

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: P545585

Luminaire Tested: **FMR-12-2-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: P545585
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-12-2-LD4-2HI-40-UNV-93-86-EDD
Description: 1X2 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

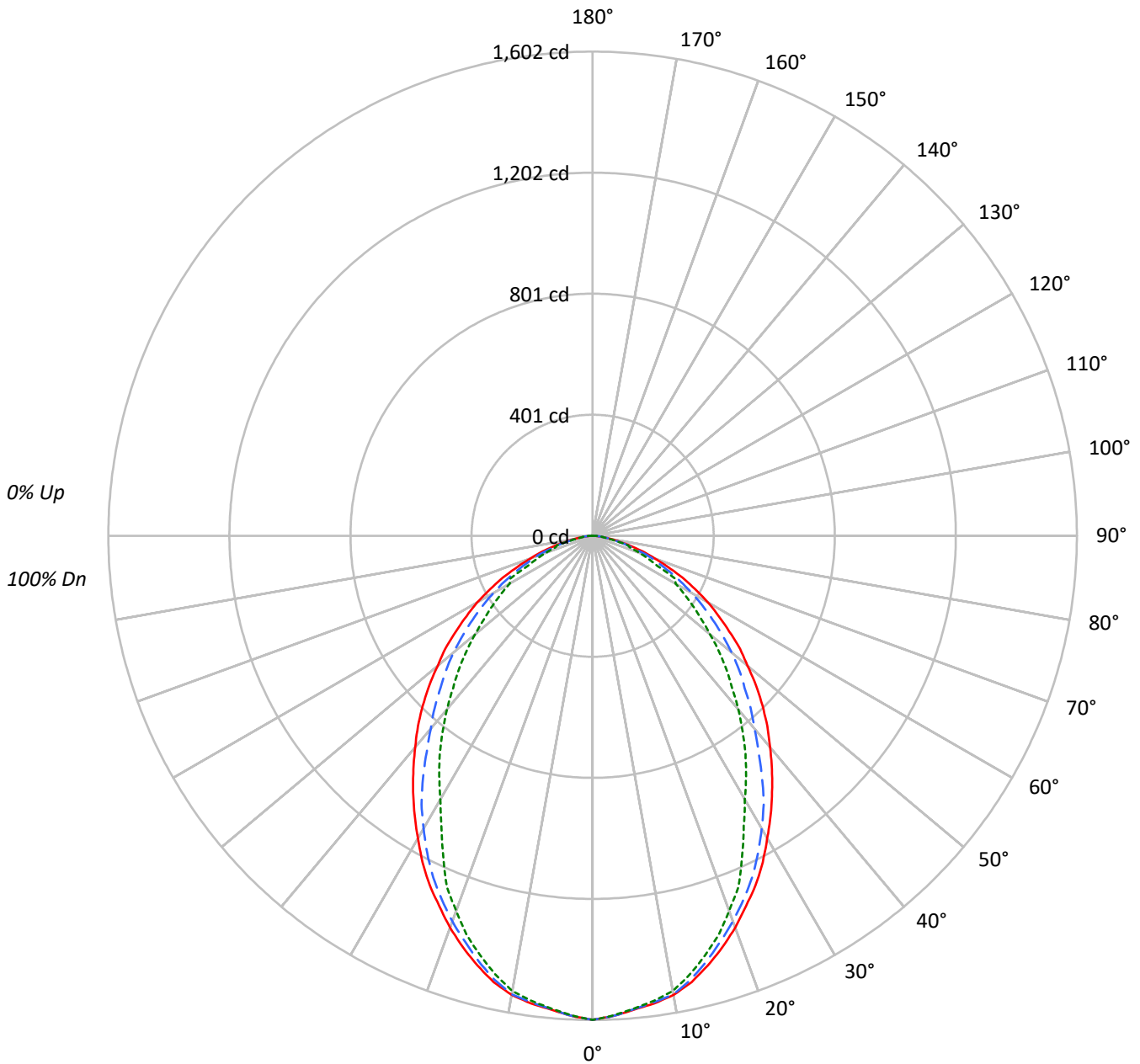
Lumens per Lamp: N/A
Luminaire Lumens: 3144.0 lumens
Efficiency: N/A
Efficacy: 72.8 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')
CIE Type: Direct

Input Watts (W): 43.2
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°	8619	8619	8619
5°	8502	8492	8482
10°	8429	8418	8358
15°	8201	8119	8005
20°	7900	7773	7561
25°	7576	7410	6948
30°	7180	6950	6259
35°	6800	6423	5790
40°	6413	5854	5268
45°	6046	5412	4763
50°	5596	5023	4248
55°	5177	4552	3805
60°	4743	4066	3408
65°	4173	3561	3018
70°	3438	3117	2563
75°	2734	2387	2502
80°	1835	1720	1605
85°	1142	1371	1599



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	149.1	4.7
10°-20°	409.1	13.0
20°-30°	566.4	18.0
30°-40°	604.0	19.2
40°-50°	551.0	17.5
50°-60°	431.7	13.7
60°-70°	281.3	8.9
70°-80°	124.6	4.0
80°-90°	26.8	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°	1124.6	35.8
0°-40°	1728.6	55.0
0°-60°	2711.3	86.2
0°-90°	3144.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3144.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1602	1602	1602	1602	1602	
5°	1574	1572	1572	1570	1570	149
15°	1472	1472	1457	1442	1437	414
25°	1276	1268	1248	1203	1170	586
35°	1035	1028	978	904	881	647
45°	794	778	711	652	626	612
55°	552	535	485	428	406	495
65°	328	309	280	285	237	323
75°	132	122	115	109	120	141
85°	18	20	22	24	26	26
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1601.5	1601.5	1601.5	1601.5	1601.5
2.5°	1590.4	1590.4	1590.4	1588.6	1588.6
5°	1573.7	1571.9	1571.9	1570.0	1570.0
7.5°	1560.8	1558.9	1557.1	1555.2	1551.5
10°	1542.3	1542.3	1540.4	1531.2	1529.3
12.5°	1512.6	1510.8	1503.4	1490.4	1486.7
15°	1471.9	1471.9	1457.1	1442.3	1436.7
17.5°	1427.5	1425.6	1407.1	1392.3	1384.9
20°	1379.3	1375.6	1357.1	1333.1	1320.1
22.5°	1325.6	1325.6	1303.4	1272.0	1259.0
25°	1275.7	1268.2	1247.9	1203.4	1170.1
27.5°	1218.3	1207.2	1184.9	1122.0	1083.1
30°	1155.3	1149.8	1118.3	1036.8	1007.2
32.5°	1096.1	1086.8	1053.5	968.3	944.2
35°	1035.0	1027.6	977.6	903.5	881.3
37.5°	973.9	964.6	901.7	842.4	814.6
40°	912.8	901.7	833.2	779.5	749.8
42.5°	855.4	840.6	773.9	716.5	683.2
45°	794.3	777.6	711.0	651.7	625.8
47.5°	733.2	718.4	657.3	596.2	566.5
50°	668.4	655.4	599.9	538.8	507.3
52.5°	614.7	594.3	540.6	479.5	453.6
55°	551.7	535.1	485.1	427.7	405.5
57.5°	494.3	477.7	431.4	377.7	359.2
60°	440.6	416.6	377.7	331.4	316.6
62.5°	381.4	362.9	329.6	290.7	309.2
65°	327.7	309.2	279.6	285.1	237.0
67.5°	268.5	259.2	233.3	207.4	200.0
70°	218.5	207.4	198.1	170.3	162.9
72.5°	174.0	162.9	150.0	135.2	129.6
75°	131.5	122.2	114.8	109.2	120.3
77.5°	90.7	87.0	81.5	75.9	74.1
80°	59.2	57.4	55.5	53.7	51.8
82.5°	35.2	35.2	35.2	35.2	35.2
85°	18.5	20.4	22.2	24.1	25.9
87.5°	11.1	11.1	13.0	14.8	16.7
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)