

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: P546600

Luminaire Tested: **FMR-24-4-LD4-1STD-35-UNV-82-85-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: P546600
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-82-85-EDD
Description: 2X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

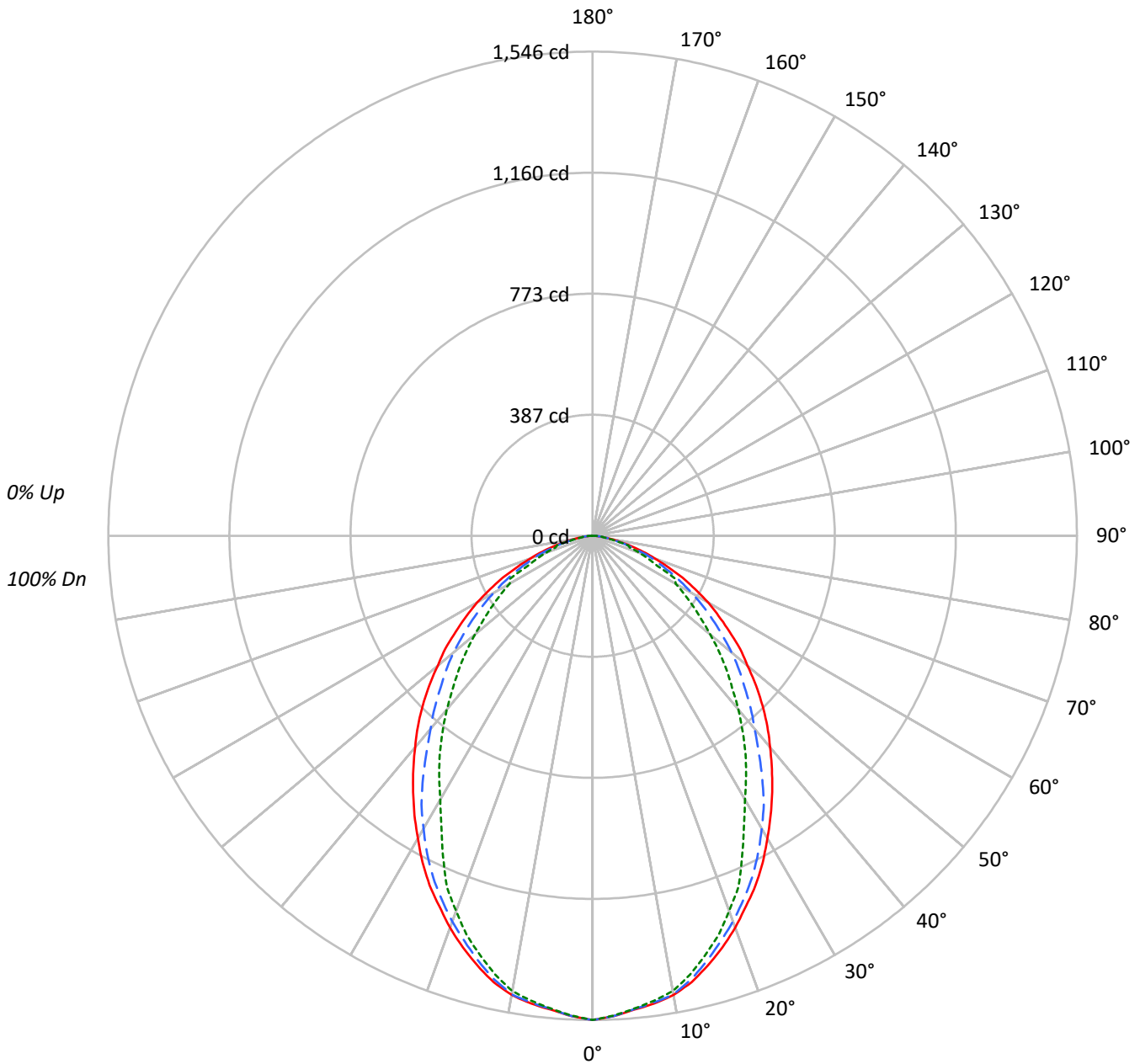
Lumens per Lamp: N/A
Luminaire Lumens: 3035.0 lumens
Efficiency: N/A
Efficacy: 91.1 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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°	2080	2080	2080
5°	2052	2049	2047
10°	2034	2032	2017
15°	1979	1959	1932
20°	1906	1876	1825
25°	1828	1788	1677
30°	1733	1677	1511
35°	1641	1550	1397
40°	1548	1413	1271
45°	1459	1306	1149
50°	1351	1212	1025
55°	1249	1099	918
60°	1145	981	822
65°	1007	859	728
70°	830	752	619
75°	660	576	604
80°	443	415	387
85°	276	330	386



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	143.9	4.7
10°-20°	395.0	13.0
20°-30°	546.8	18.0
30°-40°	583.0	19.2
40°-50°	531.9	17.5
50°-60°	416.7	13.7
60°-70°	271.6	8.9
70°-80°	120.3	4.0
80°-90°	25.8	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°	1085.6	35.8
0°-40°	1668.7	55.0
0°-60°	2617.3	86.2
0°-90°	3035.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3035.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1546	1546	1546	1546	1546	
5°	1519	1517	1517	1516	1516	144
15°	1421	1421	1407	1392	1387	399
25°	1231	1224	1205	1162	1130	565
35°	999	992	944	872	851	625
45°	767	751	686	629	604	591
55°	533	516	468	413	391	478
65°	316	298	270	275	229	312
75°	127	118	111	105	116	136
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°	1546.0	1546.0	1546.0	1546.0	1546.0
2.5°	1535.3	1535.3	1535.3	1533.5	1533.5
5°	1519.2	1517.4	1517.4	1515.6	1515.6
7.5°	1506.7	1504.9	1503.1	1501.3	1497.7
10°	1488.8	1488.8	1487.0	1478.1	1476.3
12.5°	1460.2	1458.4	1451.3	1438.8	1435.2
15°	1420.9	1420.9	1406.6	1392.3	1386.9
17.5°	1378.0	1376.2	1358.3	1344.0	1336.9
20°	1331.5	1327.9	1310.1	1286.8	1274.3
22.5°	1279.7	1279.7	1258.2	1227.9	1215.3
25°	1231.4	1224.3	1204.6	1161.7	1129.6
27.5°	1176.0	1165.3	1143.9	1083.1	1045.6
30°	1115.3	1109.9	1079.5	1000.9	972.3
32.5°	1058.1	1049.1	1017.0	934.7	911.5
35°	999.1	991.9	943.7	872.2	850.7
37.5°	940.1	931.2	870.4	813.2	786.4
40°	881.1	870.4	804.3	752.4	723.8
42.5°	825.7	811.4	747.1	691.7	659.5
45°	766.7	750.7	686.3	629.1	604.1
47.5°	707.8	693.5	634.5	575.5	546.9
50°	645.2	632.7	579.1	520.1	489.7
52.5°	593.4	573.7	521.9	462.9	437.9
55°	532.6	516.5	468.3	412.9	391.4
57.5°	477.2	461.1	416.4	364.6	346.7
60°	425.4	402.1	364.6	319.9	305.6
62.5°	368.2	350.3	318.1	280.6	298.5
65°	316.3	298.5	269.9	275.2	228.8
67.5°	259.2	250.2	225.2	200.2	193.0
70°	210.9	200.2	191.2	164.4	157.3
72.5°	168.0	157.3	144.8	130.5	125.1
75°	126.9	118.0	110.8	105.4	116.2
77.5°	87.6	84.0	78.6	73.3	71.5
80°	57.2	55.4	53.6	51.8	50.0
82.5°	34.0	34.0	34.0	34.0	34.0
85°	17.9	19.7	21.4	23.2	25.0
87.5°	10.7	10.7	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)