

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: P545009

Luminaire Tested: **FMR-12-1-LD4-2HI-40-UNV-93-86-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: P545009
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-12-1-LD4-2HI-40-UNV-93-86-EDD
Description: 1X1 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

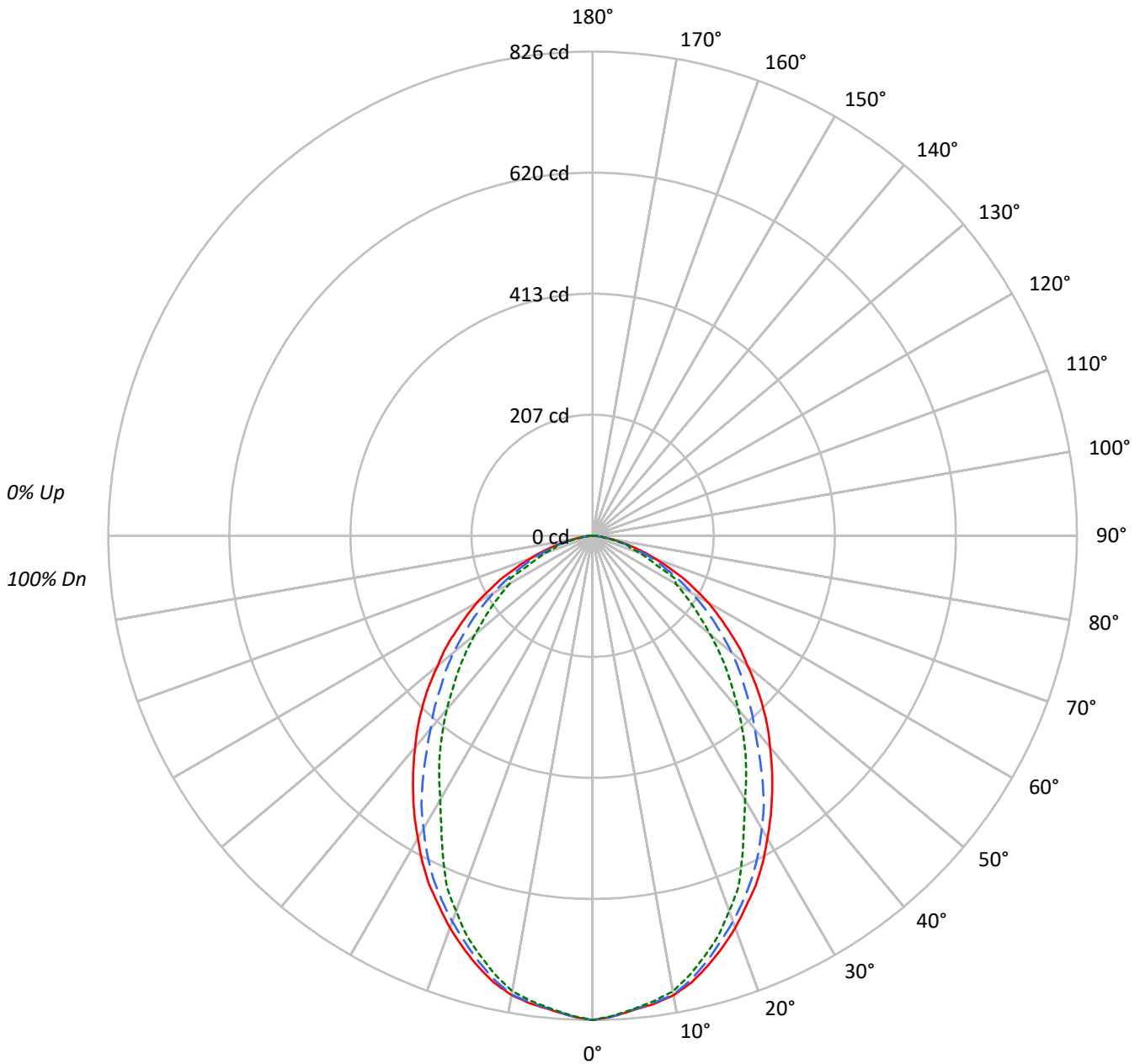
Lumens per Lamp: N/A
Luminaire Lumens: 1622.0 lumens
Efficiency: N/A
Efficacy: 75.1 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 1' x H: 0')
CIE Type: Direct

Input Watts (W): 21.6
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

TEST NUMBER: P545009

CATALOG NUMBER: FMR-12-1-LD4-2HI-40-UNV-93-86-EDD

Luminous Intensity Polar Plot





TEST NUMBER: P545009

CATALOG NUMBER: FMR-12-1-LD4-2HI-40-UNV-93-86-EDD

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°	8893	8893	8893
5°	8773	8762	8752
10°	8697	8686	8624
15°	8462	8377	8260
20°	8151	8019	7801
25°	7816	7646	7170
30°	7408	7170	6458
35°	7016	6627	5975
40°	6617	6039	5435
45°	6238	5584	4914
50°	5774	5183	4382
55°	5341	4697	3926
60°	4893	4196	3515
65°	4307	3673	3115
70°	3547	3216	2647
75°	2820	2462	2583
80°	1897	1779	1655
85°	1186	1420	1655



TEST NUMBER: P545009

CATALOG NUMBER: FMR-12-1-LD4-2HI-40-UNV-93-86-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	76.9	4.7
10°-20°	211.1	13.0
20°-30°	292.2	18.0
30°-40°	311.6	19.2
40°-50°	284.3	17.5
50°-60°	222.7	13.7
60°-70°	145.1	8.9
70°-80°	64.3	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°	580.2	35.8
0°-40°	891.8	55.0
0°-60°	1398.7	86.2
0°-90°	1622.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	1622.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	826	826	826	826	826	
5°	812	811	811	810	810	77
15°	759	759	752	744	741	213
25°	658	654	644	621	604	302
35°	534	530	504	466	455	334
45°	410	401	367	336	323	316
55°	285	276	250	221	209	255
65°	169	160	144	147	122	167
75°	68	63	59	56	62	73
85°	10	10	12	12	13	13
90°	0	0	0	0	0	



TEST NUMBER: P545009

CATALOG NUMBER: FMR-12-1-LD4-2HI-40-UNV-93-86-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	826.2	826.2	826.2	826.2	826.2
2.5°	820.5	820.5	820.5	819.5	819.5
5°	811.9	810.9	810.9	810.0	810.0
7.5°	805.2	804.3	803.3	802.3	800.4
10°	795.7	795.7	794.7	789.9	789.0
12.5°	780.4	779.4	775.6	768.9	767.0
15°	759.4	759.4	751.7	744.1	741.2
17.5°	736.4	735.5	725.9	718.3	714.5
20°	711.6	709.7	700.1	687.7	681.0
22.5°	683.9	683.9	672.4	656.2	649.5
25°	658.1	654.3	643.8	620.9	603.7
27.5°	628.5	622.8	611.3	578.8	558.8
30°	596.0	593.2	576.9	534.9	519.6
32.5°	565.5	560.7	543.5	499.6	487.1
35°	533.9	530.1	504.3	466.1	454.7
37.5°	502.4	497.6	465.2	434.6	420.3
40°	470.9	465.2	429.8	402.1	386.8
42.5°	441.3	433.6	399.3	369.7	352.5
45°	409.8	401.2	366.8	336.2	322.8
47.5°	378.2	370.6	339.1	307.6	292.3
50°	344.8	338.1	309.5	278.0	261.7
52.5°	317.1	306.6	278.9	247.4	234.0
55°	284.6	276.0	250.3	220.6	209.2
57.5°	255.0	246.4	222.6	194.9	185.3
60°	227.3	214.9	194.9	171.0	163.3
62.5°	196.8	187.2	170.0	150.0	159.5
65°	169.1	159.5	144.2	147.1	122.3
67.5°	138.5	133.7	120.4	107.0	103.2
70°	112.7	107.0	102.2	87.9	84.1
72.5°	89.8	84.1	77.4	69.7	66.9
75°	67.8	63.0	59.2	56.4	62.1
77.5°	46.8	44.9	42.0	39.2	38.2
80°	30.6	29.6	28.7	27.7	26.7
82.5°	18.1	18.1	18.1	18.1	18.1
85°	9.6	10.5	11.5	12.4	13.4
87.5°	5.7	5.7	6.7	7.6	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)