

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: P546252

Luminaire Tested: **FMR-12-4-LD4-2LO-40-UNV-82-94-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: P546252
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-LD4-2LO-40-UNV-82-94-EDD
Description: 1X4 FMR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

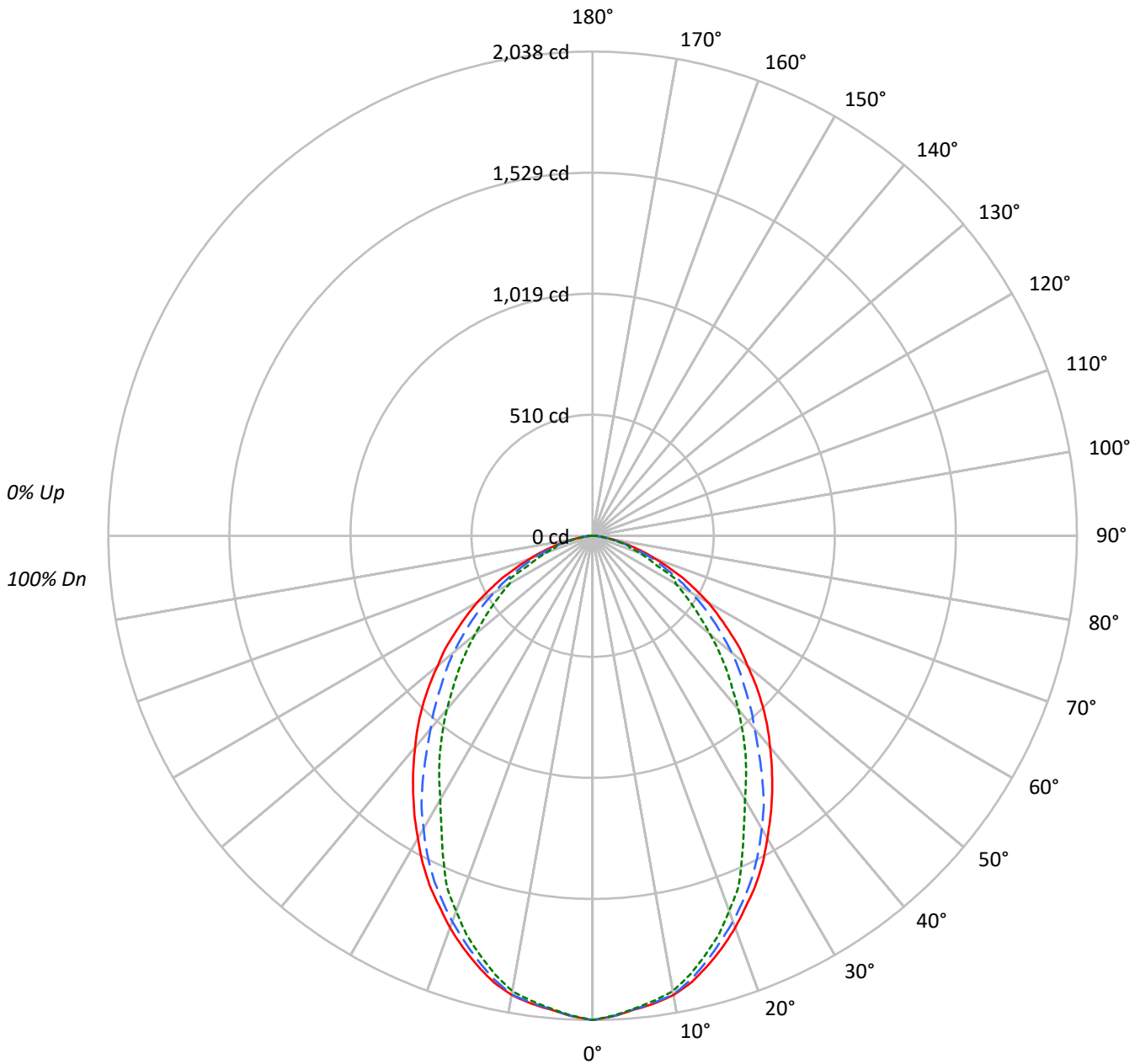
Lumens per Lamp: N/A
Luminaire Lumens: 4001.0 lumens
Efficiency: N/A
Efficacy: 85.5 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 46.8
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°	5484	5484	5484
5°	5410	5404	5397
10°	5363	5357	5318
15°	5218	5166	5094
20°	5027	4946	4811
25°	4820	4715	4421
30°	4568	4422	3983
35°	4327	4087	3684
40°	4080	3725	3352
45°	3847	3443	3031
50°	3561	3196	2703
55°	3294	2896	2421
60°	3018	2587	2168
65°	2655	2266	1920
70°	2187	1983	1631
75°	1739	1519	1592
80°	1168	1096	1023
85°	729	874	1019



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	189.7	4.7
10°-20°	520.7	13.0
20°-30°	720.8	18.0
30°-40°	768.6	19.2
40°-50°	701.2	17.5
50°-60°	549.3	13.7
60°-70°	358.0	8.9
70°-80°	158.6	4.0
80°-90°	34.1	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°	1431.2	35.8
0°-40°	2199.8	55.0
0°-60°	3450.3	86.2
0°-90°	4001.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4001.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2038	2038	2038	2038	2038	
5°	2003	2000	2000	1998	1998	190
15°	1873	1873	1854	1835	1828	527
25°	1623	1614	1588	1532	1489	745
35°	1317	1308	1244	1150	1122	823
45°	1011	990	905	829	796	779
55°	702	681	617	544	516	630
65°	417	394	356	363	302	411
75°	167	156	146	139	153	179
85°	24	26	28	31	33	33
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2038.1	2038.1	2038.1	2038.1	2038.1
2.5°	2023.9	2023.9	2023.9	2021.6	2021.6
5°	2002.7	2000.4	2000.4	1998.0	1998.0
7.5°	1986.2	1983.9	1981.5	1979.2	1974.4
10°	1962.7	1962.7	1960.3	1948.5	1946.2
12.5°	1925.0	1922.6	1913.2	1896.7	1892.0
15°	1873.1	1873.1	1854.3	1835.4	1828.4
17.5°	1816.6	1814.2	1790.7	1771.8	1762.4
20°	1755.3	1750.6	1727.0	1696.4	1679.9
22.5°	1687.0	1687.0	1658.7	1618.7	1602.2
25°	1623.4	1614.0	1588.0	1531.5	1489.1
27.5°	1550.3	1536.2	1507.9	1427.8	1378.3
30°	1470.2	1463.2	1423.1	1319.4	1281.7
32.5°	1394.8	1383.1	1340.6	1232.3	1201.6
35°	1317.1	1307.7	1244.0	1149.8	1121.5
37.5°	1239.3	1227.5	1147.4	1072.0	1036.7
40°	1161.6	1147.4	1060.3	991.9	954.2
42.5°	1088.5	1069.7	984.9	911.8	869.4
45°	1010.8	989.6	904.8	829.4	796.4
47.5°	933.0	914.2	836.4	758.7	721.0
50°	850.6	834.1	763.4	685.6	645.6
52.5°	782.2	756.3	688.0	610.2	577.3
55°	702.1	680.9	617.3	544.3	516.0
57.5°	629.1	607.9	549.0	480.7	457.1
60°	560.8	530.1	480.7	421.7	402.9
62.5°	485.4	461.8	419.4	369.9	393.5
65°	417.0	393.5	355.8	362.8	301.6
67.5°	341.6	329.9	296.9	263.9	254.5
70°	278.0	263.9	252.1	216.8	207.3
72.5°	221.5	207.3	190.8	172.0	164.9
75°	167.3	155.5	146.1	139.0	153.1
77.5°	115.5	110.7	103.7	96.6	94.2
80°	75.4	73.0	70.7	68.3	66.0
82.5°	44.8	44.8	44.8	44.8	44.8
85°	23.6	25.9	28.3	30.6	33.0
87.5°	14.1	14.1	16.5	18.8	21.2
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)