

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: P545583

Luminaire Tested: **FMR-12-2-LD4-2HI-40-UNV-93-84-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: P545583  
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-12-2-LD4-2HI-40-UNV-93-84-EDD  
Description: 1X2 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

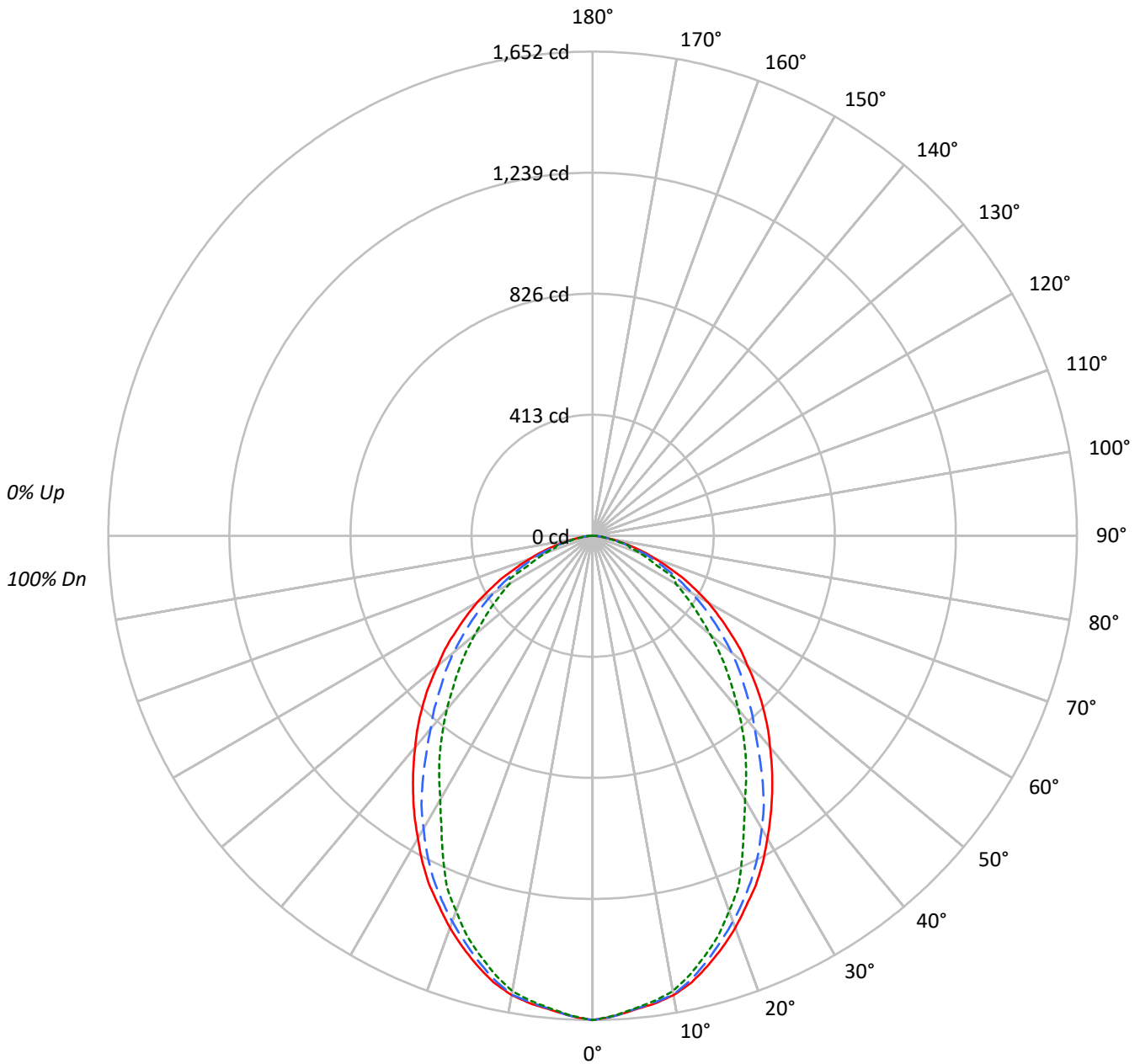
Lumens per Lamp: N/A  
Luminaire Lumens: 3244.0 lumens  
Efficiency: N/A  
Efficacy: 75.1 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct

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°	8894	8894	8894
5°	8773	8762	8752
10°	8696	8686	8623
15°	8462	8377	8260
20°	8151	8020	7801
25°	7816	7646	7169
30°	7408	7170	6458
35°	7016	6627	5974
40°	6617	6040	5436
45°	6237	5584	4915
50°	5774	5183	4382
55°	5342	4696	3926
60°	4894	4195	3517
65°	4306	3674	3114
70°	3547	3216	2645
75°	2820	2462	2583
80°	1894	1776	1658
85°	1179	1414	1649



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	153.8	4.7
10°-20°	422.1	13.0
20°-30°	584.4	18.0
30°-40°	623.2	19.2
40°-50°	568.5	17.5
50°-60°	445.4	13.7
60°-70°	290.3	8.9
70°-80°	128.6	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°	1160.4	35.8
0°-40°	1783.6	55.0
0°-60°	2797.5	86.2
0°-90°	3244.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3244.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1652	1652	1652	1652	1652	
5°	1624	1622	1622	1620	1620	154
15°	1519	1519	1503	1488	1482	427
25°	1316	1309	1288	1242	1207	604
35°	1068	1060	1009	932	909	668
45°	820	802	734	672	646	631
55°	569	552	500	441	418	511
65°	338	319	288	294	244	333
75°	136	126	118	113	124	145
85°	19	21	23	25	27	27
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1652.5	1652.5	1652.5	1652.5	1652.5
2.5°	1641.0	1641.0	1641.0	1639.1	1639.1
5°	1623.8	1621.9	1621.9	1620.0	1620.0
7.5°	1610.4	1608.5	1606.6	1604.7	1600.9
10°	1591.3	1591.3	1589.4	1579.9	1577.9
12.5°	1560.8	1558.8	1551.2	1537.8	1534.0
15°	1518.7	1518.7	1503.4	1488.2	1482.4
17.5°	1472.9	1471.0	1451.9	1436.6	1428.9
20°	1423.2	1419.4	1400.3	1375.4	1362.1
22.5°	1367.8	1367.8	1344.9	1312.4	1299.0
25°	1316.2	1308.6	1287.6	1241.7	1207.3
27.5°	1257.0	1245.5	1222.6	1157.7	1117.6
30°	1192.1	1186.3	1153.8	1069.8	1039.2
32.5°	1130.9	1121.4	1087.0	999.1	974.3
35°	1067.9	1060.2	1008.7	932.2	909.3
37.5°	1004.8	995.3	930.3	869.2	840.6
40°	941.8	930.3	859.7	804.3	773.7
42.5°	882.6	867.3	798.5	739.3	704.9
45°	819.5	802.3	733.6	672.4	645.7
47.5°	756.5	741.2	678.2	615.1	584.6
50°	689.6	676.3	619.0	555.9	523.4
52.5°	634.2	613.2	557.8	494.8	468.0
55°	569.3	552.1	500.5	441.3	418.4
57.5°	510.1	492.9	445.1	389.7	370.6
60°	454.7	429.8	389.7	342.0	326.7
62.5°	393.5	374.4	340.0	299.9	319.0
65°	338.1	319.0	288.5	294.2	244.5
67.5°	277.0	267.4	240.7	214.0	206.3
70°	225.4	214.0	204.4	175.8	168.1
72.5°	179.6	168.1	154.7	139.5	133.7
75°	135.6	126.1	118.4	112.7	124.2
77.5°	93.6	89.8	84.1	78.3	76.4
80°	61.1	59.2	57.3	55.4	53.5
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°	11.5	11.5	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)