

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: P546450

Luminaire Tested: **FMR-24-4-LD4-1HI-35-UNV-93-87-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: P546450
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-93-87-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

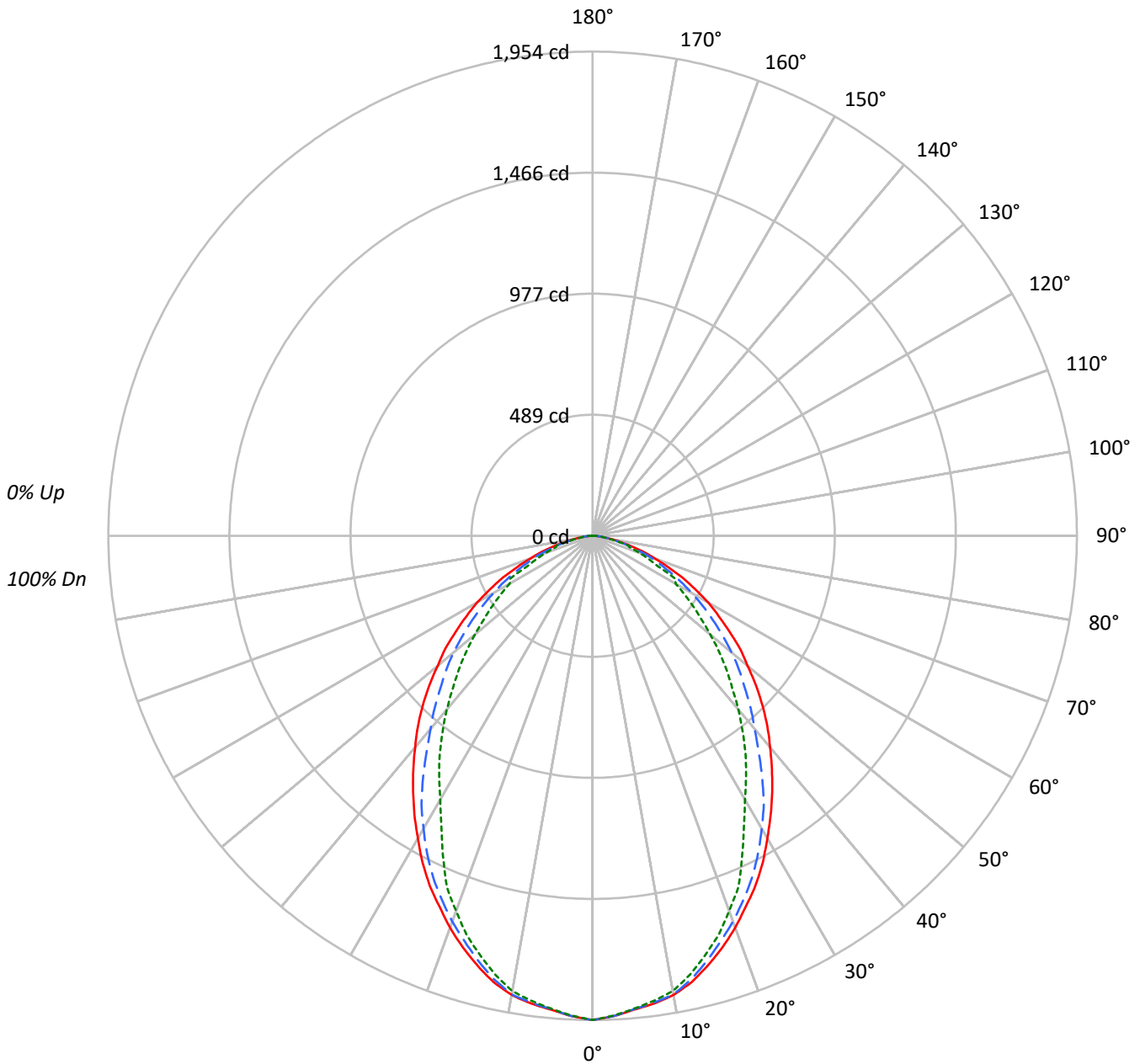
Lumens per Lamp: N/A
Luminaire Lumens: 3836.0 lumens
Efficiency: N/A
Efficacy: 88.8 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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°	2629	2629	2629
5°	2593	2590	2587
10°	2571	2568	2549
15°	2502	2476	2442
20°	2410	2371	2306
25°	2311	2260	2120
30°	2190	2120	1909
35°	2074	1959	1766
40°	1956	1785	1607
45°	1844	1650	1453
50°	1707	1532	1296
55°	1579	1388	1160
60°	1447	1240	1040
65°	1273	1086	920
70°	1049	951	782
75°	834	728	763
80°	560	525	490
85°	349	418	488



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	181.9	4.7
10°-20°	499.2	13.0
20°-30°	691.1	18.0
30°-40°	736.9	19.2
40°-50°	672.3	17.5
50°-60°	526.7	13.7
60°-70°	343.3	8.9
70°-80°	152.1	4.0
80°-90°	32.6	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°	1372.2	35.8
0°-40°	2109.1	55.0
0°-60°	3308.0	86.2
0°-90°	3836.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3836.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1954	1954	1954	1954	1954	
5°	1920	1918	1918	1916	1916	182
15°	1796	1796	1778	1760	1753	505
25°	1556	1547	1522	1468	1428	715
35°	1263	1254	1193	1102	1075	789
45°	969	949	867	795	764	746
55°	673	653	592	522	495	604
65°	400	377	341	348	289	394
75°	160	149	140	133	147	172
85°	23	25	27	29	32	31
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1954.0	1954.0	1954.0	1954.0	1954.0
2.5°	1940.5	1940.5	1940.5	1938.2	1938.2
5°	1920.1	1917.9	1917.9	1915.6	1915.6
7.5°	1904.3	1902.1	1899.8	1897.5	1893.0
10°	1881.7	1881.7	1879.5	1868.2	1865.9
12.5°	1845.6	1843.3	1834.3	1818.5	1814.0
15°	1795.9	1795.9	1777.8	1759.7	1753.0
17.5°	1741.7	1739.4	1716.8	1698.7	1689.7
20°	1682.9	1678.4	1655.8	1626.5	1610.6
22.5°	1617.4	1617.4	1590.3	1551.9	1536.1
25°	1556.4	1547.4	1522.5	1468.3	1427.7
27.5°	1486.4	1472.8	1445.7	1368.9	1321.5
30°	1409.6	1402.8	1364.4	1265.0	1228.9
32.5°	1337.3	1326.0	1285.4	1181.4	1152.1
35°	1262.8	1253.7	1192.7	1102.4	1075.3
37.5°	1188.2	1176.9	1100.1	1027.8	993.9
40°	1113.7	1100.1	1016.5	951.0	914.9
42.5°	1043.6	1025.6	944.2	874.2	833.6
45°	969.1	948.8	867.4	795.2	763.5
47.5°	894.6	876.5	801.9	727.4	691.2
50°	815.5	799.7	731.9	657.4	619.0
52.5°	750.0	725.1	659.6	585.1	553.4
55°	673.2	652.8	591.8	521.8	494.7
57.5°	603.1	582.8	526.3	460.8	438.2
60°	537.6	508.3	460.8	404.4	386.3
62.5°	465.3	442.8	402.1	354.7	377.2
65°	399.8	377.2	341.1	347.9	289.1
67.5°	327.6	316.3	284.6	253.0	244.0
70°	266.6	253.0	241.7	207.8	198.8
72.5°	212.3	198.8	183.0	164.9	158.1
75°	160.4	149.1	140.1	133.3	146.8
77.5°	110.7	106.2	99.4	92.6	90.4
80°	72.3	70.0	67.8	65.5	63.3
82.5°	42.9	42.9	42.9	42.9	42.9
85°	22.6	24.8	27.1	29.4	31.6
87.5°	13.6	13.6	15.8	18.1	20.3
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)