

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: P546598

Luminaire Tested: **FMR-24-4-LD4-1STD-35-UNV-81-97-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: P546598
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-81-97-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

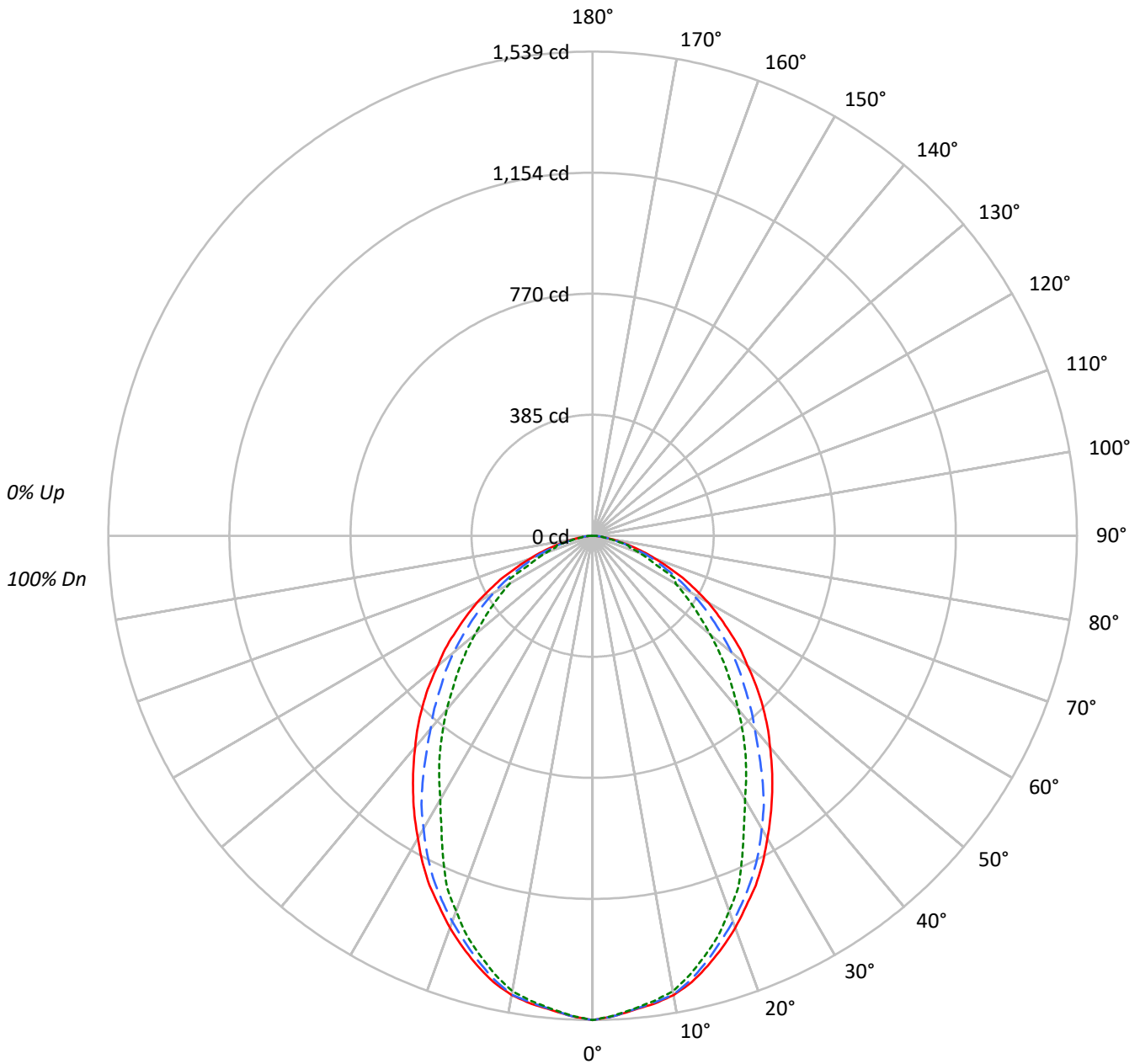
Lumens per Lamp: N/A
Luminaire Lumens: 3022.0 lumens
Efficiency: N/A
Efficacy: 90.8 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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°	2071	2071	2071
5°	2043	2041	2038
10°	2025	2023	2008
15°	1971	1951	1924
20°	1898	1868	1817
25°	1820	1781	1670
30°	1725	1670	1504
35°	1634	1543	1391
40°	1541	1407	1266
45°	1453	1300	1145
50°	1345	1207	1021
55°	1244	1094	914
60°	1140	977	819
65°	1003	855	725
70°	826	749	616
75°	657	573	601
80°	441	414	386
85°	275	330	384



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	143.3	4.7
10°-20°	393.3	13.0
20°-30°	544.4	18.0
30°-40°	580.5	19.2
40°-50°	529.6	17.5
50°-60°	414.9	13.7
60°-70°	270.4	8.9
70°-80°	119.8	4.0
80°-90°	25.7	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°	1081.0	35.8
0°-40°	1661.5	55.0
0°-60°	2606.0	86.2
0°-90°	3022.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3022.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1539	1539	1539	1539	1539	
5°	1513	1511	1511	1509	1509	144
15°	1415	1415	1401	1386	1381	398
25°	1226	1219	1200	1157	1125	563
35°	995	988	940	868	847	622
45°	764	747	683	626	602	588
55°	530	514	466	411	390	476
65°	315	297	269	274	228	310
75°	126	118	110	105	116	135
85°	18	20	21	23	25	25
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1539.4	1539.4	1539.4	1539.4	1539.4
2.5°	1528.7	1528.7	1528.7	1526.9	1526.9
5°	1512.7	1510.9	1510.9	1509.1	1509.1
7.5°	1500.2	1498.4	1496.7	1494.9	1491.3
10°	1482.4	1482.4	1480.6	1471.7	1470.0
12.5°	1453.9	1452.2	1445.0	1432.6	1429.0
15°	1414.8	1414.8	1400.6	1386.3	1381.0
17.5°	1372.1	1370.3	1352.5	1338.3	1331.2
20°	1325.8	1322.3	1304.5	1281.3	1268.9
22.5°	1274.2	1274.2	1252.8	1222.6	1210.1
25°	1226.2	1219.0	1199.5	1156.7	1124.7
27.5°	1171.0	1160.3	1139.0	1078.4	1041.1
30°	1110.5	1105.1	1074.9	996.6	968.1
32.5°	1053.5	1044.6	1012.6	930.7	907.6
35°	994.8	987.7	939.6	868.5	847.1
37.5°	936.1	927.2	866.7	809.7	783.0
40°	877.3	866.7	800.8	749.2	720.7
42.5°	822.2	807.9	743.9	688.7	656.7
45°	763.5	747.4	683.4	626.4	601.5
47.5°	704.7	690.5	631.8	573.0	544.6
50°	642.4	630.0	576.6	517.9	487.6
52.5°	590.8	571.3	519.6	460.9	436.0
55°	530.3	514.3	466.3	411.1	389.7
57.5°	475.2	459.1	414.7	363.0	345.2
60°	423.5	400.4	363.0	318.6	304.3
62.5°	366.6	348.8	316.8	279.4	297.2
65°	315.0	297.2	268.7	274.1	227.8
67.5°	258.0	249.1	224.2	199.3	192.2
70°	210.0	199.3	190.4	163.7	156.6
72.5°	167.3	156.6	144.1	129.9	124.6
75°	126.4	117.5	110.3	105.0	115.7
77.5°	87.2	83.6	78.3	73.0	71.2
80°	56.9	55.2	53.4	51.6	49.8
82.5°	33.8	33.8	33.8	33.8	33.8
85°	17.8	19.6	21.4	23.1	24.9
87.5°	10.7	10.7	12.5	14.2	16.0
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)