

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: P546299

Luminaire Tested: **FMR-12-4-LD4-2STD-35-UNV-80-88-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: P546299  
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-LD4-2STD-35-UNV-80-88-EDD  
Description: 1X4 FMR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS  
Light Source: -  
Ballast/Driver: -

Luminaire Equipment: Sample No.   Condition   Description

**Summary**

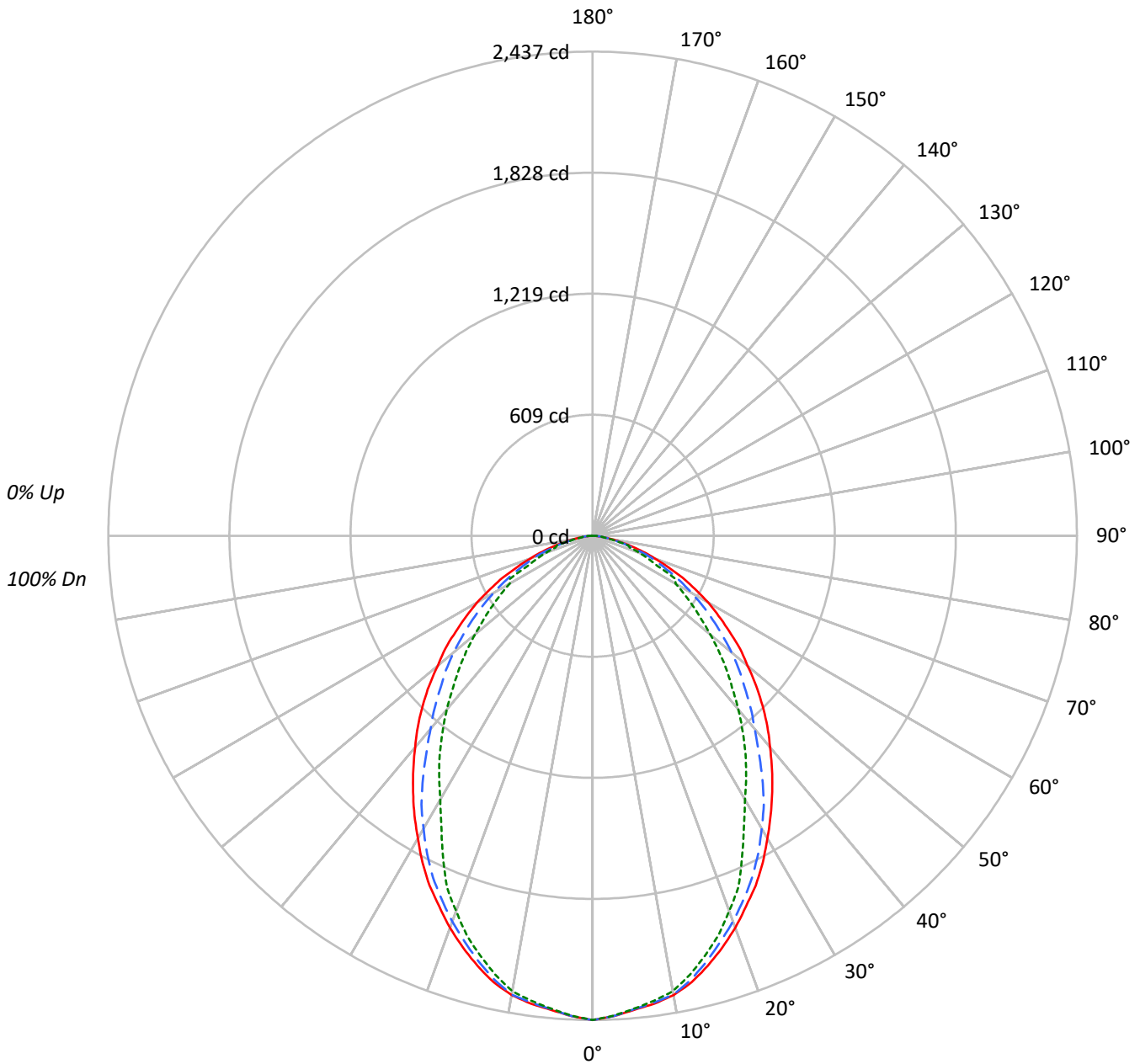
Lumens per Lamp: N/A  
Luminaire Lumens: 4785.0 lumens  
Efficiency: N/A  
Efficacy: 71.8 lumens/watt  
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15  
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')  
CIE Type: Direct

Input Watts (W): 66.6  
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				20				20	
RC	80				70				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				100
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87				87
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75				75
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65				65
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56				56
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50				50
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44				44
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40				40
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36				36
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33				33
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30				30

**AVERAGE LUMINANCE (cd/sqm):**

	0°	45°	90°
0°	6559	6559	6559
5°	6470	6462	6455
10°	6414	6406	6360
15°	6241	6178	6092
20°	6012	5915	5753
25°	5765	5639	5288
30°	5464	5289	4763
35°	5175	4888	4406
40°	4880	4454	4009
45°	4600	4118	3624
50°	4258	3822	3232
55°	3940	3464	2895
60°	3609	3094	2593
65°	3176	2709	2297
70°	2616	2372	1951
75°	2080	1816	1905
80°	1398	1309	1223
85°	871	1044	1216



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**ZONAL LUMENS:**

Zone	Lumens	% Fixture
0°-10°	226.9	4.7
10°-20°	622.7	13.0
20°-30°	862.1	18.0
30°-40°	919.2	19.2
40°-50°	838.6	17.5
50°-60°	657.0	13.7
60°-70°	428.2	8.9
70°-80°	189.7	4.0
80°-90°	40.7	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°	1711.6	35.8
0°-40°	2630.8	55.0
0°-60°	4126.4	86.2
0°-90°	4785.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4785.0	100.0

**CANDELA DISTRIBUTION:**

	0°	22.5°	45°	67.5°	90°	Flux
0°	2437	2437	2437	2437	2437	
5°	2395	2392	2392	2390	2390	227
15°	2240	2240	2218	2195	2187	630
25°	1942	1930	1899	1832	1781	891
35°	1575	1564	1488	1375	1341	985
45°	1209	1184	1082	992	952	931
55°	840	814	738	651	617	753
65°	499	471	426	434	361	492
75°	200	186	175	166	183	214
85°	28	31	34	37	39	39
90°	0	0	0	0	0	



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**CANDELA DISTRIBUTION (FULL):**

	0°	22.5°	45°	67.5°	90°
0°	2437.4	2437.4	2437.4	2437.4	2437.4
2.5°	2420.5	2420.5	2420.5	2417.7	2417.7
5°	2395.1	2392.3	2392.3	2389.5	2389.5
7.5°	2375.4	2372.6	2369.8	2367.0	2361.3
10°	2347.2	2347.2	2344.4	2330.3	2327.5
12.5°	2302.2	2299.3	2288.1	2268.3	2262.7
15°	2240.2	2240.2	2217.6	2195.1	2186.6
17.5°	2172.5	2169.7	2141.5	2119.0	2107.7
20°	2099.3	2093.6	2065.5	2028.8	2009.1
22.5°	2017.6	2017.6	1983.7	1935.8	1916.1
25°	1941.5	1930.2	1899.2	1831.6	1780.9
27.5°	1854.1	1837.2	1803.4	1707.6	1648.4
30°	1758.3	1749.9	1702.0	1578.0	1532.9
32.5°	1668.1	1654.1	1603.3	1473.7	1437.1
35°	1575.2	1563.9	1487.8	1375.1	1341.3
37.5°	1482.2	1468.1	1372.3	1282.1	1239.8
40°	1389.2	1372.3	1268.0	1186.3	1141.2
42.5°	1301.8	1279.3	1177.8	1090.5	1039.8
45°	1208.8	1183.5	1082.0	991.9	952.4
47.5°	1115.9	1093.3	1000.3	907.3	862.3
50°	1017.2	997.5	913.0	820.0	772.1
52.5°	935.5	904.5	822.8	729.8	690.4
55°	839.7	814.4	738.3	650.9	617.1
57.5°	752.4	727.0	656.6	574.8	546.7
60°	670.6	634.0	574.8	504.4	481.8
62.5°	580.5	552.3	501.6	442.4	470.6
65°	498.8	470.6	425.5	433.9	360.7
67.5°	408.6	394.5	355.0	315.6	304.3
70°	332.5	315.6	301.5	259.2	248.0
72.5°	264.9	248.0	228.2	205.7	197.2
75°	200.1	186.0	174.7	166.3	183.2
77.5°	138.1	132.4	124.0	115.5	112.7
80°	90.2	87.4	84.5	81.7	78.9
82.5°	53.5	53.5	53.5	53.5	53.5
85°	28.2	31.0	33.8	36.6	39.4
87.5°	16.9	16.9	19.7	22.5	25.4
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)