

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: P546063

Luminaire Tested: **FMR-12-4-LD4-1STD-40-UNV-93-84-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: P546063
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-40-UNV-93-84-EDD
Description: 1X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

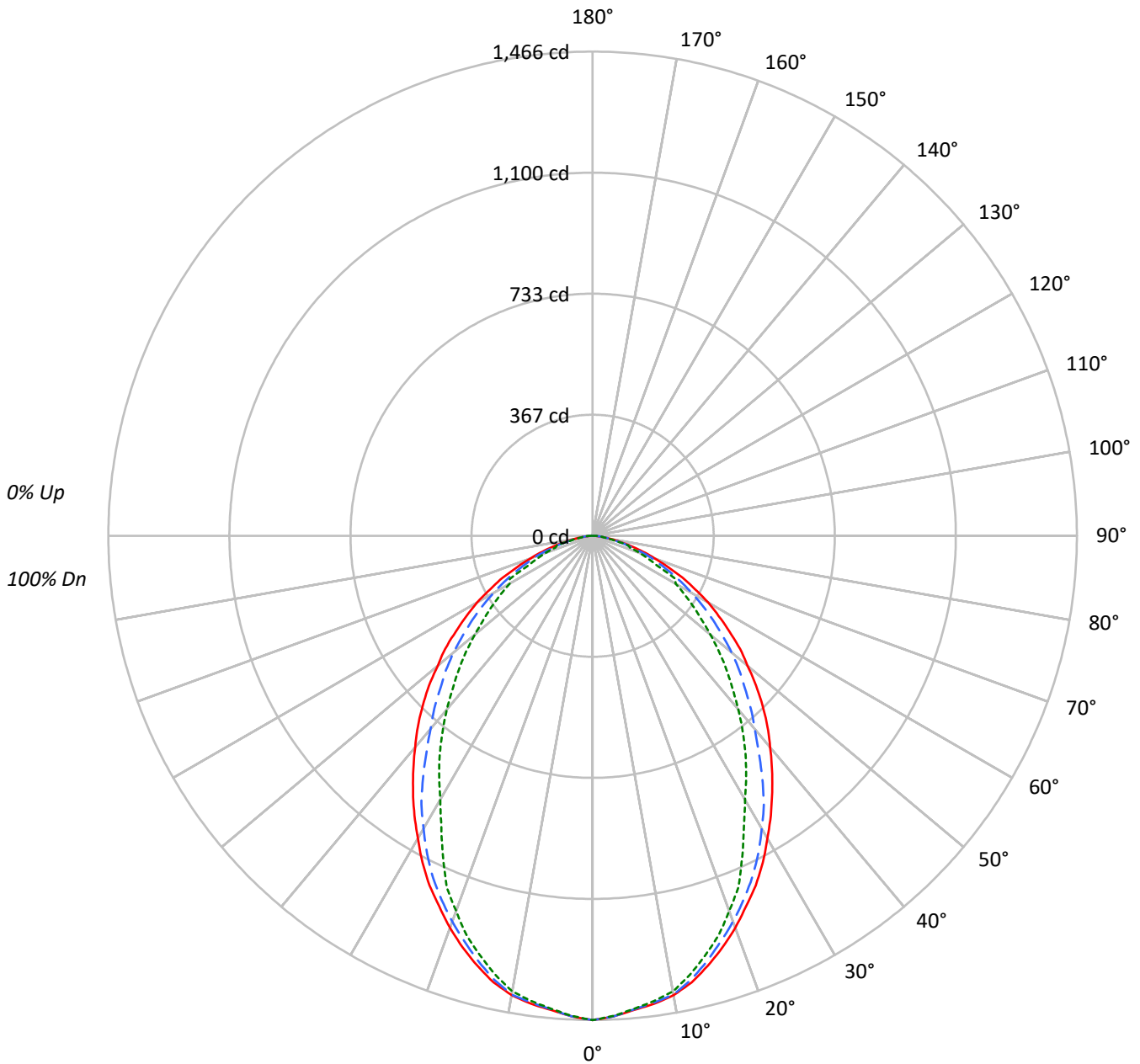
Lumens per Lamp: N/A
Luminaire Lumens: 2879.0 lumens
Efficiency: N/A
Efficacy: 86.5 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

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°	3946	3946	3946
5°	3893	3888	3884
10°	3859	3854	3827
15°	3755	3717	3665
20°	3617	3559	3462
25°	3468	3393	3181
30°	3287	3182	2866
35°	3113	2941	2651
40°	2936	2680	2412
45°	2768	2477	2181
50°	2562	2300	1945
55°	2370	2084	1742
60°	2172	1862	1560
65°	1911	1630	1382
70°	1574	1427	1174
75°	1252	1093	1146
80°	841	789	736
85°	525	627	732



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	136.5	4.7
10°-20°	374.6	13.0
20°-30°	518.7	18.0
30°-40°	553.1	19.2
40°-50°	504.6	17.5
50°-60°	395.3	13.7
60°-70°	257.6	8.9
70°-80°	114.1	4.0
80°-90°	24.5	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°	1029.8	35.8
0°-40°	1582.9	55.0
0°-60°	2482.7	86.2
0°-90°	2879.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2879.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1466	1466	1466	1466	1466	
5°	1441	1439	1439	1438	1438	137
15°	1348	1348	1334	1321	1316	379
25°	1168	1161	1143	1102	1072	536
35°	948	941	895	827	807	592
45°	727	712	651	597	573	560
55°	505	490	444	392	371	453
65°	300	283	256	261	217	296
75°	120	112	105	100	110	129
85°	17	19	20	22	24	24
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1466.5	1466.5	1466.5	1466.5	1466.5
2.5°	1456.4	1456.4	1456.4	1454.7	1454.7
5°	1441.1	1439.4	1439.4	1437.7	1437.7
7.5°	1429.2	1427.5	1425.8	1424.1	1420.7
10°	1412.3	1412.3	1410.6	1402.1	1400.4
12.5°	1385.1	1383.4	1376.7	1364.8	1361.4
15°	1347.8	1347.8	1334.3	1320.7	1315.6
17.5°	1307.2	1305.5	1288.5	1274.9	1268.2
20°	1263.1	1259.7	1242.7	1220.7	1208.8
22.5°	1213.9	1213.9	1193.6	1164.7	1152.9
25°	1168.1	1161.4	1142.7	1102.0	1071.5
27.5°	1115.6	1105.4	1085.1	1027.4	991.8
30°	1057.9	1052.8	1024.0	949.4	922.3
32.5°	1003.7	995.2	964.7	886.7	864.7
35°	947.7	940.9	895.2	827.4	807.0
37.5°	891.8	883.3	825.7	771.4	746.0
40°	835.8	825.7	762.9	713.8	686.6
42.5°	783.3	769.7	708.7	656.1	625.6
45°	727.3	712.1	651.0	596.8	573.0
47.5°	671.4	657.8	601.9	545.9	518.8
50°	612.0	600.2	549.3	493.4	464.5
52.5°	562.9	544.2	495.1	439.1	415.4
55°	505.2	490.0	444.2	391.6	371.3
57.5°	452.7	437.4	395.0	345.9	328.9
60°	403.5	381.5	345.9	303.5	289.9
62.5°	349.3	332.3	301.8	266.2	283.1
65°	300.1	283.1	256.0	261.1	217.0
67.5°	245.8	237.4	213.6	189.9	183.1
70°	200.1	189.9	181.4	156.0	149.2
72.5°	159.4	149.2	137.3	123.8	118.7
75°	120.4	111.9	105.1	100.0	110.2
77.5°	83.1	79.7	74.6	69.5	67.8
80°	54.3	52.6	50.9	49.2	47.5
82.5°	32.2	32.2	32.2	32.2	32.2
85°	17.0	18.6	20.3	22.0	23.7
87.5°	10.2	10.2	11.9	13.6	15.3
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)