

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: P546633

Luminaire Tested: **FMR-24-4-LD4-1STD-40-UNV-82-86-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: P546633
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-24-4-LD4-1STD-40-UNV-82-86-EDD
Description: 2X4 FMR TROFFER WITH .187 CLEAR PC 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

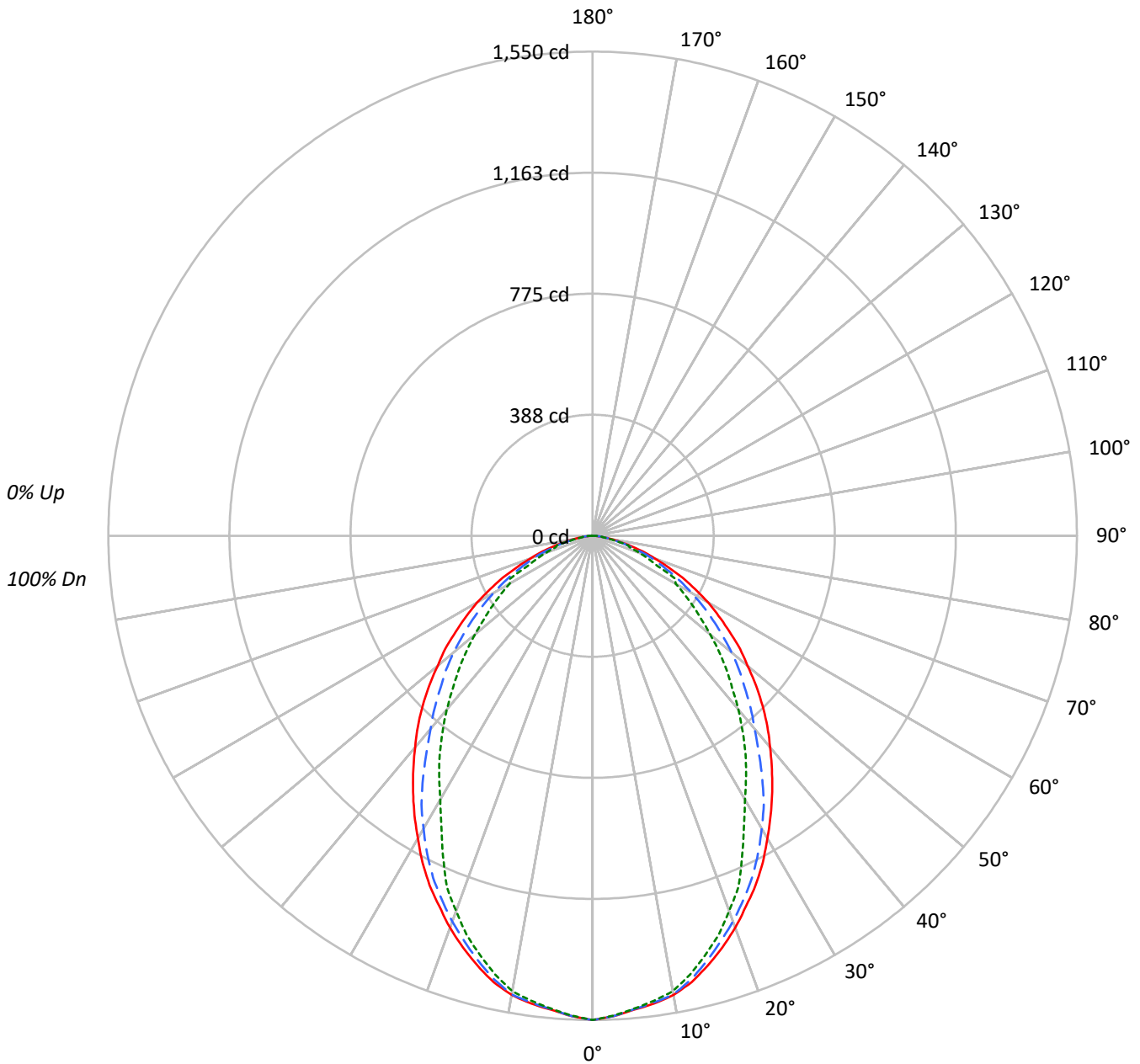
Lumens per Lamp: N/A
Luminaire Lumens: 3043.0 lumens
Efficiency: N/A
Efficacy: 91.4 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 33.3
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°	2086	2086	2086
5°	2057	2055	2052
10°	2039	2037	2022
15°	1984	1964	1937
20°	1912	1881	1829
25°	1833	1793	1681
30°	1737	1682	1514
35°	1645	1554	1401
40°	1552	1416	1275
45°	1463	1309	1153
50°	1354	1215	1028
55°	1253	1101	920
60°	1148	984	825
65°	1010	862	730
70°	832	754	620
75°	661	578	606
80°	444	417	389
85°	276	332	387



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	144.3	4.7
10°-20°	396.0	13.0
20°-30°	548.2	18.0
30°-40°	584.6	19.2
40°-50°	533.3	17.5
50°-60°	417.8	13.7
60°-70°	272.3	8.9
70°-80°	120.6	4.0
80°-90°	25.9	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°	1088.5	35.8
0°-40°	1673.1	55.0
0°-60°	2624.2	86.2
0°-90°	3043.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3043.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1550	1550	1550	1550	1550	
5°	1523	1521	1521	1520	1520	145
15°	1425	1425	1410	1396	1391	400
25°	1235	1228	1208	1165	1132	567
35°	1002	994	946	874	853	626
45°	769	753	688	631	606	592
55°	534	518	470	414	392	479
65°	317	299	271	276	229	313
75°	127	118	111	106	116	136
85°	18	20	22	23	25	25
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1550.1	1550.1	1550.1	1550.1	1550.1
2.5°	1539.3	1539.3	1539.3	1537.5	1537.5
5°	1523.2	1521.4	1521.4	1519.6	1519.6
7.5°	1510.6	1508.8	1507.1	1505.3	1501.7
10°	1492.7	1492.7	1490.9	1482.0	1480.2
12.5°	1464.0	1462.3	1455.1	1442.5	1439.0
15°	1424.6	1424.6	1410.3	1396.0	1390.6
17.5°	1381.6	1379.8	1361.9	1347.6	1340.4
20°	1335.0	1331.4	1313.5	1290.2	1277.7
22.5°	1283.1	1283.1	1261.6	1231.1	1218.5
25°	1234.7	1227.5	1207.8	1164.8	1132.5
27.5°	1179.1	1168.4	1146.9	1085.9	1048.3
30°	1118.2	1112.8	1082.4	1003.5	974.8
32.5°	1060.9	1051.9	1019.6	937.2	913.9
35°	1001.7	994.5	946.2	874.5	853.0
37.5°	942.6	933.6	872.7	815.4	788.5
40°	883.4	872.7	806.4	754.4	725.8
42.5°	827.9	813.6	749.0	693.5	661.2
45°	768.8	752.6	688.1	630.8	605.7
47.5°	709.6	695.3	636.2	577.0	548.3
50°	646.9	634.4	580.6	521.5	491.0
52.5°	594.9	575.2	523.3	464.1	439.0
55°	534.0	517.9	469.5	413.9	392.4
57.5°	478.5	462.3	417.5	365.6	347.6
60°	426.5	403.2	365.6	320.8	306.4
62.5°	369.1	351.2	319.0	281.3	299.3
65°	317.2	299.3	270.6	276.0	229.4
67.5°	259.8	250.9	225.8	200.7	193.5
70°	211.5	200.7	191.7	164.9	157.7
72.5°	168.4	157.7	145.2	130.8	125.4
75°	127.2	118.3	111.1	105.7	116.5
77.5°	87.8	84.2	78.8	73.5	71.7
80°	57.3	55.6	53.8	52.0	50.2
82.5°	34.0	34.0	34.0	34.0	34.0
85°	17.9	19.7	21.5	23.3	25.1
87.5°	10.8	10.8	12.5	14.3	16.1
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)