

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: P545750

Luminaire Tested: **FMR-12-2-LD4-2STD-35-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: P545750  
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-35-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 3500K CCT  
LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

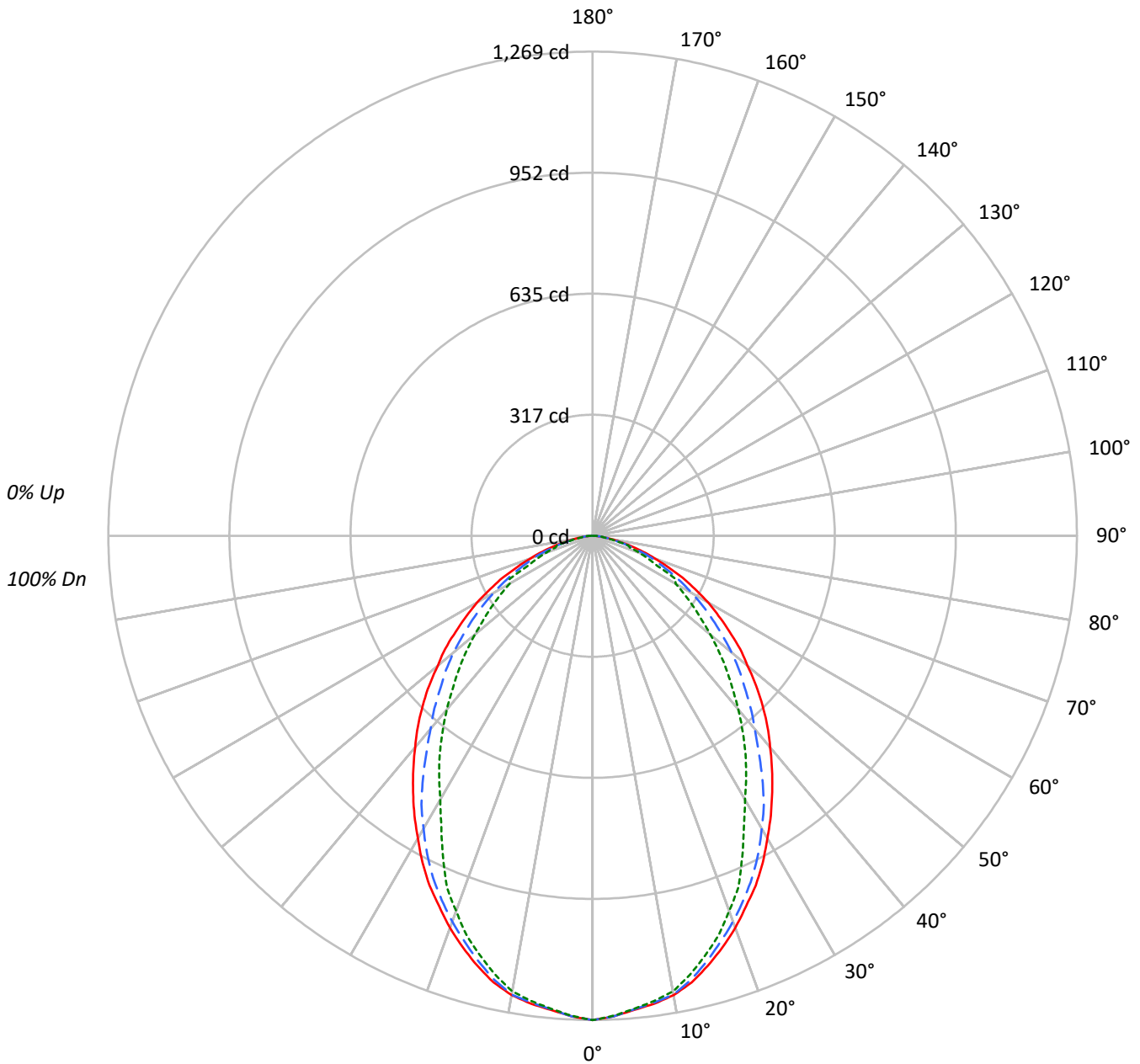
Lumens per Lamp: N/A  
Luminaire Lumens: 2492.0 lumens  
Efficiency: N/A  
Efficacy: 74.8 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct

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°	6832	6832	6832
5°	6739	6731	6723
10°	6680	6673	6625
15°	6501	6435	6345
20°	6262	6161	5993
25°	6004	5874	5508
30°	5691	5509	4961
35°	5389	5091	4589
40°	5083	4640	4175
45°	4792	4289	3775
50°	4436	3981	3367
55°	4103	3608	3016
60°	3760	3223	2701
65°	3307	2822	2392
70°	2725	2471	2031
75°	2167	1892	1984
80°	1457	1364	1274
85°	908	1087	1266



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	118.2	4.7
10°-20°	324.3	13.0
20°-30°	449.0	18.0
30°-40°	478.7	19.2
40°-50°	436.7	17.5
50°-60°	342.1	13.7
60°-70°	223.0	8.9
70°-80°	98.8	4.0
80°-90°	21.2	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°	891.4	35.8
0°-40°	1370.1	55.0
0°-60°	2149.0	86.2
0°-90°	2492.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2492.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	1269	1269	1269	1269	1269	
5°	1247	1246	1246	1244	1244	118
15°	1167	1167	1155	1143	1139	328
25°	1011	1005	989	954	928	464
35°	820	814	775	716	698	513
45°	630	616	564	517	496	485
55°	437	424	384	339	321	392
65°	260	245	222	226	188	256
75°	104	97	91	87	95	112
85°	15	16	18	19	20	20
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	1269.4	1269.4	1269.4	1269.4	1269.4
2.5°	1260.6	1260.6	1260.6	1259.1	1259.1
5°	1247.4	1245.9	1245.9	1244.4	1244.4
7.5°	1237.1	1235.6	1234.2	1232.7	1229.8
10°	1222.4	1222.4	1221.0	1213.6	1212.2
12.5°	1199.0	1197.5	1191.6	1181.3	1178.4
15°	1166.7	1166.7	1154.9	1143.2	1138.8
17.5°	1131.4	1130.0	1115.3	1103.6	1097.7
20°	1093.3	1090.4	1075.7	1056.6	1046.3
22.5°	1050.7	1050.7	1033.1	1008.2	997.9
25°	1011.1	1005.2	989.1	953.9	927.5
27.5°	965.6	956.8	939.2	889.3	858.5
30°	915.7	911.3	886.4	821.8	798.3
32.5°	868.8	861.4	835.0	767.5	748.4
35°	820.3	814.5	774.8	716.1	698.5
37.5°	771.9	764.6	714.7	667.7	645.7
40°	723.5	714.7	660.4	617.8	594.3
42.5°	678.0	666.2	613.4	567.9	541.5
45°	629.6	616.4	563.5	516.6	496.0
47.5°	581.1	569.4	521.0	472.5	449.1
50°	529.8	519.5	475.5	427.0	402.1
52.5°	487.2	471.1	428.5	380.1	359.5
55°	437.3	424.1	384.5	339.0	321.4
57.5°	391.8	378.6	341.9	299.4	284.7
60°	349.3	330.2	299.4	262.7	250.9
62.5°	302.3	287.6	261.2	230.4	245.1
65°	259.7	245.1	221.6	226.0	187.8
67.5°	212.8	205.5	184.9	164.4	158.5
70°	173.2	164.4	157.0	135.0	129.1
72.5°	137.9	129.1	118.9	107.1	102.7
75°	104.2	96.9	91.0	86.6	95.4
77.5°	71.9	69.0	64.6	60.2	58.7
80°	47.0	45.5	44.0	42.6	41.1
82.5°	27.9	27.9	27.9	27.9	27.9
85°	14.7	16.1	17.6	19.1	20.5
87.5°	8.8	8.8	10.3	11.7	13.2
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)