

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: P545589

Luminaire Tested: **FMR-12-2-LD4-2HI-40-UNV-93-96-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: P545589
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-93-96-EDD
Description: 1X2 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

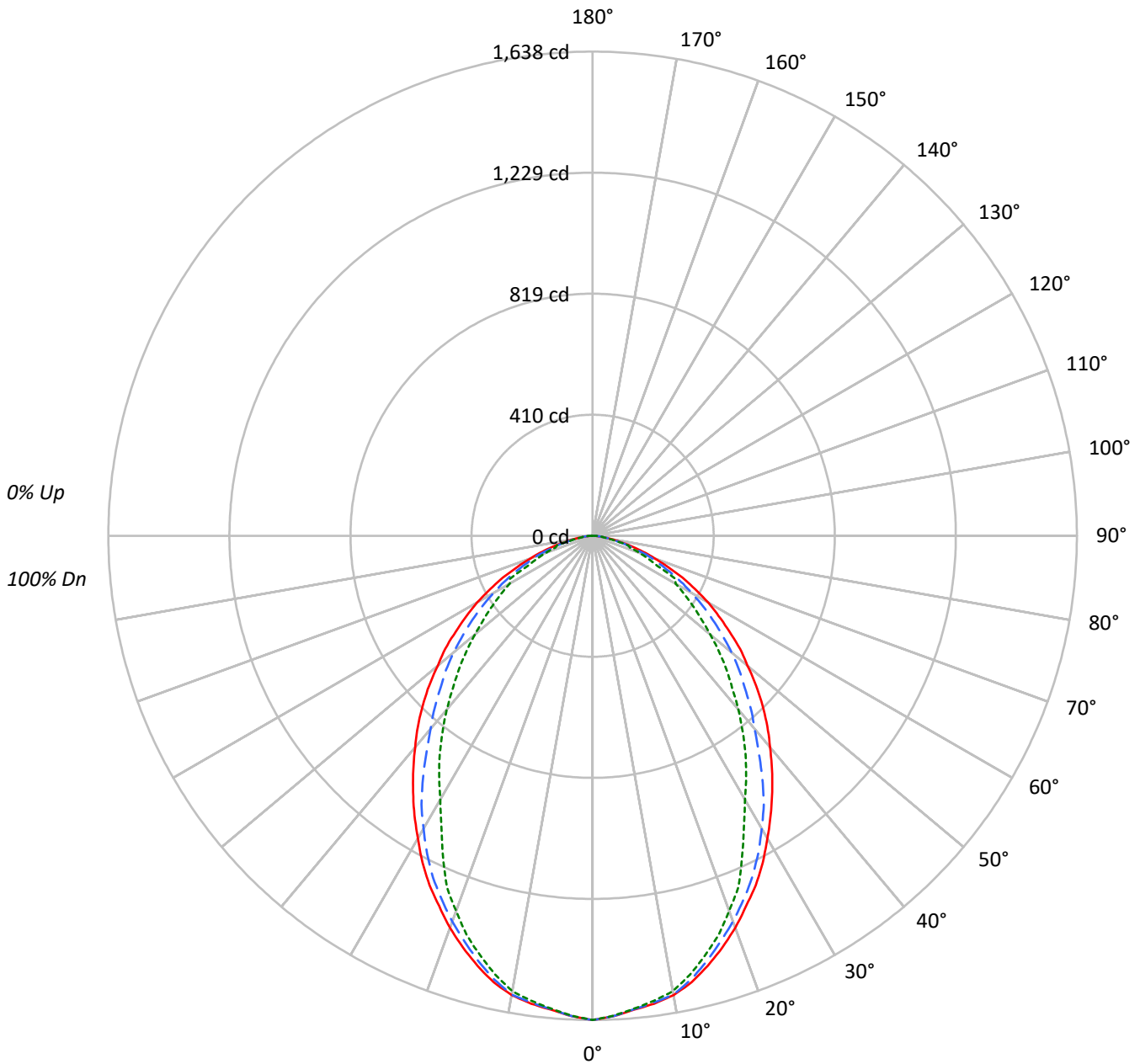
Lumens per Lamp: N/A
Luminaire Lumens: 3216.0 lumens
Efficiency: N/A
Efficacy: 74.4 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 2' x H: 0')
CIE Type: Direct

Input Watts (W): 43.2
Input Voltage (V): NR
Input Current (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					20					
RC	80					70					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				100				
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87				87				
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75				75				
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65				65				
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56				56				
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50				50				
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44				44				
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40				40				
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36				36				
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33				33				
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30				30				

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	8817	8817	8817
5°	8697	8687	8676
10°	8622	8611	8549
15°	8389	8305	8188
20°	8081	7951	7734
25°	7749	7580	7108
30°	7344	7109	6403
35°	6956	6570	5923
40°	6560	5987	5389
45°	6184	5535	4872
50°	5725	5138	4345
55°	5296	4656	3892
60°	4851	4158	3485
65°	4269	3642	3087
70°	3517	3188	2623
75°	2797	2441	2560
80°	1878	1760	1643
85°	1167	1402	1636



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	152.5	4.7
10°-20°	418.5	13.0
20°-30°	579.4	18.0
30°-40°	617.8	19.2
40°-50°	563.6	17.5
50°-60°	441.5	13.7
60°-70°	287.8	8.9
70°-80°	127.5	4.0
80°-90°	27.4	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°	1150.4	35.8
0°-40°	1768.2	55.0
0°-60°	2773.3	86.2
0°-90°	3216.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3216.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1638	1638	1638	1638	1638	
5°	1610	1608	1608	1606	1606	153
15°	1506	1506	1490	1475	1470	423
25°	1305	1297	1276	1231	1197	599
35°	1059	1051	1000	924	902	662
45°	812	795	727	667	640	626
55°	564	547	496	438	415	506
65°	335	316	286	292	242	330
75°	134	125	117	112	123	144
85°	19	21	23	25	26	26
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1638.2	1638.2	1638.2	1638.2	1638.2
2.5°	1626.8	1626.8	1626.8	1624.9	1624.9
5°	1609.8	1607.9	1607.9	1606.0	1606.0
7.5°	1596.5	1594.6	1592.7	1590.8	1587.1
10°	1577.6	1577.6	1575.7	1566.2	1564.3
12.5°	1547.3	1545.4	1537.8	1524.6	1520.8
15°	1505.6	1505.6	1490.5	1475.3	1469.6
17.5°	1460.2	1458.3	1439.3	1424.2	1416.6
20°	1410.9	1407.1	1388.2	1363.6	1350.3
22.5°	1356.0	1356.0	1333.3	1301.1	1287.8
25°	1304.9	1297.3	1276.5	1231.0	1196.9
27.5°	1246.2	1234.8	1212.1	1147.7	1107.9
30°	1181.8	1176.1	1143.9	1060.6	1030.3
32.5°	1121.2	1111.7	1077.6	990.5	965.9
35°	1058.7	1051.1	1000.0	924.2	901.5
37.5°	996.2	986.7	922.3	861.7	833.3
40°	933.7	922.3	852.2	797.3	767.0
42.5°	875.0	859.8	791.6	732.9	698.8
45°	812.5	795.4	727.2	666.6	640.1
47.5°	750.0	734.8	672.3	609.8	579.5
50°	683.7	670.4	613.6	551.1	518.9
52.5°	628.8	607.9	553.0	490.5	464.0
55°	564.4	547.3	496.2	437.5	414.8
57.5°	505.7	488.6	441.3	386.3	367.4
60°	450.7	426.1	386.3	339.0	323.8
62.5°	390.1	371.2	337.1	297.3	316.3
65°	335.2	316.3	286.0	291.7	242.4
67.5°	274.6	265.1	238.6	212.1	204.5
70°	223.5	212.1	202.6	174.2	166.7
72.5°	178.0	166.7	153.4	138.3	132.6
75°	134.5	125.0	117.4	111.7	123.1
77.5°	92.8	89.0	83.3	77.6	75.8
80°	60.6	58.7	56.8	54.9	53.0
82.5°	36.0	36.0	36.0	36.0	36.0
85°	18.9	20.8	22.7	24.6	26.5
87.5°	11.4	11.4	13.3	15.2	17.0
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)