

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: P546026

Luminaire Tested: **FMR-12-4-LD4-1STD-35-UNV-82-87-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: P546026
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-82-87-EDD
Description: 1X4 FMR TROFFER WITH .187 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

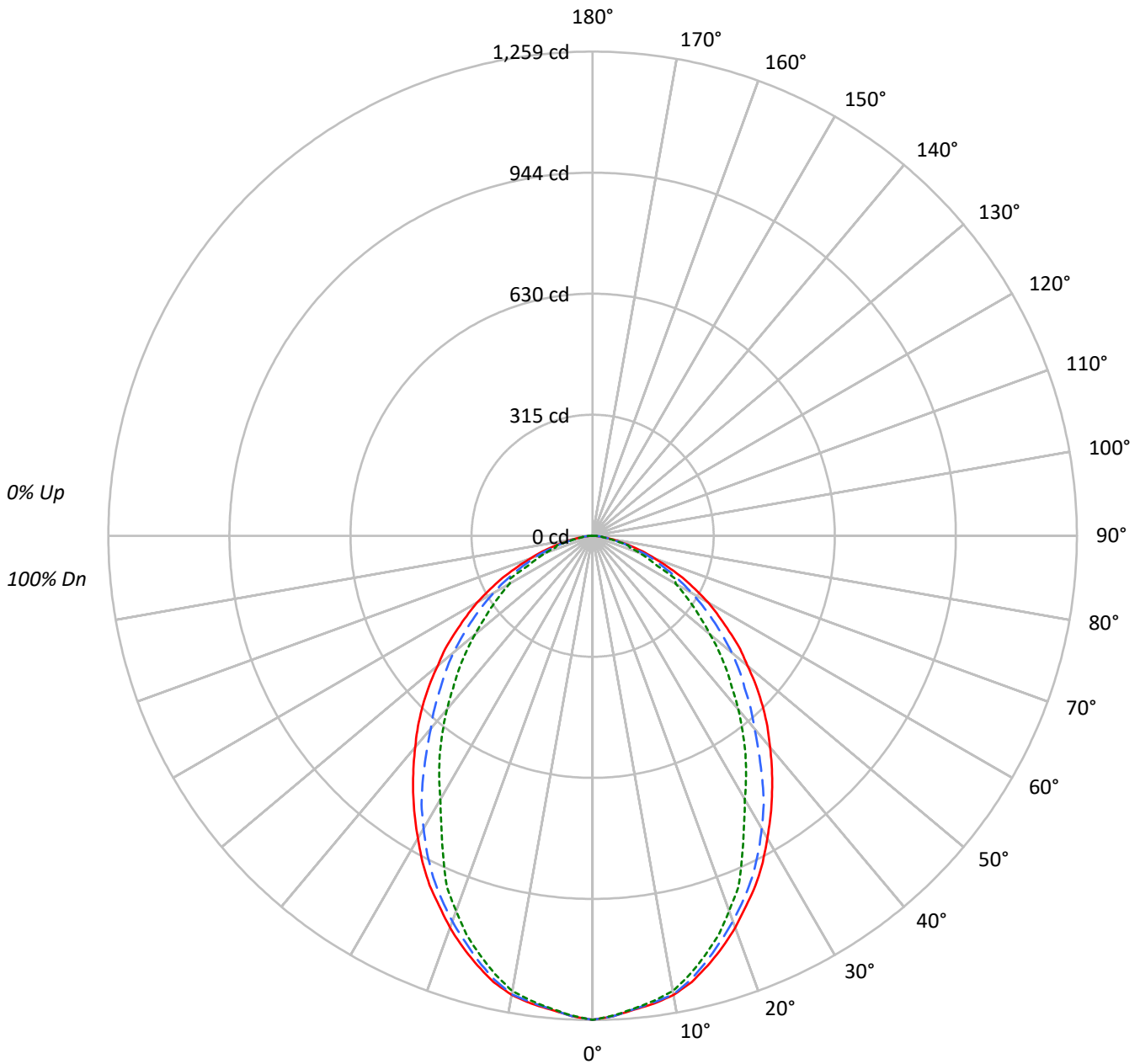
Lumens per Lamp: N/A
Luminaire Lumens: 2471.0 lumens
Efficiency: N/A
Efficacy: 74.2 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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°	3387	3387	3387
5°	3341	3337	3333
10°	3312	3308	3284
15°	3223	3190	3146
20°	3105	3054	2971
25°	2977	2912	2730
30°	2821	2731	2460
35°	2672	2524	2275
40°	2520	2300	2070
45°	2376	2127	1872
50°	2199	1974	1669
55°	2034	1788	1495
60°	1864	1597	1339
65°	1640	1399	1186
70°	1351	1225	1008
75°	1074	938	984
80°	722	677	631
85°	451	540	630



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	117.2	4.7
10°-20°	321.6	13.0
20°-30°	445.2	18.0
30°-40°	474.7	19.2
40°-50°	433.1	17.5
50°-60°	339.2	13.7
60°-70°	221.1	8.9
70°-80°	98.0	4.0
80°-90°	21.0	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°	883.9	35.8
0°-40°	1358.6	55.0
0°-60°	2130.9	86.2
0°-90°	2471.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2471.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1259	1259	1259	1259	1259	
5°	1237	1235	1235	1234	1234	117
15°	1157	1157	1145	1134	1129	325
25°	1003	997	981	946	920	460
35°	813	808	768	710	693	509
45°	624	611	559	512	492	481
55°	434	420	381	336	319	389
65°	258	243	220	224	186	254
75°	103	96	90	86	95	111
85°	15	16	18	19	20	20
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1258.7	1258.7	1258.7	1258.7	1258.7
2.5°	1250.0	1250.0	1250.0	1248.5	1248.5
5°	1236.9	1235.4	1235.4	1234.0	1234.0
7.5°	1226.7	1225.2	1223.8	1222.3	1219.4
10°	1212.1	1212.1	1210.7	1203.4	1201.9
12.5°	1188.8	1187.4	1181.6	1171.4	1168.5
15°	1156.8	1156.8	1145.2	1133.6	1129.2
17.5°	1121.9	1120.5	1105.9	1094.3	1088.4
20°	1084.1	1081.2	1066.6	1047.7	1037.5
22.5°	1041.9	1041.9	1024.4	999.7	989.5
25°	1002.6	996.8	980.8	945.8	919.6
27.5°	957.5	948.7	931.3	881.8	851.3
30°	908.0	903.6	878.9	814.9	791.6
32.5°	861.4	854.2	828.0	761.0	742.1
35°	813.4	807.6	768.3	710.1	692.6
37.5°	765.4	758.1	708.7	662.1	640.3
40°	717.4	708.7	654.8	612.6	589.3
42.5°	672.3	660.6	608.2	563.1	536.9
45°	624.3	611.2	558.8	512.2	491.8
47.5°	576.2	564.6	516.6	468.6	445.3
50°	525.3	515.1	471.5	423.4	398.7
52.5°	483.1	467.1	424.9	376.9	356.5
55°	433.6	420.5	381.2	336.1	318.7
57.5°	388.5	375.4	339.0	296.8	282.3
60°	346.3	327.4	296.8	260.5	248.8
62.5°	299.8	285.2	259.0	228.5	243.0
65°	257.6	243.0	219.7	224.1	186.3
67.5°	211.0	203.7	183.3	163.0	157.2
70°	171.7	163.0	155.7	133.9	128.1
72.5°	136.8	128.1	117.9	106.2	101.9
75°	103.3	96.0	90.2	85.9	94.6
77.5°	71.3	68.4	64.0	59.7	58.2
80°	46.6	45.1	43.7	42.2	40.7
82.5°	27.6	27.6	27.6	27.6	27.6
85°	14.6	16.0	17.5	18.9	20.4
87.5°	8.7	8.7	10.2	11.6	13.1
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)