

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: P545836

Luminaire Tested: **FMR-12-4-LD4-1HI-35-UNV-82-94-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: P545836
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-12-4-LD4-1HI-35-UNV-82-94-EDD
Description: 1X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

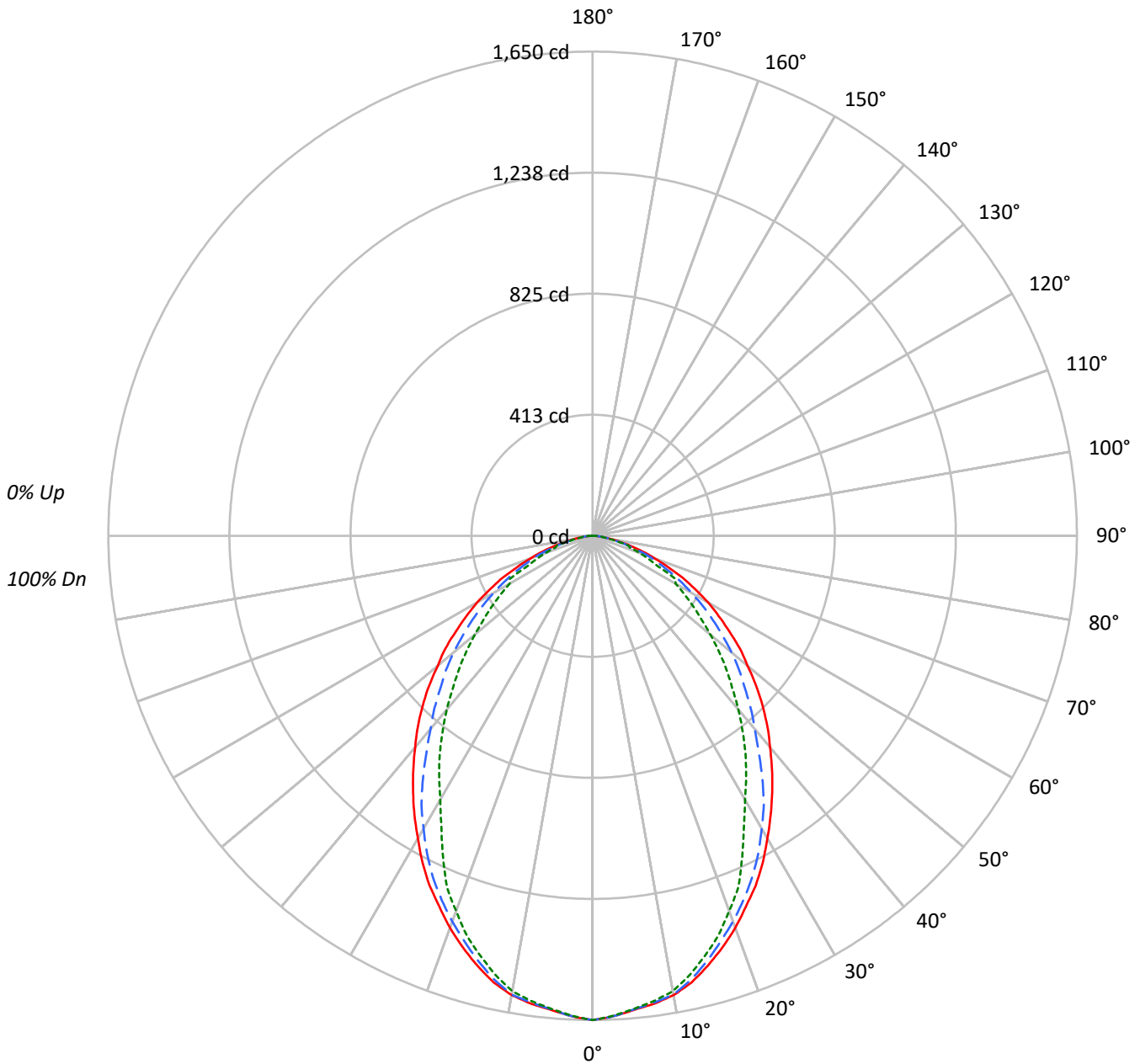
Lumens per Lamp: N/A
Luminaire Lumens: 3240.0 lumens
Efficiency: N/A
Efficacy: 75.0 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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°	4441	4441	4441
5°	4381	4376	4371
10°	4343	4338	4306
15°	4226	4183	4125
20°	4071	4005	3896
25°	3903	3818	3581
30°	3700	3581	3225
35°	3504	3309	2984
40°	3304	3016	2714
45°	3115	2788	2454
50°	2884	2588	2189
55°	2668	2345	1961
60°	2444	2095	1756
65°	2150	1834	1555
70°	1771	1607	1321
75°	1409	1230	1289
80°	947	886	828
85°	590	707	824



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	153.6	4.7
10°-20°	421.6	13.0
20°-30°	583.7	18.0
30°-40°	622.4	19.2
40°-50°	567.8	17.5
50°-60°	444.8	13.7
60°-70°	289.9	8.9
70°-80°	128.4	4.0
80°-90°	27.6	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°	1159.0	35.8
0°-40°	1781.4	55.0
0°-60°	2794.0	86.2
0°-90°	3240.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3240.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1650	1650	1650	1650	1650	
5°	1622	1620	1620	1618	1618	154
15°	1517	1517	1502	1486	1481	426
25°	1315	1307	1286	1240	1206	604
35°	1067	1059	1007	931	908	667
45°	818	801	733	672	645	631
55°	569	551	500	441	418	510
65°	338	319	288	294	244	333
75°	136	126	118	113	124	145
85°	19	21	23	25	27	26
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1650.4	1650.4	1650.4	1650.4	1650.4
2.5°	1639.0	1639.0	1639.0	1637.1	1637.1
5°	1621.8	1619.9	1619.9	1618.0	1618.0
7.5°	1608.4	1606.5	1604.6	1602.7	1598.9
10°	1589.4	1589.4	1587.4	1577.9	1576.0
12.5°	1558.8	1556.9	1549.3	1535.9	1532.1
15°	1516.9	1516.9	1501.6	1486.3	1480.6
17.5°	1471.1	1469.2	1450.1	1434.8	1427.2
20°	1421.5	1417.6	1398.6	1373.8	1360.4
22.5°	1366.1	1366.1	1343.2	1310.8	1297.4
25°	1314.6	1307.0	1286.0	1240.2	1205.9
27.5°	1255.5	1244.0	1221.1	1156.2	1116.2
30°	1190.6	1184.9	1152.4	1068.5	1037.9
32.5°	1129.5	1120.0	1085.6	997.9	973.1
35°	1066.6	1058.9	1007.4	931.1	908.2
37.5°	1003.6	994.1	929.2	868.1	839.5
40°	940.6	929.2	858.6	803.3	772.7
42.5°	881.5	866.2	797.5	738.4	704.0
45°	818.5	801.4	732.7	671.6	644.9
47.5°	755.6	740.3	677.3	614.4	583.8
50°	688.8	675.4	618.2	555.2	522.8
52.5°	633.5	612.5	557.1	494.2	467.5
55°	568.6	551.4	499.9	440.7	417.9
57.5°	509.4	492.3	444.6	389.2	370.2
60°	454.1	429.3	389.2	341.5	326.3
62.5°	393.0	374.0	339.6	299.6	318.6
65°	337.7	318.6	288.1	293.8	244.2
67.5°	276.7	267.1	240.4	213.7	206.1
70°	225.1	213.7	204.2	175.5	167.9
72.5°	179.4	167.9	154.5	139.3	133.6
75°	135.5	125.9	118.3	112.6	124.0
77.5°	93.5	89.7	84.0	78.2	76.3
80°	61.1	59.1	57.2	55.3	53.4
82.5°	36.3	36.3	36.3	36.3	36.3
85°	19.1	21.0	22.9	24.8	26.7
87.5°	11.4	11.4	13.4	15.3	17.2
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)