

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: P546591

Luminaire Tested: **FMR-24-4-LD4-1STD-35-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: P546591
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-35-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 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

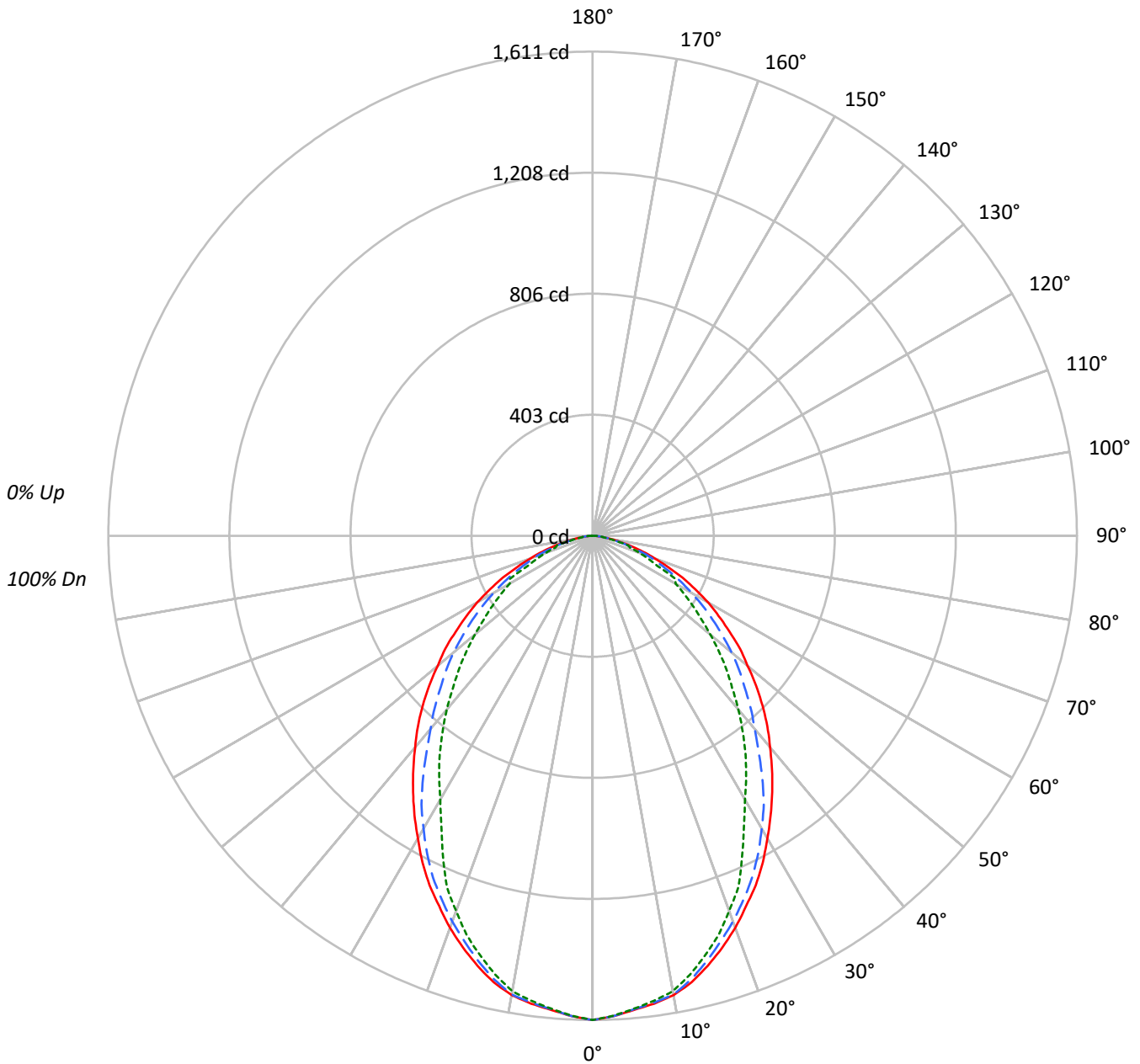
Lumens per Lamp: N/A
Luminaire Lumens: 3163.0 lumens
Efficiency: N/A
Efficacy: 95.0 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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				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°	2168	2168	2168
5°	2138	2136	2133
10°	2120	2117	2102
15°	2063	2042	2013
20°	1987	1955	1902
25°	1905	1864	1748
30°	1806	1748	1574
35°	1710	1615	1456
40°	1613	1472	1325
45°	1521	1361	1198
50°	1407	1263	1068
55°	1302	1145	957
60°	1193	1023	857
65°	1050	896	759
70°	865	784	645
75°	687	600	630
80°	462	433	404
85°	287	346	403



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	150.0	4.7
10°-20°	411.6	13.0
20°-30°	569.8	18.0
30°-40°	607.6	19.2
40°-50°	554.3	17.5
50°-60°	434.3	13.7
60°-70°	283.0	8.9
70°-80°	125.4	4.0
80°-90°	26.9	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°	1131.4	35.8
0°-40°	1739.0	55.0
0°-60°	2727.6	86.2
0°-90°	3163.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3163.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1611	1611	1611	1611	1611	
5°	1583	1581	1581	1580	1580	150
15°	1481	1481	1466	1451	1445	416
25°	1283	1276	1255	1211	1177	589
35°	1041	1034	984	909	887	651
45°	799	782	715	656	630	616
55°	555	538	488	430	408	498
65°	330	311	281	287	238	325
75°	132	123	116	110	121	142
85°	19	20	22	24	26	26
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1611.2	1611.2	1611.2	1611.2	1611.2
2.5°	1600.0	1600.0	1600.0	1598.2	1598.2
5°	1583.3	1581.4	1581.4	1579.5	1579.5
7.5°	1570.2	1568.3	1566.5	1564.6	1560.9
10°	1551.6	1551.6	1549.7	1540.4	1538.5
12.5°	1521.8	1519.9	1512.5	1499.4	1495.7
15°	1480.8	1480.8	1465.9	1451.0	1445.4
17.5°	1436.1	1434.2	1415.6	1400.7	1393.3
20°	1387.7	1383.9	1365.3	1341.1	1328.1
22.5°	1333.7	1333.7	1311.3	1279.6	1266.6
25°	1283.4	1275.9	1255.4	1210.7	1177.2
27.5°	1225.6	1214.4	1192.1	1128.8	1089.6
30°	1162.3	1156.7	1125.0	1043.1	1013.3
32.5°	1102.7	1093.4	1059.8	974.2	950.0
35°	1041.2	1033.8	983.5	909.0	886.6
37.5°	979.8	970.4	907.1	847.5	819.6
40°	918.3	907.1	838.2	784.2	754.4
42.5°	860.5	845.6	778.6	720.8	687.3
45°	799.1	782.3	715.3	655.7	629.6
47.5°	737.6	722.7	661.2	599.8	570.0
50°	672.4	659.4	603.5	542.0	510.4
52.5°	618.4	597.9	543.9	482.4	456.3
55°	555.1	538.3	488.0	430.3	407.9
57.5°	497.3	480.6	434.0	380.0	361.4
60°	443.3	419.1	380.0	333.4	318.5
62.5°	383.7	365.1	331.6	292.4	311.1
65°	329.7	311.1	281.3	286.8	238.4
67.5°	270.1	260.8	234.7	208.6	201.2
70°	219.8	208.6	199.3	171.4	163.9
72.5°	175.1	163.9	150.9	136.0	130.4
75°	132.2	122.9	115.5	109.9	121.1
77.5°	91.3	87.5	82.0	76.4	74.5
80°	59.6	57.7	55.9	54.0	52.2
82.5°	35.4	35.4	35.4	35.4	35.4
85°	18.6	20.5	22.4	24.2	26.1
87.5°	11.2	11.2	13.0	14.9	16.8
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)