

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: P546038

Luminaire Tested: **FMR-12-4-LD4-1STD-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: P546038
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-35-UNV-93-97-EDD
Description: 1X4 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

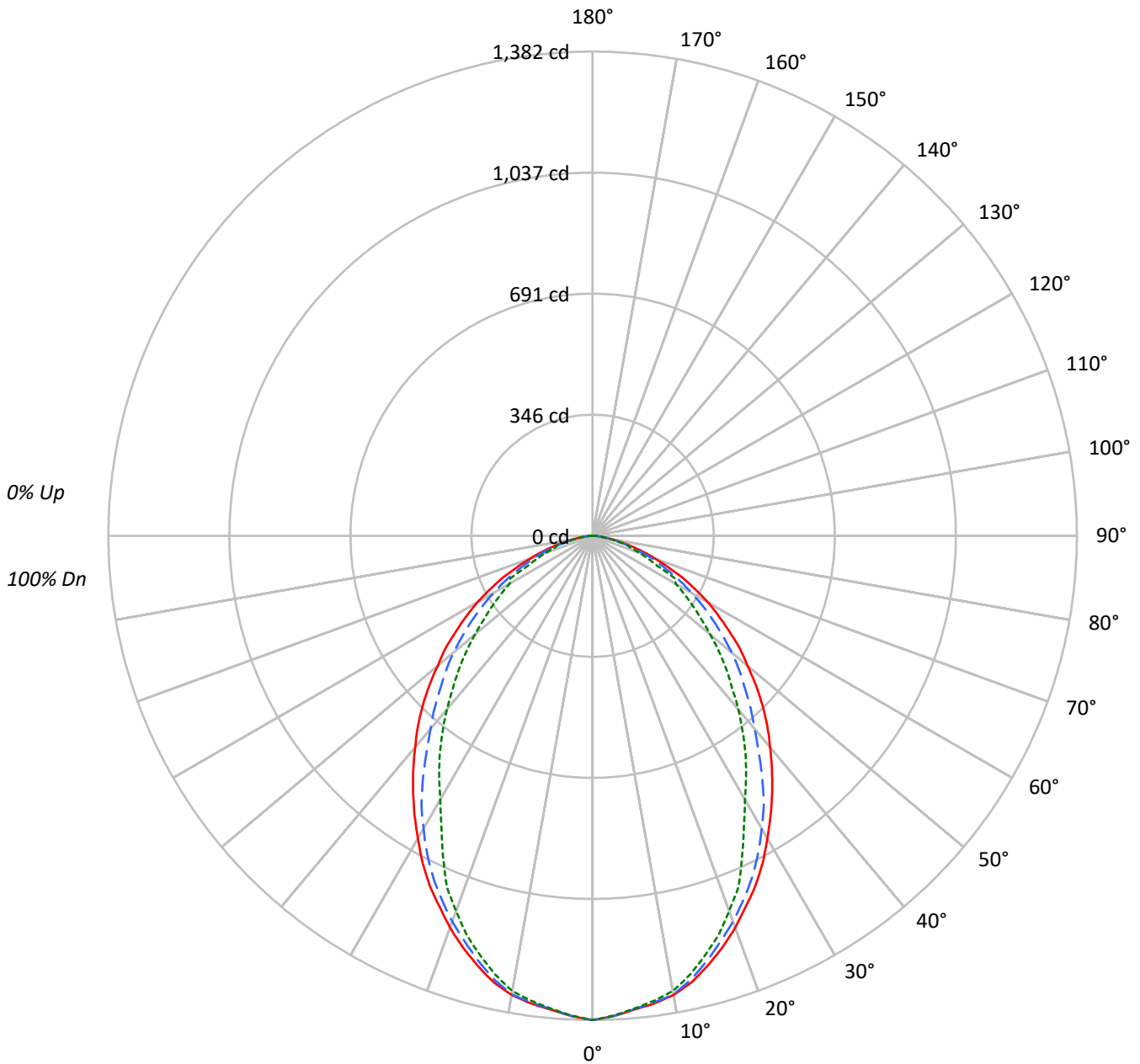
Lumens per Lamp: N/A
Luminaire Lumens: 2713.0 lumens
Efficiency: N/A
Efficacy: 81.5 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 33.3
Input Voltage (V): NR
Input Current (A_{in}): 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°	3719	3719	3719
5°	3668	3664	3660
10°	3636	3632	3606
15°	3538	3503	3454
20°	3408	3354	3262
25°	3268	3197	2998
30°	3098	2999	2701
35°	2934	2771	2498
40°	2767	2525	2273
45°	2608	2335	2055
50°	2415	2167	1833
55°	2234	1964	1642
60°	2046	1754	1470
65°	1801	1536	1302
70°	1483	1345	1106
75°	1179	1030	1079
80°	792	742	693
85°	494	593	692



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	128.6	4.7
10°-20°	353.0	13.0
20°-30°	488.8	18.0
30°-40°	521.2	19.2
40°-50°	475.5	17.5
50°-60°	372.5	13.7
60°-70°	242.8	8.9
70°-80°	107.5	4.0
80°-90°	23.1	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°	970.5	35.8
0°-40°	1491.6	55.0
0°-60°	2339.6	86.2
0°-90°	2713.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2713.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1382	1382	1382	1382	1382	
5°	1358	1356	1356	1355	1355	129
15°	1270	1270	1257	1245	1240	357
25°	1101	1094	1077	1038	1010	505
35°	893	887	844	780	760	558
45°	685	671	614	562	540	528
55°	476	462	419	369	350	427
65°	283	267	241	246	204	279
75°	113	105	99	94	104	122
85°	16	18	19	21	22	22
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1382.0	1382.0	1382.0	1382.0	1382.0
2.5°	1372.4	1372.4	1372.4	1370.8	1370.8
5°	1358.0	1356.4	1356.4	1354.8	1354.8
7.5°	1346.8	1345.2	1343.6	1342.0	1338.8
10°	1330.8	1330.8	1329.2	1321.3	1319.7
12.5°	1305.3	1303.7	1297.3	1286.1	1282.9
15°	1270.1	1270.1	1257.3	1244.6	1239.8
17.5°	1231.8	1230.2	1214.2	1201.4	1195.0
20°	1190.2	1187.1	1171.1	1150.3	1139.1
22.5°	1143.9	1143.9	1124.7	1097.6	1086.4
25°	1100.8	1094.4	1076.8	1038.5	1009.7
27.5°	1051.3	1041.7	1022.5	968.2	934.6
30°	996.9	992.1	965.0	894.7	869.1
32.5°	945.8	937.8	909.1	835.6	814.8
35°	893.1	886.7	843.6	779.7	760.5
37.5°	840.4	832.4	778.1	726.9	703.0
40°	787.6	778.1	718.9	672.6	647.0
42.5°	738.1	725.3	667.8	618.3	589.5
45°	685.4	671.0	613.5	562.4	540.0
47.5°	632.7	619.9	567.2	514.4	488.9
50°	576.8	565.6	517.6	464.9	437.8
52.5°	530.4	512.8	466.5	413.8	391.4
55°	476.1	461.7	418.6	369.1	349.9
57.5°	426.6	412.2	372.3	325.9	309.9
60°	380.2	359.5	325.9	286.0	273.2
62.5°	329.1	313.1	284.4	250.8	266.8
65°	282.8	266.8	241.2	246.0	204.5
67.5°	231.7	223.7	201.3	178.9	172.5
70°	188.5	178.9	170.9	147.0	140.6
72.5°	150.2	140.6	129.4	116.6	111.8
75°	113.4	105.4	99.1	94.3	103.8
77.5°	78.3	75.1	70.3	65.5	63.9
80°	51.1	49.5	47.9	46.3	44.7
82.5°	30.4	30.4	30.4	30.4	30.4
85°	16.0	17.6	19.2	20.8	22.4
87.5°	9.6	9.6	11.2	12.8	14.4
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)