

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: P545831

Luminaire Tested: **FMR-12-4-LD4-1HI-35-UNV-82-84-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: P545831
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-LD4-1HI-35-UNV-82-84-EDD
Description: 1X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

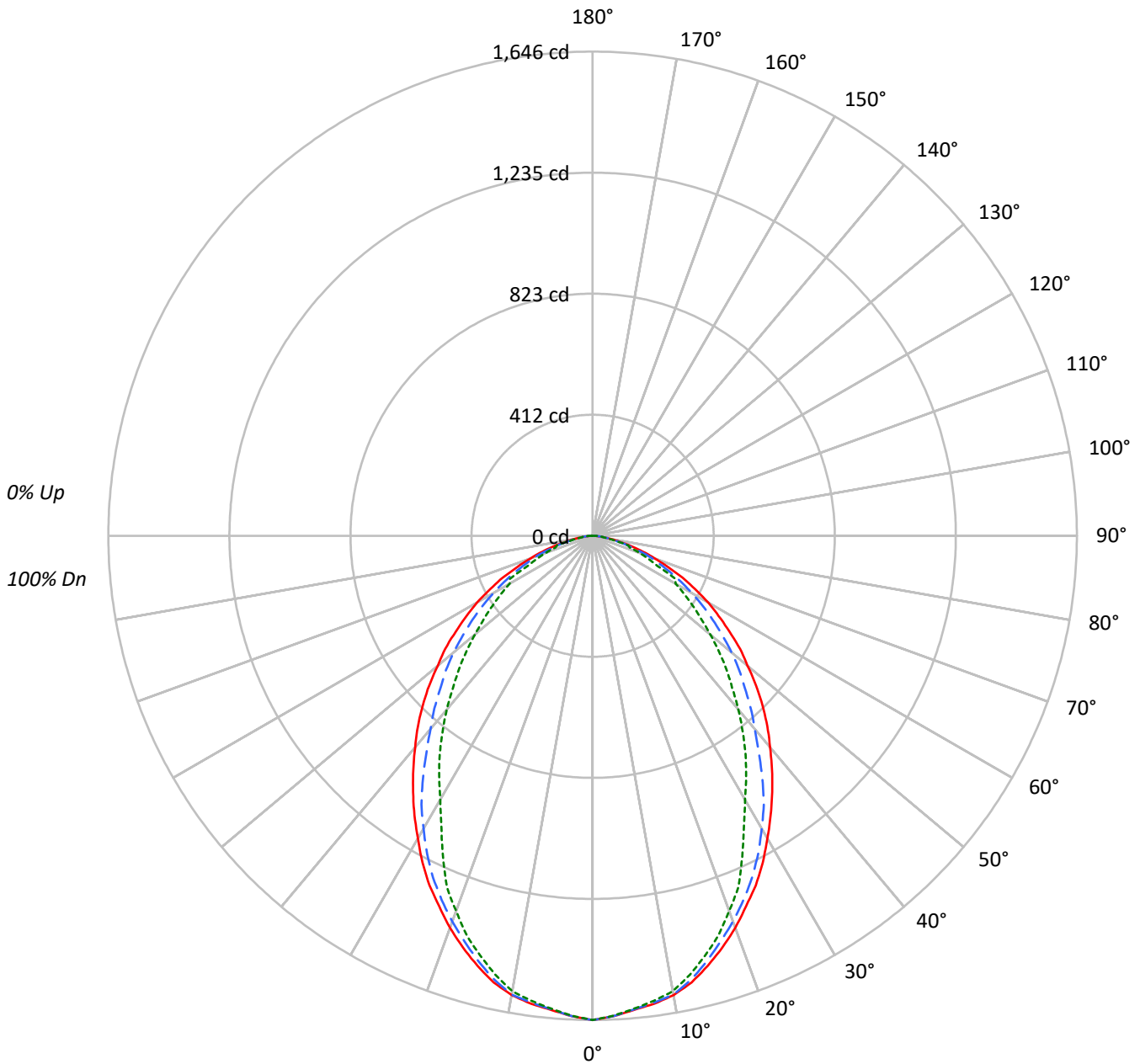
Lumens per Lamp: N/A
Luminaire Lumens: 3232.0 lumens
Efficiency: N/A
Efficacy: 74.8 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 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°	4430	4430	4430
5°	4370	4365	4360
10°	4332	4327	4296
15°	4215	4173	4115
20°	4060	3995	3886
25°	3894	3809	3572
30°	3690	3572	3217
35°	3495	3301	2976
40°	3296	3009	2708
45°	3107	2782	2448
50°	2876	2582	2183
55°	2661	2340	1955
60°	2438	2090	1752
65°	2145	1830	1551
70°	1767	1603	1318
75°	1405	1227	1286
80°	944	885	826
85°	587	704	821



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	153.3	4.7
10°-20°	420.6	13.0
20°-30°	582.3	18.0
30°-40°	620.9	19.2
40°-50°	566.4	17.5
50°-60°	443.8	13.7
60°-70°	289.2	8.9
70°-80°	128.1	4.0
80°-90°	27.5	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°	1156.1	35.8
0°-40°	1777.0	55.0
0°-60°	2787.2	86.2
0°-90°	3232.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3232.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1646	1646	1646	1646	1646	
5°	1618	1616	1616	1614	1614	154
15°	1513	1513	1498	1483	1477	425
25°	1311	1304	1283	1237	1203	602
35°	1064	1056	1005	929	906	665
45°	816	799	731	670	643	629
55°	567	550	499	440	417	509
65°	337	318	287	293	244	332
75°	135	126	118	112	124	145
85°	19	21	23	25	27	26
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1646.3	1646.3	1646.3	1646.3	1646.3
2.5°	1634.9	1634.9	1634.9	1633.0	1633.0
5°	1617.8	1615.9	1615.9	1614.0	1614.0
7.5°	1604.5	1602.6	1600.7	1598.8	1594.9
10°	1585.4	1585.4	1583.5	1574.0	1572.1
12.5°	1555.0	1553.1	1545.5	1532.1	1528.3
15°	1513.1	1513.1	1497.9	1482.7	1476.9
17.5°	1467.4	1465.5	1446.5	1431.3	1423.7
20°	1417.9	1414.1	1395.1	1370.4	1357.0
22.5°	1362.7	1362.7	1339.9	1307.6	1294.2
25°	1311.4	1303.7	1282.8	1237.1	1202.9
27.5°	1252.4	1240.9	1218.1	1153.4	1113.4
30°	1187.6	1181.9	1149.6	1065.8	1035.4
32.5°	1126.7	1117.2	1083.0	995.4	970.7
35°	1063.9	1056.3	1004.9	928.8	906.0
37.5°	1001.1	991.6	926.9	866.0	837.4
40°	938.3	926.9	856.5	801.3	770.8
42.5°	879.3	864.1	795.6	736.6	702.3
45°	816.5	799.4	730.9	670.0	643.3
47.5°	753.7	738.5	675.7	612.9	582.4
50°	687.1	673.8	616.7	553.9	521.5
52.5°	631.9	611.0	555.8	492.9	466.3
55°	567.2	550.0	498.7	439.7	416.8
57.5°	508.2	491.0	443.5	388.3	369.2
60°	453.0	428.2	388.3	340.7	325.5
62.5°	392.1	373.0	338.8	298.8	317.8
65°	336.9	317.8	287.4	293.1	243.6
67.5°	276.0	266.5	239.8	213.2	205.6
70°	224.6	213.2	203.7	175.1	167.5
72.5°	178.9	167.5	154.2	138.9	133.2
75°	135.1	125.6	118.0	112.3	123.7
77.5°	93.3	89.5	83.7	78.0	76.1
80°	60.9	59.0	57.1	55.2	53.3
82.5°	36.2	36.2	36.2	36.2	36.2
85°	19.0	20.9	22.8	24.7	26.6
87.5°	11.4	11.4	13.3	15.2	17.1
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)