

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: P546623

Luminaire Tested: **FMR-24-4-LD4-1STD-40-UNV-81-84-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: P546623
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-81-84-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

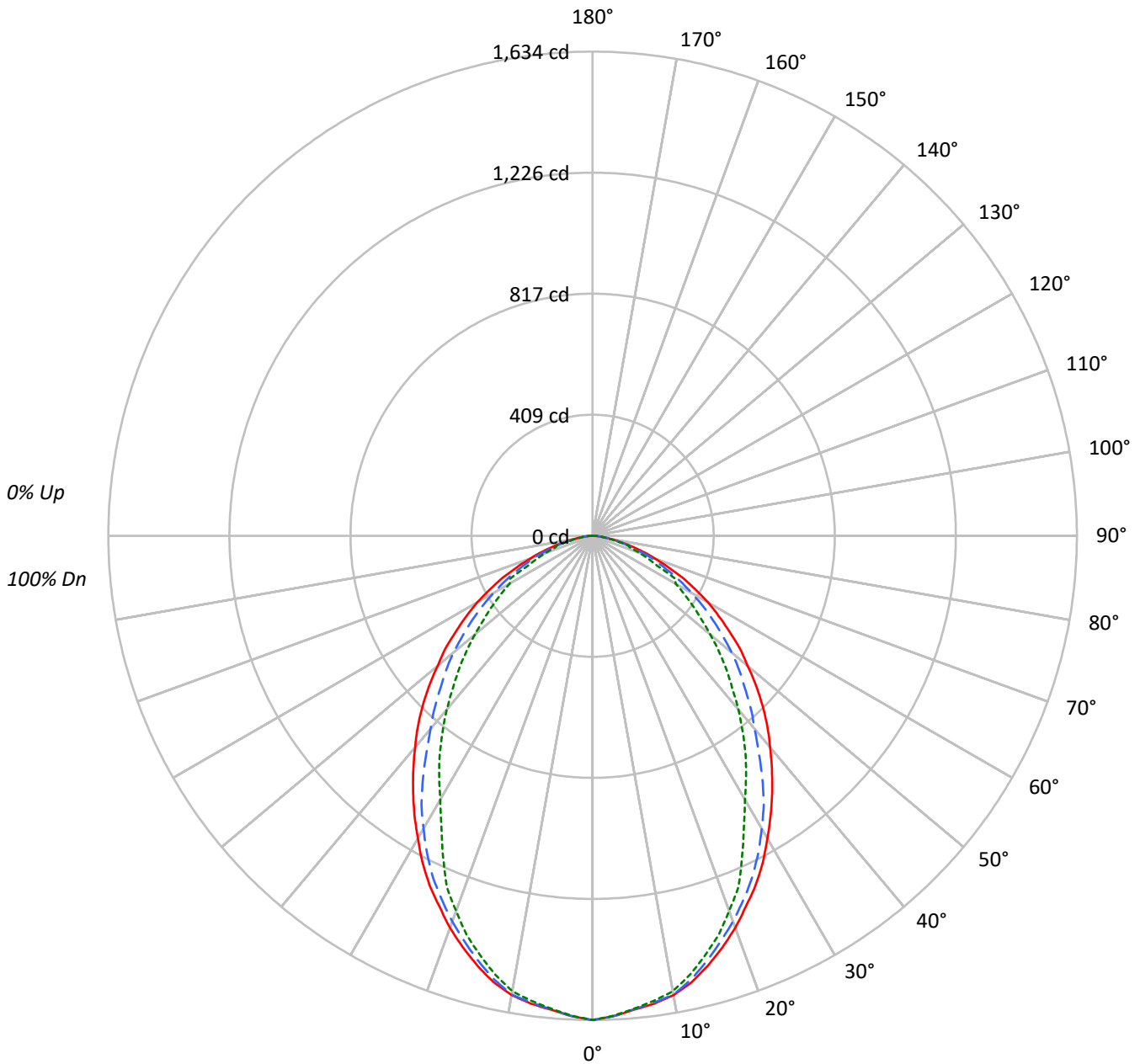
Lumens per Lamp: N/A
Luminaire Lumens: 3208.0 lumens
Efficiency: N/A
Efficacy: 96.3 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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°	2199	2199	2199
5°	2169	2166	2164
10°	2150	2147	2132
15°	2092	2071	2042
20°	2015	1983	1929
25°	1932	1890	1772
30°	1831	1773	1597
35°	1735	1638	1477
40°	1636	1493	1344
45°	1542	1380	1215
50°	1428	1281	1083
55°	1321	1161	970
60°	1210	1037	869
65°	1065	908	770
70°	877	795	654
75°	697	609	638
80°	469	439	410
85°	292	350	408



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	152.1	4.7
10°-20°	417.5	13.0
20°-30°	577.9	18.0
30°-40°	616.3	19.2
40°-50°	562.2	17.5
50°-60°	440.5	13.7
60°-70°	287.1	8.9
70°-80°	127.2	4.0
80°-90°	27.3	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°	1147.5	35.8
0°-40°	1763.8	55.0
0°-60°	2766.4	86.2
0°-90°	3208.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3208.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1634	1634	1634	1634	1634	
5°	1606	1604	1604	1602	1602	152
15°	1502	1502	1487	1472	1466	422
25°	1302	1294	1273	1228	1194	598
35°	1056	1048	998	922	899	660
45°	810	793	725	665	638	624
55°	563	546	495	436	414	505
65°	334	316	285	291	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°	1634.1	1634.1	1634.1	1634.1	1634.1
2.5°	1622.8	1622.8	1622.8	1620.9	1620.9
5°	1605.8	1603.9	1603.9	1602.0	1602.0
7.5°	1592.6	1590.7	1588.8	1586.9	1583.1
10°	1573.7	1573.7	1571.8	1562.3	1560.4
12.5°	1543.4	1541.5	1534.0	1520.8	1517.0
15°	1501.9	1501.9	1486.8	1471.6	1466.0
17.5°	1456.5	1454.6	1435.8	1420.6	1413.1
20°	1407.4	1403.6	1384.7	1360.2	1347.0
22.5°	1352.6	1352.6	1330.0	1297.8	1284.6
25°	1301.6	1294.1	1273.3	1227.9	1193.9
27.5°	1243.1	1231.7	1209.1	1144.8	1105.2
30°	1178.8	1173.2	1141.0	1057.9	1027.7
32.5°	1118.4	1108.9	1074.9	988.0	963.5
35°	1056.0	1048.5	997.5	921.9	899.2
37.5°	993.7	984.2	920.0	859.6	831.2
40°	931.3	920.0	850.1	795.3	765.1
42.5°	872.8	857.7	789.7	731.1	697.1
45°	810.4	793.4	725.4	665.0	638.5
47.5°	748.1	733.0	670.6	608.3	578.1
50°	682.0	668.8	612.1	549.7	517.6
52.5°	627.2	606.4	551.6	489.3	462.8
55°	563.0	546.0	495.0	436.4	413.7
57.5°	504.4	487.4	440.2	385.4	366.5
60°	449.6	425.1	385.4	338.2	323.0
62.5°	389.2	370.3	336.3	296.6	315.5
65°	334.4	315.5	285.3	290.9	241.8
67.5°	273.9	264.5	238.0	211.6	204.0
70°	222.9	211.6	202.1	173.8	166.2
72.5°	177.6	166.2	153.0	137.9	132.2
75°	134.1	124.7	117.1	111.5	122.8
77.5°	92.6	88.8	83.1	77.5	75.6
80°	60.5	58.6	56.7	54.8	52.9
82.5°	35.9	35.9	35.9	35.9	35.9
85°	18.9	20.8	22.7	24.6	26.4
87.5°	11.3	11.3	13.2	15.1	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)