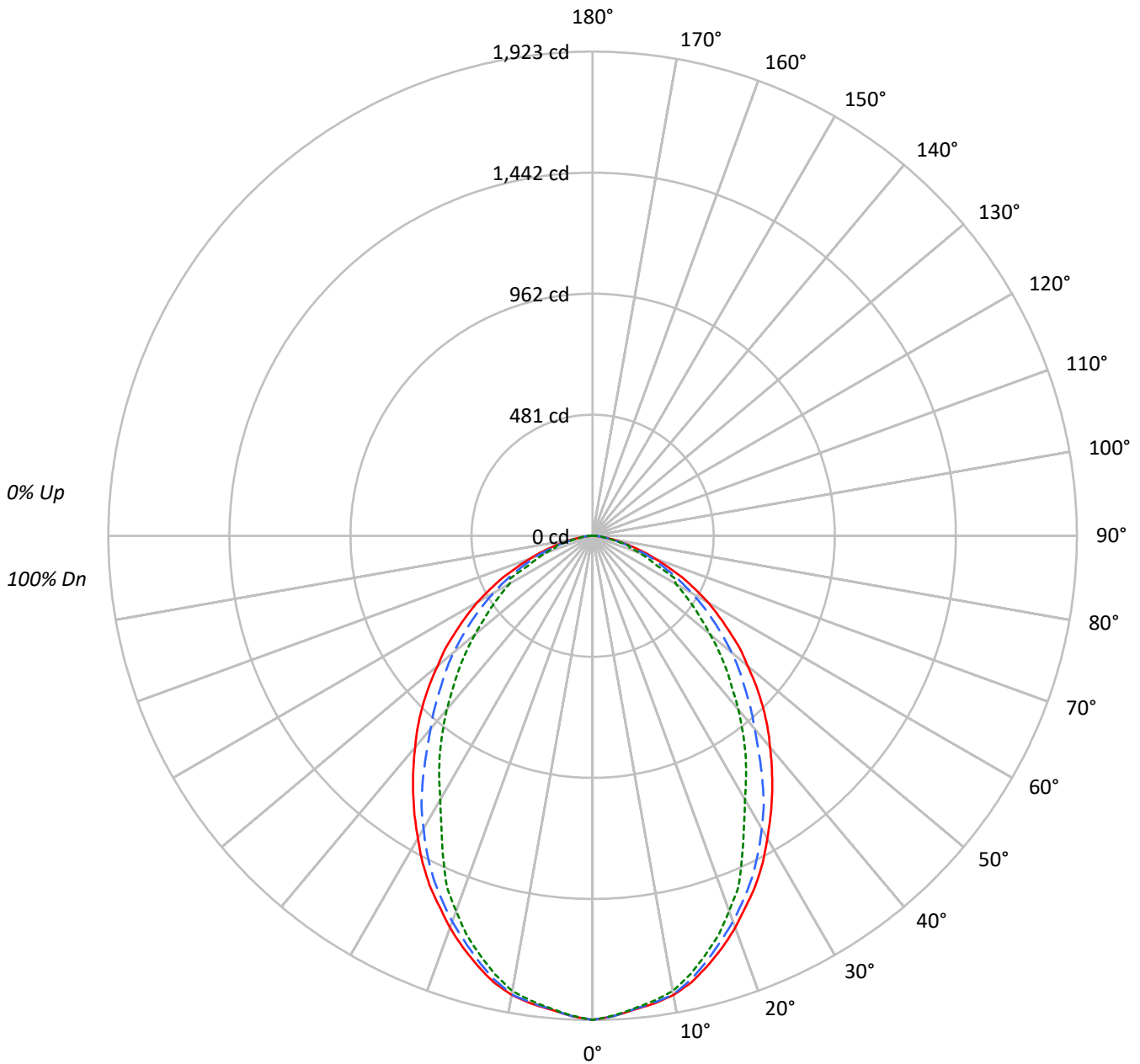
Lumens per Lamp: N/A
Luminaire Lumens: 3775.0 lumens
Efficiency: N/A
Efficacy: 87.4 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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°	2587	2587	2587
5°	2552	2549	2546
10°	2530	2527	2509
15°	2462	2437	2403
20°	2371	2333	2269
25°	2274	2224	2086
30°	2155	2086	1879
35°	2041	1928	1738
40°	1925	1757	1581
45°	1815	1624	1430
50°	1680	1508	1275
55°	1554	1366	1142
60°	1424	1220	1023
65°	1253	1069	906
70°	1032	936	769
75°	820	716	751
80°	551	517	482
85°	343	412	480



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	179.0	4.7
10°-20°	491.2	13.0
20°-30°	680.1	18.0
30°-40°	725.2	19.2
40°-50°	661.6	17.5
50°-60°	518.3	13.7
60°-70°	337.8	8.9
70°-80°	149.7	4.0
80°-90°	32.1	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°	1350.3	35.8
0°-40°	2075.5	55.0
0°-60°	3255.4	86.2
0°-90°	3775.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3775.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1923	1923	1923	1923	1923	
5°	1890	1887	1887	1885	1885	179
15°	1767	1767	1750	1732	1725	497
25°	1532	1523	1498	1445	1405	703
35°	1243	1234	1174	1085	1058	777
45°	954	934	854	782	751	735
55°	662	642	582	514	487	594
65°	394	371	336	342	284	388
75°	158	147	138	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°	1922.9	1922.9	1922.9	1922.9	1922.9
2.5°	1909.6	1909.6	1909.6	1907.4	1907.4
5°	1889.6	1887.4	1887.4	1885.1	1885.1
7.5°	1874.0	1871.8	1869.6	1867.4	1862.9
10°	1851.8	1851.8	1849.6	1838.5	1836.2
12.5°	1816.2	1814.0	1805.1	1789.6	1785.1
15°	1767.3	1767.3	1749.5	1731.8	1725.1
17.5°	1714.0	1711.7	1689.5	1671.7	1662.8
20°	1656.2	1651.7	1629.5	1600.6	1585.0
22.5°	1591.7	1591.7	1565.0	1527.2	1511.7
25°	1531.7	1522.8	1498.3	1445.0	1405.0
27.5°	1462.8	1449.4	1422.7	1347.2	1300.5
30°	1387.2	1380.5	1342.7	1244.9	1209.3
32.5°	1316.0	1304.9	1264.9	1162.7	1133.8
35°	1242.7	1233.8	1173.8	1084.8	1058.2
37.5°	1169.3	1158.2	1082.6	1011.5	978.1
40°	1096.0	1082.6	1000.4	935.9	900.3
42.5°	1027.0	1009.3	929.2	860.3	820.3
45°	953.7	933.7	853.6	782.5	751.4
47.5°	880.3	862.5	789.2	715.8	680.3
50°	802.5	787.0	720.3	646.9	609.1
52.5°	738.1	713.6	649.1	575.8	544.6
55°	662.5	642.5	582.4	513.5	486.8
57.5°	593.6	573.5	518.0	453.5	431.3
60°	529.1	500.2	453.5	397.9	380.1
62.5°	457.9	435.7	395.7	349.0	371.2
65°	393.5	371.2	335.7	342.3	284.5
67.5°	322.3	311.2	280.1	249.0	240.1
70°	262.3	249.0	237.9	204.5	195.6
72.5°	209.0	195.6	180.1	162.3	155.6
75°	157.8	146.7	137.8	131.2	144.5
77.5°	108.9	104.5	97.8	91.1	88.9
80°	71.1	68.9	66.7	64.5	62.2
82.5°	42.2	42.2	42.2	42.2	42.2
85°	22.2	24.5	26.7	28.9	31.1
87.5°	13.3	13.3	15.6	17.8	20.0
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)