

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: P545971

Luminaire Tested: **FMR-12-4-LD4-1LO-40-UNV-93-88-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: P545971
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-LD4-1LO-40-UNV-93-88-EDD
Description: 1X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

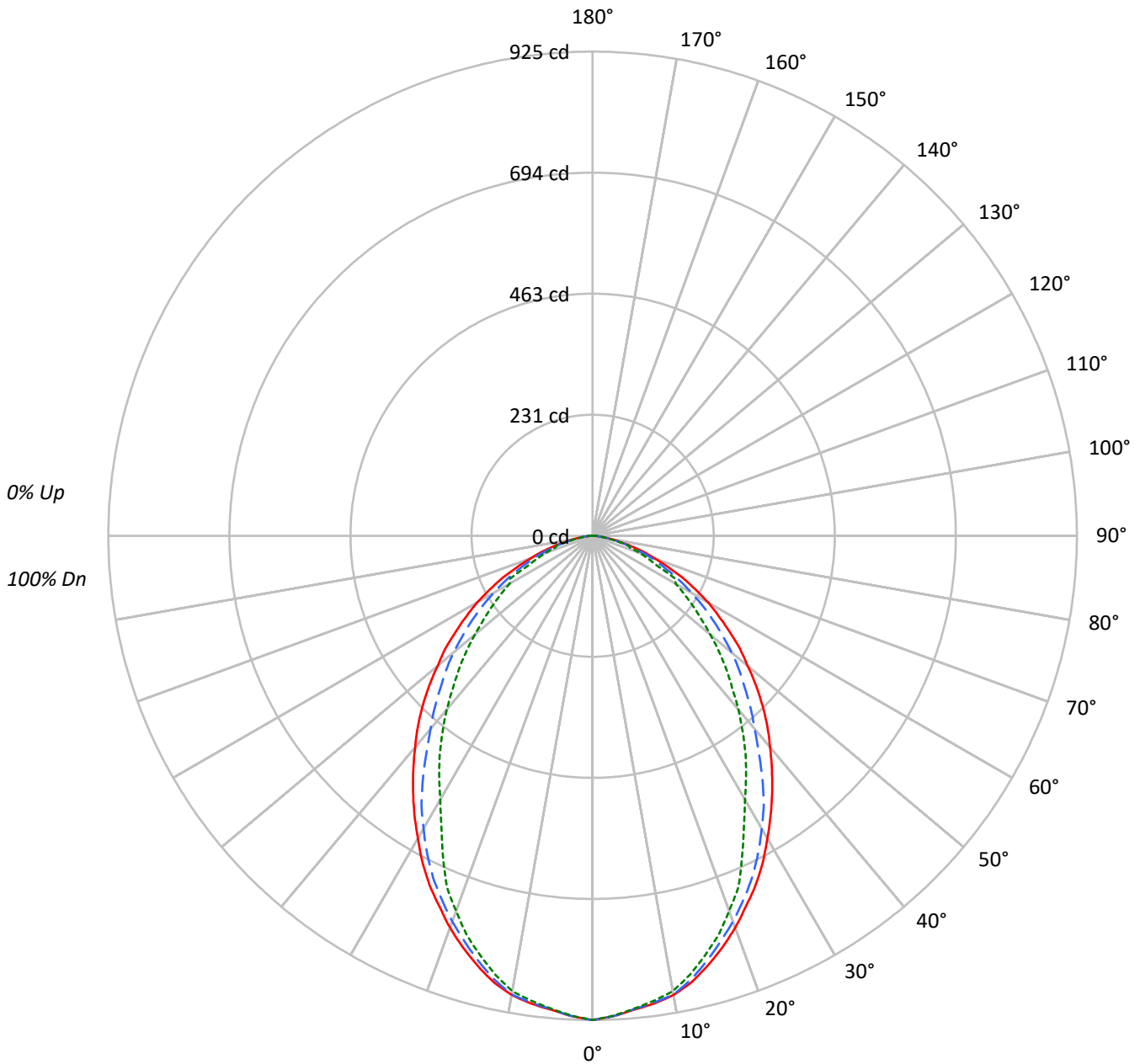
Lumens per Lamp: N/A
Luminaire Lumens: 1816.0 lumens
Efficiency: N/A
Efficacy: 77.6 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 23.4
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°	2489	2489	2489
5°	2455	2452	2450
10°	2434	2431	2414
15°	2369	2345	2312
20°	2281	2245	2184
25°	2188	2140	2007
30°	2073	2007	1808
35°	1964	1855	1672
40°	1852	1690	1521
45°	1746	1563	1376
50°	1616	1451	1227
55°	1495	1315	1099
60°	1370	1174	984
65°	1205	1028	872
70°	993	900	740
75°	789	689	723
80°	530	497	463
85°	330	395	463



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	86.1	4.7
10°-20°	236.3	13.0
20°-30°	327.2	18.0
30°-40°	348.9	19.2
40°-50°	318.3	17.5
50°-60°	249.3	13.7
60°-70°	162.5	8.9
70°-80°	72.0	4.0
80°-90°	15.5	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°	649.6	35.8
0°-40°	998.5	55.0
0°-60°	1566.1	86.2
0°-90°	1816.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1816.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	925	925	925	925	925	
5°	909	908	908	907	907	86
15°	850	850	842	833	830	239
25°	737	733	721	695	676	338
35°	598	594	565	522	509	374
45°	459	449	411	376	362	353
55°	319	309	280	247	234	286
65°	189	179	162	165	137	187
75°	76	71	66	63	70	81
85°	11	12	13	14	15	15
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	925.0	925.0	925.0	925.0	925.0
2.5°	918.6	918.6	918.6	917.6	917.6
5°	909.0	907.9	907.9	906.9	906.9
7.5°	901.5	900.4	899.4	898.3	896.2
10°	890.8	890.8	889.8	884.4	883.3
12.5°	873.7	872.6	868.4	860.9	858.7
15°	850.2	850.2	841.6	833.1	829.9
17.5°	824.5	823.5	812.8	804.2	799.9
20°	796.7	794.6	783.9	770.0	762.5
22.5°	765.7	765.7	752.9	734.7	727.2
25°	736.8	732.6	720.8	695.1	675.9
27.5°	703.7	697.3	684.4	648.1	625.6
30°	667.3	664.1	645.9	598.9	581.8
32.5°	633.1	627.7	608.5	559.3	545.4
35°	597.8	593.5	564.7	521.9	509.0
37.5°	562.5	557.2	520.8	486.6	470.5
40°	527.2	520.8	481.2	450.2	433.1
42.5°	494.1	485.5	447.0	413.9	394.6
45°	458.8	449.2	410.7	376.4	361.5
47.5°	423.5	414.9	379.6	344.4	327.2
50°	386.1	378.6	346.5	311.2	293.0
52.5°	355.0	343.3	312.3	277.0	262.0
55°	318.7	309.1	280.2	247.0	234.2
57.5°	285.5	275.9	249.2	218.2	207.5
60°	254.5	240.6	218.2	191.4	182.9
62.5°	220.3	209.6	190.4	167.9	178.6
65°	189.3	178.6	161.5	164.7	136.9
67.5°	155.1	149.7	134.7	119.8	115.5
70°	126.2	119.8	114.4	98.4	94.1
72.5°	100.5	94.1	86.6	78.1	74.9
75°	75.9	70.6	66.3	63.1	69.5
77.5°	52.4	50.3	47.1	43.8	42.8
80°	34.2	33.2	32.1	31.0	29.9
82.5°	20.3	20.3	20.3	20.3	20.3
85°	10.7	11.8	12.8	13.9	15.0
87.5°	6.4	6.4	7.5	8.6	9.6
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)