

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: P546594

Luminaire Tested: **FMR-24-4-LD4-1STD-35-UNV-81-87-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: P546594
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-81-87-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

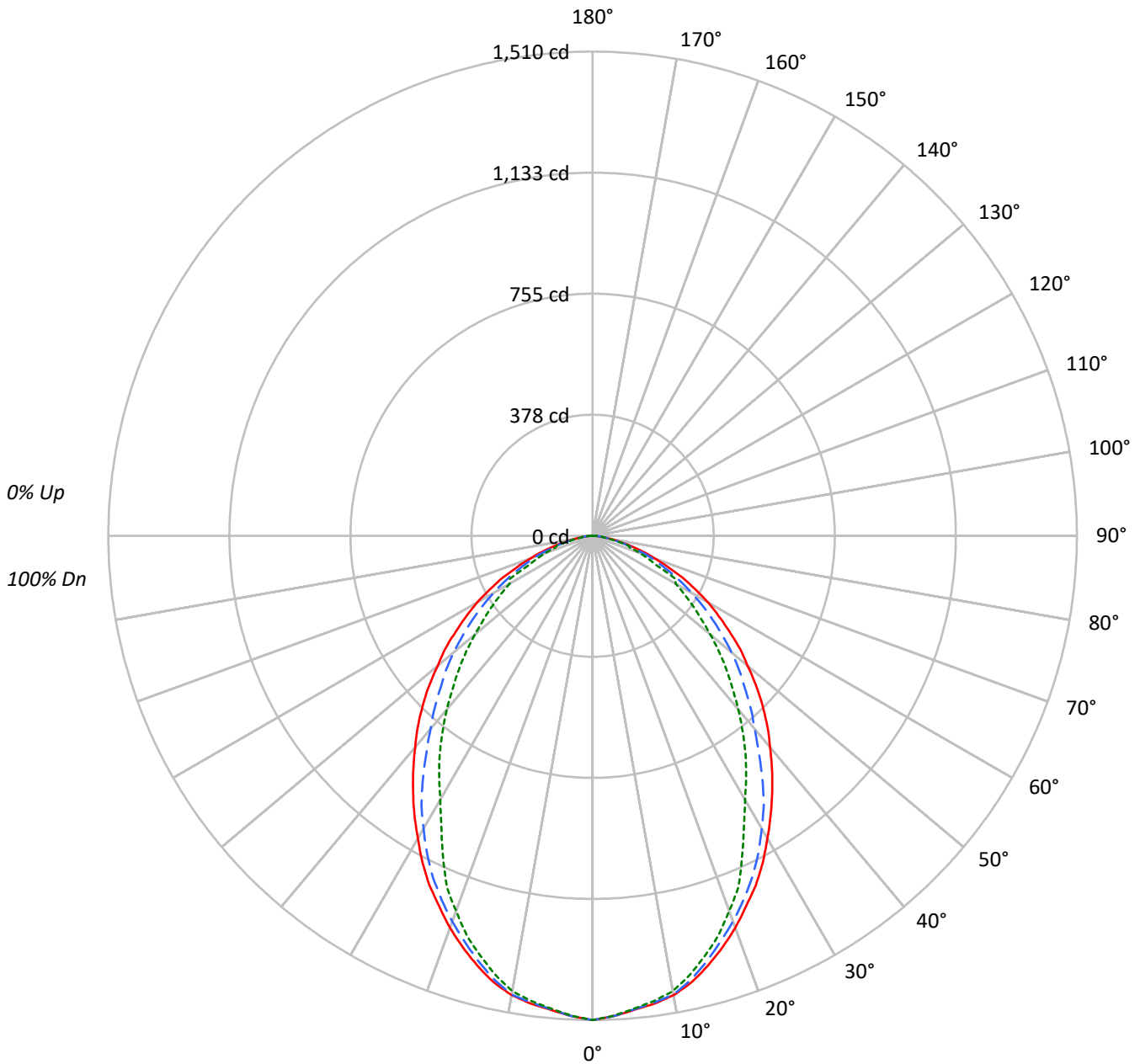
Lumens per Lamp: N/A
Luminaire Lumens: 2965.0 lumens
Efficiency: N/A
Efficacy: 89.0 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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									
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°	2032	2032	2032
5°	2004	2002	2000
10°	1987	1985	1970
15°	1934	1914	1887
20°	1863	1833	1782
25°	1786	1747	1638
30°	1693	1638	1476
35°	1603	1514	1365
40°	1512	1380	1242
45°	1425	1276	1123
50°	1319	1184	1001
55°	1221	1073	897
60°	1118	959	804
65°	984	840	712
70°	810	735	605
75°	645	563	590
80°	433	406	379
85°	270	324	377



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	140.6	4.7
10°-20°	385.8	13.0
20°-30°	534.2	18.0
30°-40°	569.6	19.2
40°-50°	519.6	17.5
50°-60°	407.1	13.7
60°-70°	265.3	8.9
70°-80°	117.5	4.0
80°-90°	25.2	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°	1060.6	35.8
0°-40°	1630.2	55.0
0°-60°	2556.9	86.2
0°-90°	2965.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2965.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1510	1510	1510	1510	1510	
5°	1484	1482	1482	1481	1481	141
15°	1388	1388	1374	1360	1355	390
25°	1203	1196	1177	1135	1104	552
35°	976	969	922	852	831	610
45°	749	733	670	615	590	577
55°	520	505	458	403	382	467
65°	309	292	264	269	224	305
75°	124	115	108	103	114	133
85°	18	19	21	23	24	24
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1510.3	1510.3	1510.3	1510.3	1510.3
2.5°	1499.9	1499.9	1499.9	1498.1	1498.1
5°	1484.1	1482.4	1482.4	1480.6	1480.6
7.5°	1471.9	1470.2	1468.4	1466.7	1463.2
10°	1454.5	1454.5	1452.7	1444.0	1442.2
12.5°	1426.5	1424.8	1417.8	1405.6	1402.1
15°	1388.1	1388.1	1374.1	1360.2	1354.9
17.5°	1346.2	1344.5	1327.0	1313.0	1306.0
20°	1300.8	1297.3	1279.9	1257.2	1244.9
22.5°	1250.2	1250.2	1229.2	1199.5	1187.3
25°	1203.0	1196.0	1176.8	1134.9	1103.5
27.5°	1148.9	1138.4	1117.5	1058.1	1021.4
30°	1089.5	1084.3	1054.6	977.8	949.9
32.5°	1033.7	1024.9	993.5	913.2	890.5
35°	976.0	969.1	921.9	852.1	831.1
37.5°	918.4	909.7	850.3	794.5	768.3
40°	860.8	850.3	785.7	735.1	707.1
42.5°	806.7	792.7	729.8	675.7	644.3
45°	749.1	733.3	670.5	614.6	590.2
47.5°	691.4	677.5	619.8	562.2	534.3
50°	630.3	618.1	565.7	508.1	478.4
52.5°	579.7	560.5	509.8	452.2	427.8
55°	520.3	504.6	457.5	403.3	382.4
57.5°	466.2	450.5	406.8	356.2	338.7
60°	415.6	392.9	356.2	312.5	298.6
62.5°	359.7	342.2	310.8	274.1	291.6
65°	309.1	291.6	263.7	268.9	223.5
67.5°	253.2	244.4	220.0	195.6	188.6
70°	206.0	195.6	186.8	160.6	153.7
72.5°	164.1	153.7	141.4	127.5	122.2
75°	124.0	115.2	108.3	103.0	113.5
77.5°	85.6	82.1	76.8	71.6	69.8
80°	55.9	54.1	52.4	50.6	48.9
82.5°	33.2	33.2	33.2	33.2	33.2
85°	17.5	19.2	21.0	22.7	24.4
87.5°	10.5	10.5	12.2	14.0	15.7
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)