

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: P546010

Luminaire Tested: **FMR-12-4-LD4-1STD-35-UNV-80-87-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: P546010
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-12-4-LD4-1STD-35-UNV-80-87-EDD
Description: 1X4 FMR TROFFER WITH .125 PRISMATIC ACRYLIC 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

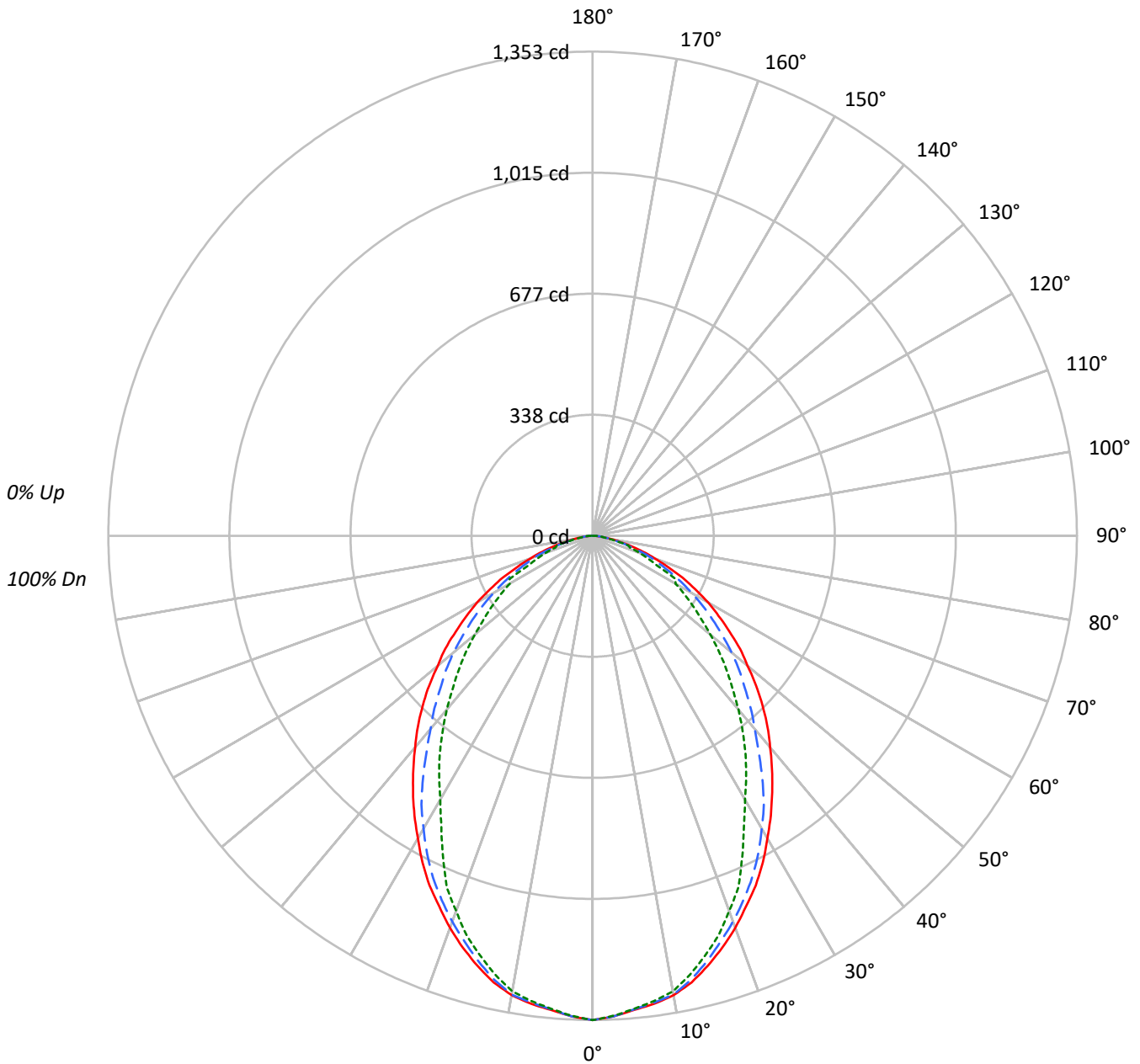
Lumens per Lamp: N/A
Luminaire Lumens: 2657.0 lumens
Efficiency: N/A
Efficacy: 79.8 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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°	3642	3642	3642
5°	3593	3588	3584
10°	3562	3557	3531
15°	3465	3431	3383
20°	3338	3284	3195
25°	3201	3131	2936
30°	3034	2937	2645
35°	2873	2714	2447
40°	2710	2473	2226
45°	2554	2286	2013
50°	2364	2123	1795
55°	2188	1923	1608
60°	2004	1718	1440
65°	1763	1505	1275
70°	1452	1317	1083
75°	1155	1009	1057
80°	776	727	679
85°	482	580	676



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	126.0	4.7
10°-20°	345.8	13.0
20°-30°	478.7	18.0
30°-40°	510.4	19.2
40°-50°	465.7	17.5
50°-60°	364.8	13.7
60°-70°	237.8	8.9
70°-80°	105.3	4.0
80°-90°	22.6	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°	950.4	35.8
0°-40°	1460.9	55.0
0°-60°	2291.3	86.2
0°-90°	2657.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2657.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1353	1353	1353	1353	1353	
5°	1330	1328	1328	1327	1327	126
15°	1244	1244	1231	1219	1214	350
25°	1078	1072	1055	1017	989	495
35°	875	868	826	764	745	547
45°	671	657	601	551	529	517
55°	466	452	410	361	343	418
65°	277	261	236	241	200	273
75°	111	103	97	92	102	119
85°	16	17	19	20	22	22
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1353.4	1353.4	1353.4	1353.4	1353.4
2.5°	1344.1	1344.1	1344.1	1342.5	1342.5
5°	1330.0	1328.4	1328.4	1326.8	1326.8
7.5°	1319.0	1317.5	1315.9	1314.3	1311.2
10°	1303.4	1303.4	1301.8	1294.0	1292.4
12.5°	1278.3	1276.8	1270.5	1259.6	1256.4
15°	1243.9	1243.9	1231.4	1218.9	1214.2
17.5°	1206.4	1204.8	1189.1	1176.6	1170.4
20°	1165.7	1162.6	1146.9	1126.6	1115.6
22.5°	1120.3	1120.3	1101.5	1074.9	1064.0
25°	1078.1	1071.8	1054.6	1017.0	988.9
27.5°	1029.6	1020.2	1001.4	948.2	915.3
30°	976.4	971.7	945.1	876.2	851.2
32.5°	926.3	918.5	890.3	818.3	798.0
35°	874.7	868.4	826.1	763.6	744.8
37.5°	823.0	815.2	762.0	711.9	688.5
40°	771.4	762.0	704.1	658.7	633.7
42.5°	722.9	710.4	654.0	605.5	577.4
45°	671.2	657.2	600.8	550.8	528.9
47.5°	619.6	607.1	555.5	503.8	478.8
50°	564.8	553.9	507.0	455.3	428.7
52.5°	519.5	502.3	456.9	405.2	383.3
55°	466.3	452.2	409.9	361.4	342.7
57.5°	417.8	403.7	364.6	319.2	303.5
60°	372.4	352.1	319.2	280.1	267.6
62.5°	322.3	306.7	278.5	245.7	261.3
65°	276.9	261.3	236.3	241.0	200.3
67.5°	226.9	219.1	197.1	175.2	169.0
70°	184.6	175.2	167.4	143.9	137.7
72.5°	147.1	137.7	126.7	114.2	109.5
75°	111.1	103.3	97.0	92.3	101.7
77.5°	76.7	73.5	68.8	64.2	62.6
80°	50.1	48.5	46.9	45.4	43.8
82.5°	29.7	29.7	29.7	29.7	29.7
85°	15.6	17.2	18.8	20.3	21.9
87.5°	9.4	9.4	11.0	12.5	14.1
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)