

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: P546051

Luminaire Tested: **FMR-12-4-LD4-1STD-40-UNV-81-88-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: P546051
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-LD4-1STD-40-UNV-81-88-EDD
Description: 1X4 FMR TROFFER WITH .156 CLEAR PC 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

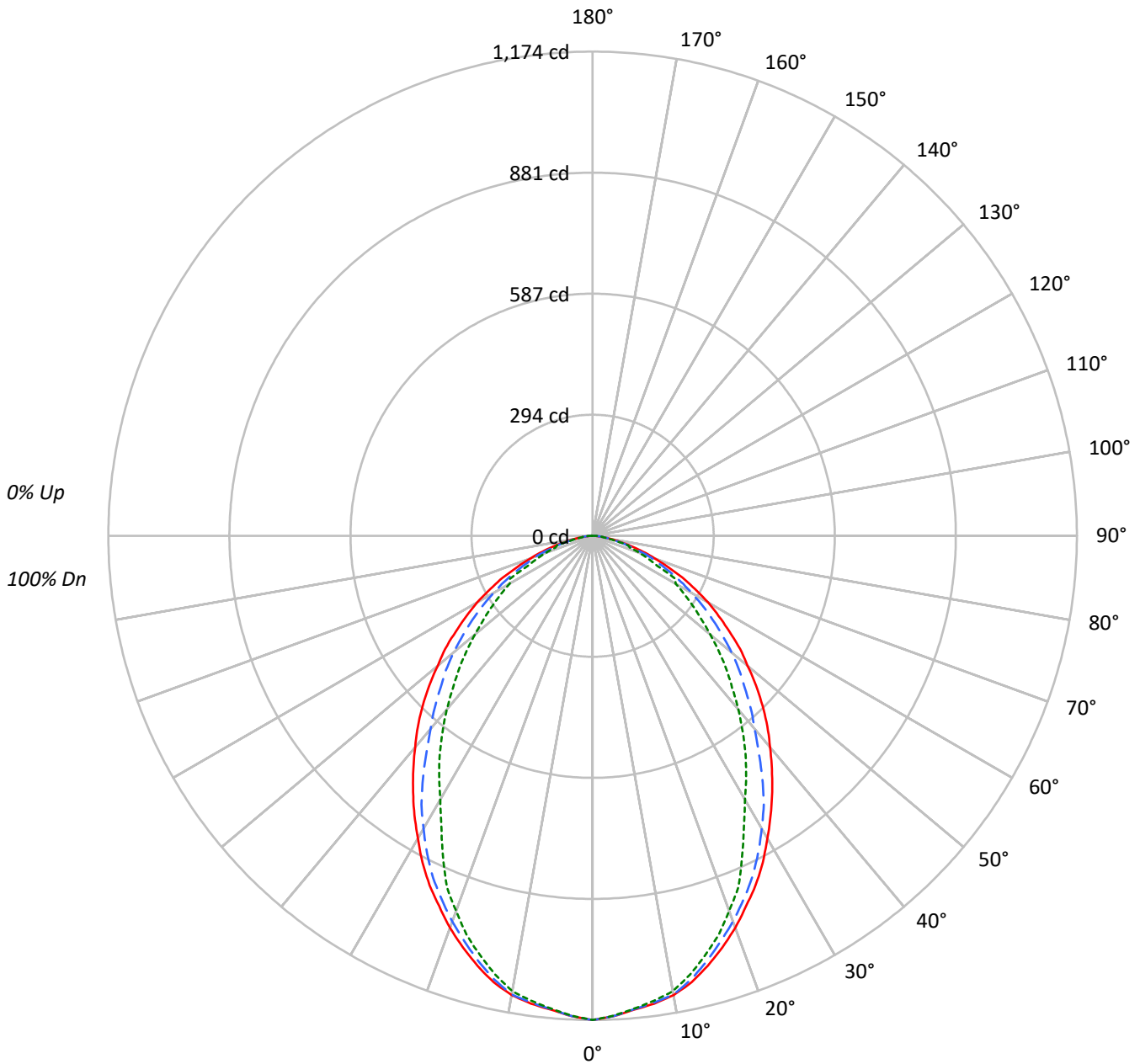
Lumens per Lamp: N/A
Luminaire Lumens: 2305.0 lumens
Efficiency: N/A
Efficacy: 69.2 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 33.3
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°	3159	3159	3159
5°	3117	3113	3109
10°	3090	3086	3064
15°	3006	2976	2934
20°	2896	2849	2771
25°	2777	2716	2547
30°	2632	2548	2294
35°	2493	2354	2122
40°	2351	2146	1931
45°	2216	1983	1746
50°	2051	1841	1557
55°	1898	1668	1395
60°	1739	1490	1249
65°	1530	1305	1106
70°	1260	1142	939
75°	1002	875	917
80°	673	631	589
85°	420	503	587



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	109.3	4.7
10°-20°	300.0	13.0
20°-30°	415.3	18.0
30°-40°	442.8	19.2
40°-50°	404.0	17.5
50°-60°	316.5	13.7
60°-70°	206.2	8.9
70°-80°	91.4	4.0
80°-90°	19.6	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°	824.5	35.8
0°-40°	1267.3	55.0
0°-60°	1987.8	86.2
0°-90°	2305.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2305.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1174	1174	1174	1174	1174	
5°	1154	1152	1152	1151	1151	110
15°	1079	1079	1068	1057	1053	303
25°	935	930	915	882	858	429
35°	759	753	717	662	646	474
45°	582	570	521	478	459	449
55°	404	392	356	314	297	363
65°	240	227	205	209	174	237
75°	96	90	84	80	88	103
85°	14	15	16	18	19	19
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1174.1	1174.1	1174.1	1174.1	1174.1
2.5°	1166.0	1166.0	1166.0	1164.6	1164.6
5°	1153.8	1152.4	1152.4	1151.1	1151.1
7.5°	1144.3	1142.9	1141.6	1140.2	1137.5
10°	1130.7	1130.7	1129.3	1122.6	1121.2
12.5°	1109.0	1107.6	1102.2	1092.7	1090.0
15°	1079.1	1079.1	1068.3	1057.4	1053.3
17.5°	1046.5	1045.2	1031.6	1020.8	1015.3
20°	1011.3	1008.5	995.0	977.3	967.8
22.5°	971.9	971.9	955.6	932.5	923.0
25°	935.2	929.8	914.9	882.3	857.9
27.5°	893.2	885.0	868.7	822.6	794.1
30°	847.0	842.9	819.9	760.1	738.4
32.5°	803.6	796.8	772.4	709.9	692.3
35°	758.8	753.3	716.7	662.4	646.1
37.5°	714.0	707.2	661.0	617.6	597.2
40°	669.2	661.0	610.8	571.5	549.7
42.5°	627.1	616.3	567.4	525.3	500.9
45°	582.3	570.1	521.2	477.8	458.8
47.5°	537.5	526.7	481.9	437.1	415.4
50°	490.0	480.5	439.8	395.0	371.9
52.5°	450.7	435.7	396.4	351.6	332.6
55°	404.5	392.3	355.6	313.6	297.3
57.5°	362.4	350.2	316.3	276.9	263.3
60°	323.1	305.4	276.9	243.0	232.1
62.5°	279.6	266.0	241.6	213.1	226.7
65°	240.3	226.7	205.0	209.0	173.7
67.5°	196.8	190.0	171.0	152.0	146.6
70°	160.2	152.0	145.2	124.9	119.4
72.5°	127.6	119.4	109.9	99.1	95.0
75°	96.4	89.6	84.2	80.1	88.2
77.5°	66.5	63.8	59.7	55.7	54.3
80°	43.4	42.1	40.7	39.4	38.0
82.5°	25.8	25.8	25.8	25.8	25.8
85°	13.6	14.9	16.3	17.6	19.0
87.5°	8.1	8.1	9.5	10.9	12.2
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)