

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: P545300

Luminaire Tested: **FMR-12-2-LD4-1HI-40-UNV-93-94-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: P545300  
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-LD4-1HI-40-UNV-93-94-EDD  
Description: 1X2 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

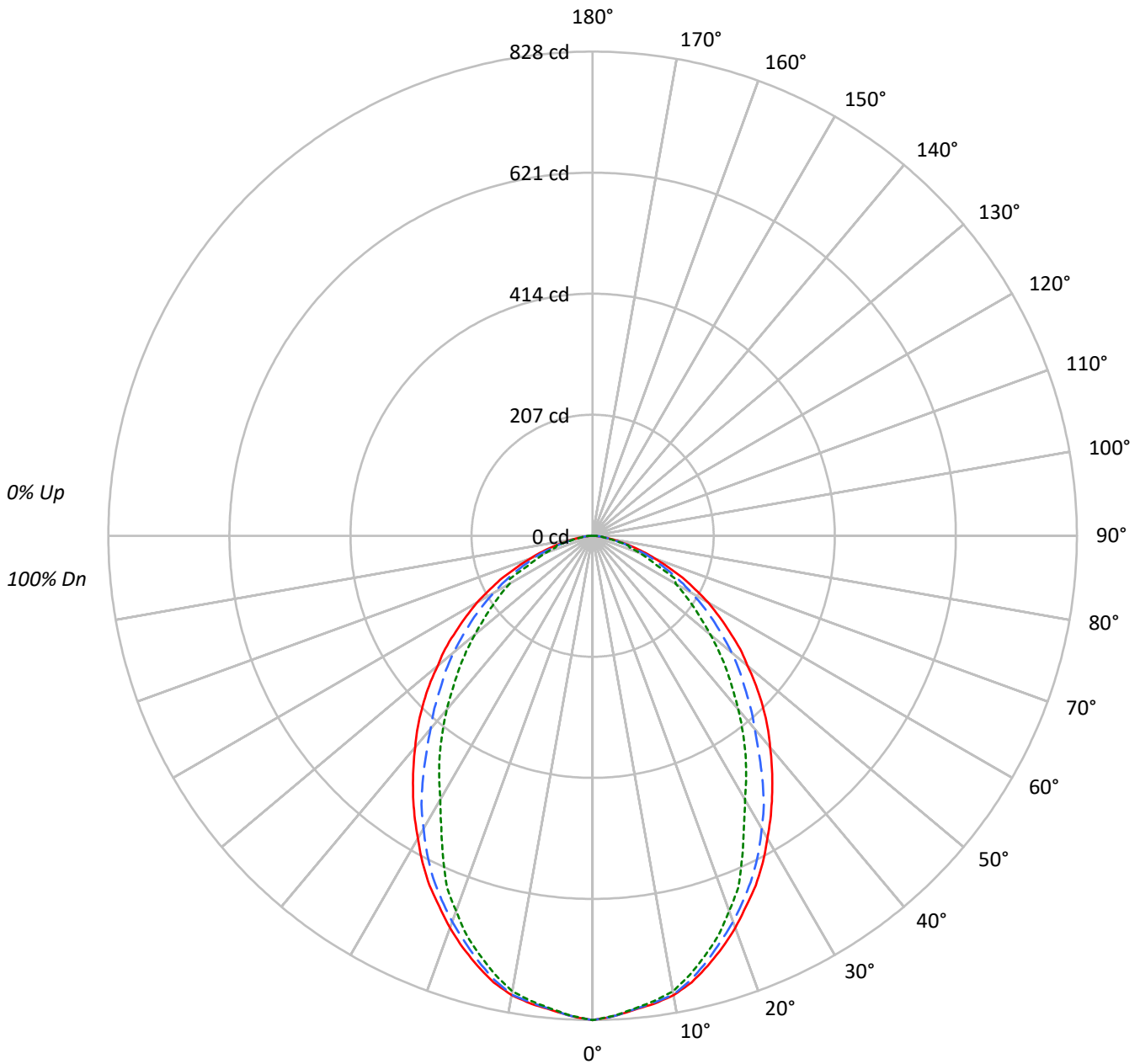
Lumens per Lamp: N/A  
Luminaire Lumens: 1626.0 lumens  
Efficiency: N/A  
Efficacy: 75.3 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')  
CIE Type: Direct

Input Watts (W): 21.6  
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°	4458	4458	4458
5°	4397	4392	4387
10°	4359	4354	4322
15°	4241	4199	4140
20°	4086	4020	3910
25°	3918	3833	3594
30°	3713	3594	3237
35°	3517	3322	2995
40°	3317	3027	2725
45°	3127	2799	2463
50°	2894	2597	2197
55°	2677	2354	1968
60°	2453	2102	1762
65°	2159	1841	1561
70°	1778	1613	1327
75°	1414	1235	1293
80°	948	890	831
85°	593	710	827



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	77.1	4.7
10°-20°	211.6	13.0
20°-30°	292.9	18.0
30°-40°	312.4	19.2
40°-50°	285.0	17.5
50°-60°	223.2	13.7
60°-70°	145.5	8.9
70°-80°	64.5	4.0
80°-90°	13.8	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°	581.6	35.8
0°-40°	894.0	55.0
0°-60°	1402.2	86.2
0°-90°	1626.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1626.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	828	828	828	828	828	
5°	814	813	813	812	812	77
15°	761	761	754	746	743	214
25°	660	656	645	622	605	303
35°	535	531	506	467	456	335
45°	411	402	368	337	324	316
55°	285	277	251	221	210	256
65°	170	160	145	148	123	167
75°	68	63	59	56	62	73
85°	10	10	12	12	13	13
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	828.3	828.3	828.3	828.3	828.3
2.5°	822.5	822.5	822.5	821.6	821.6
5°	813.9	812.9	812.9	812.0	812.0
7.5°	807.2	806.2	805.3	804.3	802.4
10°	797.6	797.6	796.7	791.9	790.9
12.5°	782.3	781.3	777.5	770.8	768.9
15°	761.2	761.2	753.6	745.9	743.0
17.5°	738.3	737.3	727.7	720.1	716.2
20°	713.4	711.4	701.9	689.4	682.7
22.5°	685.6	685.6	674.1	657.8	651.1
25°	659.7	655.9	645.4	622.4	605.2
27.5°	630.1	624.3	612.8	580.3	560.2
30°	597.5	594.6	578.3	536.2	520.9
32.5°	566.9	562.1	544.8	500.8	488.3
35°	535.3	531.4	505.6	467.3	455.8
37.5°	503.7	498.9	466.3	435.7	421.3
40°	472.1	466.3	430.9	403.1	387.8
42.5°	442.4	434.7	400.2	370.6	353.3
45°	410.8	402.2	367.7	337.1	323.6
47.5°	379.2	371.5	339.9	308.3	293.0
50°	345.7	339.0	310.2	278.6	262.4
52.5°	317.9	307.4	279.6	248.0	234.6
55°	285.3	276.7	250.9	221.2	209.7
57.5°	255.7	247.0	223.1	195.3	185.8
60°	227.9	215.4	195.3	171.4	163.7
62.5°	197.3	187.7	170.4	150.3	159.9
65°	169.5	159.9	144.6	147.5	122.6
67.5°	138.8	134.1	120.6	107.2	103.4
70°	113.0	107.2	102.5	88.1	84.3
72.5°	90.0	84.3	77.6	69.9	67.0
75°	68.0	63.2	59.4	56.5	62.2
77.5°	46.9	45.0	42.1	39.3	38.3
80°	30.6	29.7	28.7	27.8	26.8
82.5°	18.2	18.2	18.2	18.2	18.2
85°	9.6	10.5	11.5	12.4	13.4
87.5°	5.7	5.7	6.7	7.7	8.6
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)