

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: P546628

Luminaire Tested: **FMR-24-4-LD4-1STD-40-UNV-81-94-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: P546628
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-81-94-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

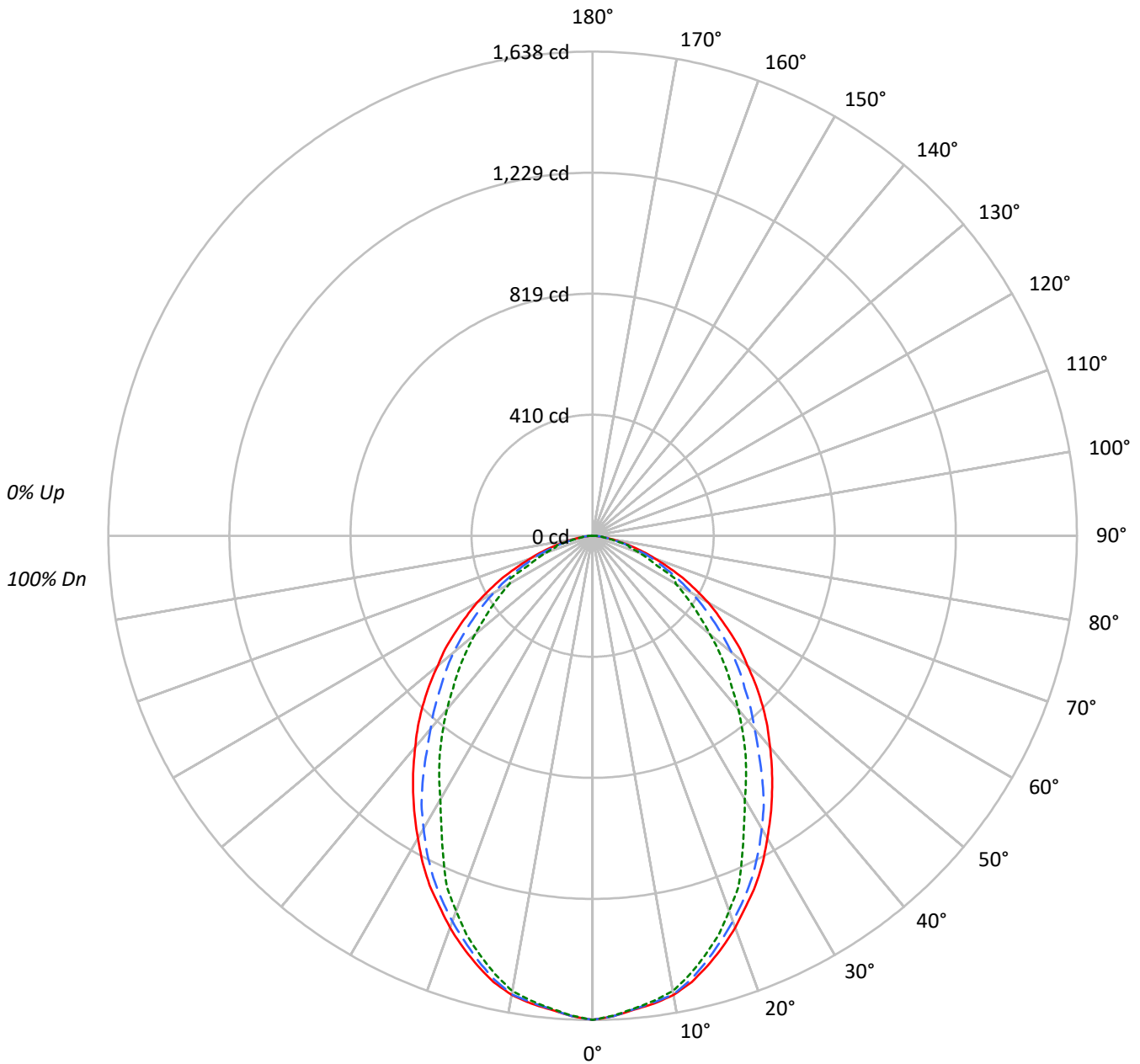
Lumens per Lamp: N/A
Luminaire Lumens: 3215.0 lumens
Efficiency: N/A
Efficacy: 96.5 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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°	2204	2204	2204
5°	2174	2171	2168
10°	2155	2152	2137
15°	2097	2076	2047
20°	2020	1987	1933
25°	1937	1894	1776
30°	1835	1777	1600
35°	1738	1642	1480
40°	1639	1496	1347
45°	1545	1383	1218
50°	1431	1284	1086
55°	1323	1164	973
60°	1213	1039	871
65°	1067	910	771
70°	879	797	655
75°	699	610	640
80°	470	440	411
85°	292	350	409



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	152.4	4.7
10°-20°	418.4	13.0
20°-30°	579.2	18.0
30°-40°	617.6	19.2
40°-50°	563.4	17.5
50°-60°	441.4	13.7
60°-70°	287.7	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°	1150.0	35.8
0°-40°	1767.6	55.0
0°-60°	2772.5	86.2
0°-90°	3215.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3215.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1638	1638	1638	1638	1638	
5°	1609	1607	1607	1606	1606	153
15°	1505	1505	1490	1475	1469	423
25°	1304	1297	1276	1231	1196	599
35°	1058	1051	1000	924	901	662
45°	812	795	727	666	640	626
55°	564	547	496	437	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°	1637.7	1637.7	1637.7	1637.7	1637.7
2.5°	1626.3	1626.3	1626.3	1624.4	1624.4
5°	1609.3	1607.4	1607.4	1605.5	1605.5
7.5°	1596.0	1594.1	1592.2	1590.3	1586.6
10°	1577.1	1577.1	1575.2	1565.7	1563.8
12.5°	1546.8	1544.9	1537.3	1524.1	1520.3
15°	1505.1	1505.1	1490.0	1474.9	1469.2
17.5°	1459.7	1457.8	1438.9	1423.7	1416.2
20°	1410.5	1406.7	1387.8	1363.2	1349.9
22.5°	1355.6	1355.6	1332.9	1300.7	1287.4
25°	1304.5	1296.9	1276.1	1230.6	1196.5
27.5°	1245.8	1234.4	1211.7	1147.3	1107.6
30°	1181.4	1175.7	1143.5	1060.2	1029.9
32.5°	1120.8	1111.3	1077.3	990.2	965.6
35°	1058.3	1050.8	999.6	923.9	901.2
37.5°	995.9	986.4	922.0	861.4	833.0
40°	933.4	922.0	852.0	797.1	766.8
42.5°	874.7	859.5	791.4	732.7	698.6
45°	812.2	795.2	727.0	666.4	639.9
47.5°	749.7	734.6	672.1	609.6	579.3
50°	683.5	670.2	613.4	550.9	518.8
52.5°	628.6	607.7	552.8	490.4	463.9
55°	564.2	547.2	496.0	437.3	414.6
57.5°	505.5	488.5	441.1	386.2	367.3
60°	450.6	426.0	386.2	338.9	323.7
62.5°	390.0	371.1	337.0	297.2	316.2
65°	335.1	316.2	285.9	291.6	242.3
67.5°	274.5	265.1	238.6	212.0	204.5
70°	223.4	212.0	202.6	174.2	166.6
72.5°	178.0	166.6	153.4	138.2	132.5
75°	134.4	125.0	117.4	111.7	123.1
77.5°	92.8	89.0	83.3	77.6	75.7
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	15.1	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)