

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: P545782

Luminaire Tested: **FMR-12-2-LD4-2STD-40-UNV-93-97-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: P545782  
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-LD4-2STD-40-UNV-93-97-EDD  
Description: 1X2 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

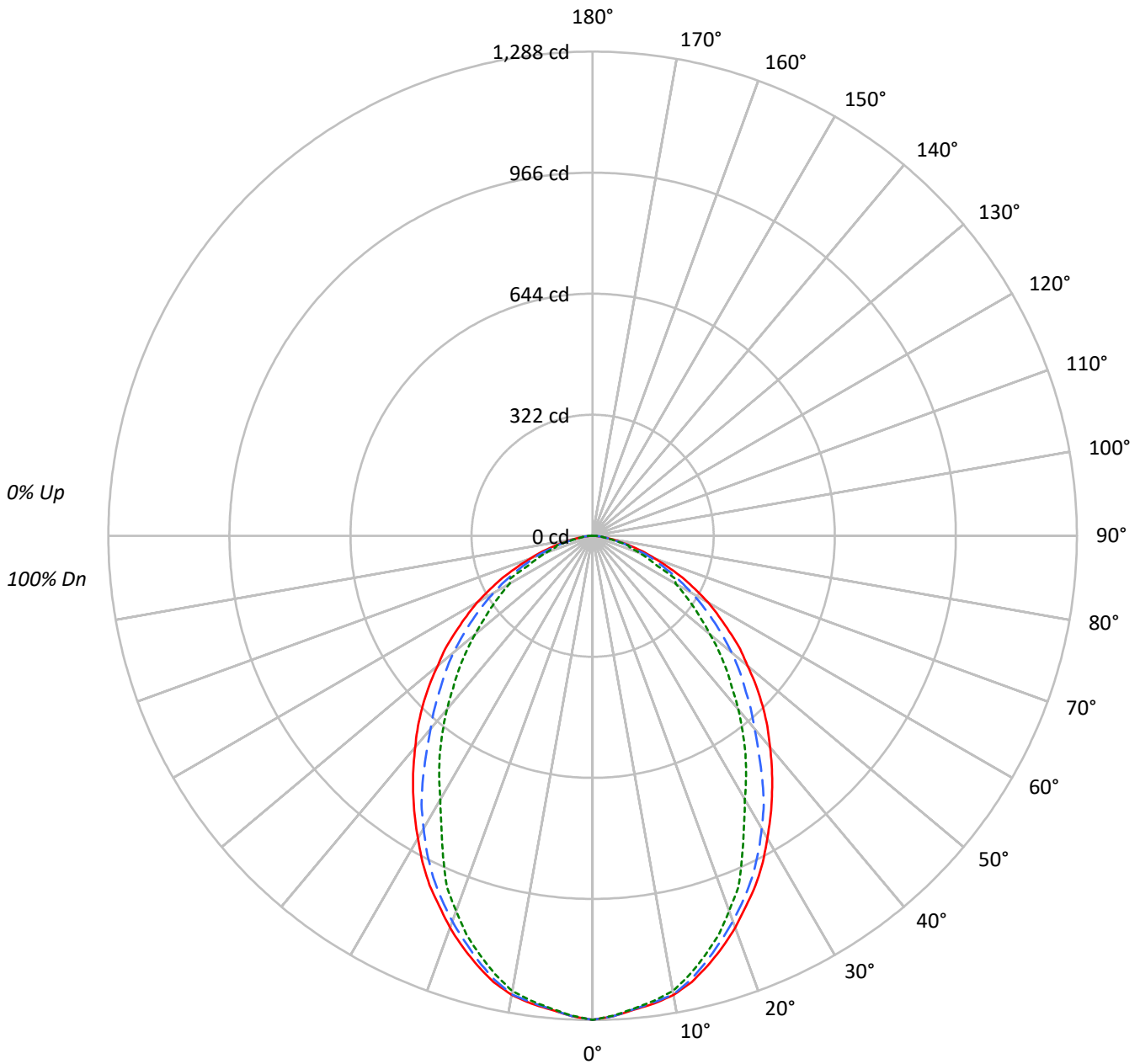
Lumens per Lamp: N/A  
Luminaire Lumens: 2528.0 lumens  
Efficiency: N/A  
Efficacy: 75.9 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct

Input Watts (W): 33.3  
Input Voltage (V): NR  
Input Current (A<sub>in</sub>): 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°	6930	6930	6930
5°	6836	6828	6820
10°	6777	6769	6720
15°	6594	6528	6437
20°	6352	6250	6079
25°	6091	5959	5587
30°	5773	5588	5033
35°	5468	5164	4656
40°	5156	4706	4236
45°	4861	4351	3830
50°	4500	4038	3415
55°	4162	3659	3059
60°	3814	3269	2740
65°	3356	2863	2427
70°	2765	2507	2061
75°	2198	1919	2013
80°	1475	1385	1292
85°	920	1105	1284



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	119.9	4.7
10°-20°	329.0	13.0
20°-30°	455.4	18.0
30°-40°	485.6	19.2
40°-50°	443.0	17.5
50°-60°	347.1	13.7
60°-70°	226.2	8.9
70°-80°	100.2	4.0
80°-90°	21.5	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°	904.3	35.8
0°-40°	1389.9	55.0
0°-60°	2180.0	86.2
0°-90°	2528.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2528.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1288	1288	1288	1288	1288	
5°	1265	1264	1264	1262	1262	120
15°	1184	1184	1172	1160	1155	333
25°	1026	1020	1003	968	941	471
35°	832	826	786	726	709	520
45°	639	625	572	524	503	492
55°	444	430	390	344	326	398
65°	264	249	225	229	191	260
75°	106	98	92	88	97	113
85°	15	16	18	19	21	21
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1287.7	1287.7	1287.7	1287.7	1287.7
2.5°	1278.8	1278.8	1278.8	1277.3	1277.3
5°	1265.4	1263.9	1263.9	1262.4	1262.4
7.5°	1255.0	1253.5	1252.0	1250.5	1247.5
10°	1240.1	1240.1	1238.6	1231.2	1229.7
12.5°	1216.3	1214.8	1208.8	1198.4	1195.4
15°	1183.5	1183.5	1171.6	1159.7	1155.2
17.5°	1147.8	1146.3	1131.4	1119.5	1113.6
20°	1109.1	1106.1	1091.2	1071.9	1061.4
22.5°	1065.9	1065.9	1048.0	1022.7	1012.3
25°	1025.7	1019.8	1003.4	967.7	940.9
27.5°	979.6	970.6	952.8	902.2	870.9
30°	929.0	924.5	899.2	833.7	809.9
32.5°	881.3	873.9	847.1	778.6	759.2
35°	832.2	826.2	786.0	726.5	708.6
37.5°	783.1	775.6	725.0	677.4	655.0
40°	733.9	725.0	669.9	626.7	602.9
42.5°	687.8	675.9	622.3	576.1	549.3
45°	638.7	625.3	571.7	524.0	503.2
47.5°	589.5	577.6	528.5	479.4	455.5
50°	537.4	527.0	482.3	433.2	407.9
52.5°	494.2	477.9	434.7	385.6	364.7
55°	443.6	430.2	390.0	343.9	326.0
57.5°	397.5	384.1	346.9	303.7	288.8
60°	354.3	335.0	303.7	266.5	254.6
62.5°	306.7	291.8	265.0	233.7	248.6
65°	263.5	248.6	224.8	229.3	190.6
67.5°	215.9	208.4	187.6	166.7	160.8
70°	175.7	166.7	159.3	137.0	131.0
72.5°	139.9	131.0	120.6	108.7	104.2
75°	105.7	98.3	92.3	87.8	96.8
77.5°	72.9	70.0	65.5	61.0	59.5
80°	47.6	46.1	44.7	43.2	41.7
82.5°	28.3	28.3	28.3	28.3	28.3
85°	14.9	16.4	17.9	19.4	20.8
87.5°	8.9	8.9	10.4	11.9	13.4
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)