

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: P546080

Luminaire Tested: **FMR-12-4-LD4-1STD-50-UNV-81-85-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: P546080
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-50-UNV-81-85-EDD
Description: 1X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

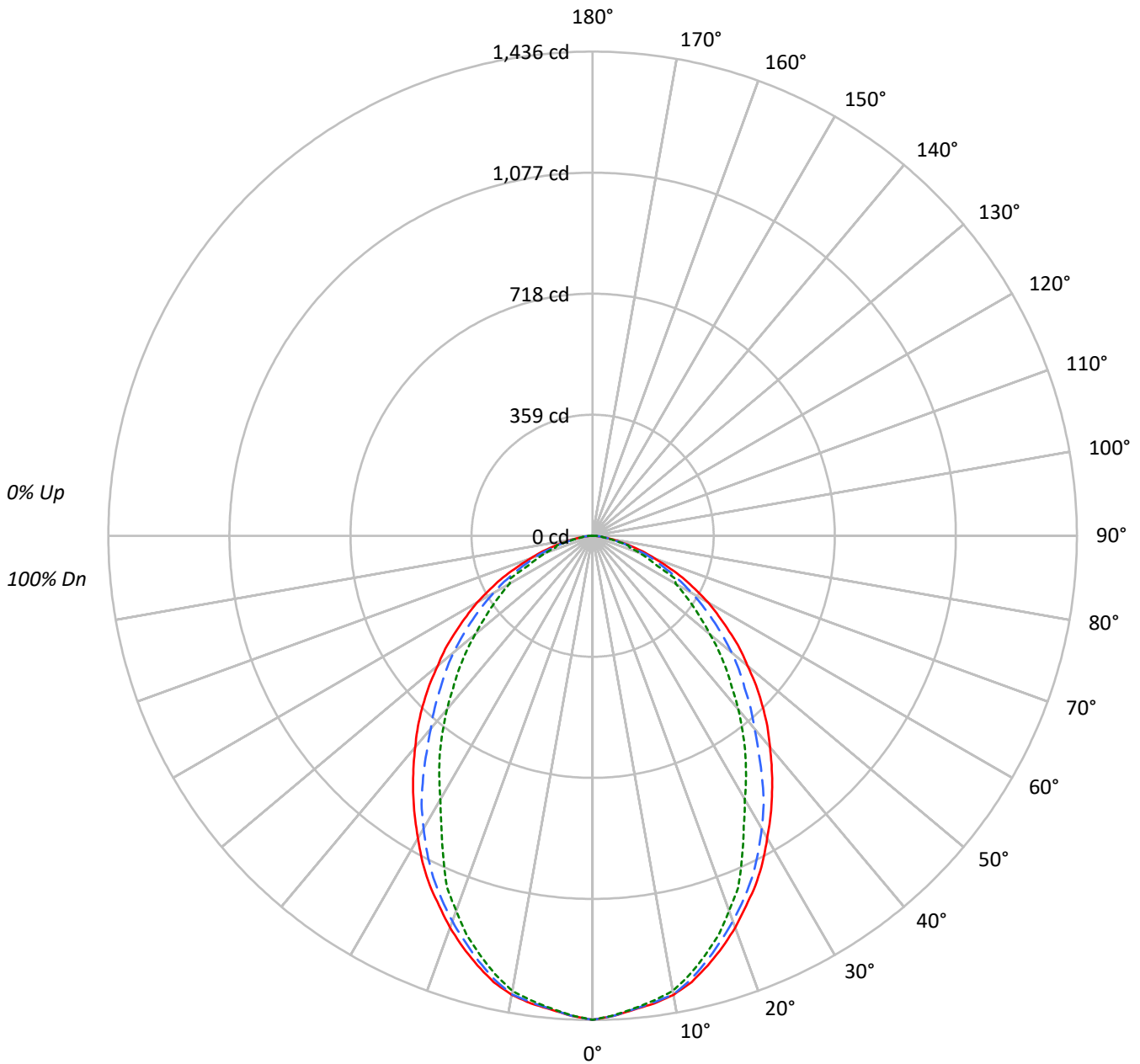
Lumens per Lamp: N/A
Luminaire Lumens: 2818.0 lumens
Efficiency: N/A
Efficacy: 84.6 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 33.3
Input Voltage (V): NR
Input Current (A_{in}): 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				20				20	
RC	80				70				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				100
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87				87
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75				75
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65				65
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56				56
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50				50
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44				44
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40				40
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36				36
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33				33
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30				30

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	3863	3863	3863
5°	3810	3806	3801
10°	3777	3773	3745
15°	3675	3638	3588
20°	3540	3483	3388
25°	3395	3321	3114
30°	3218	3114	2805
35°	3048	2878	2595
40°	2874	2623	2361
45°	2709	2425	2135
50°	2508	2251	1904
55°	2320	2040	1705
60°	2126	1822	1527
65°	1870	1596	1352
70°	1541	1397	1149
75°	1225	1070	1122
80°	823	772	721
85°	513	614	716



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	133.6	4.7
10°-20°	366.7	13.0
20°-30°	507.7	18.0
30°-40°	541.3	19.2
40°-50°	493.9	17.5
50°-60°	386.9	13.7
60°-70°	252.2	8.9
70°-80°	111.7	4.0
80°-90°	24.0	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°	1008.0	35.8
0°-40°	1549.4	55.0
0°-60°	2430.1	86.2
0°-90°	2818.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2818.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1436	1436	1436	1436	1436	
5°	1411	1409	1409	1407	1407	134
15°	1319	1319	1306	1293	1288	371
25°	1143	1137	1118	1079	1049	525
35°	928	921	876	810	790	580
45°	712	697	637	584	561	548
55°	494	480	435	383	363	444
65°	294	277	251	256	212	289
75°	118	110	103	98	108	126
85°	17	18	20	22	23	23
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1435.5	1435.5	1435.5	1435.5	1435.5
2.5°	1425.5	1425.5	1425.5	1423.8	1423.8
5°	1410.6	1408.9	1408.9	1407.2	1407.2
7.5°	1398.9	1397.3	1395.6	1394.0	1390.6
10°	1382.3	1382.3	1380.7	1372.4	1370.7
12.5°	1355.8	1354.1	1347.5	1335.9	1332.6
15°	1319.3	1319.3	1306.0	1292.7	1287.8
17.5°	1279.5	1277.8	1261.2	1247.9	1241.3
20°	1236.3	1233.0	1216.4	1194.8	1183.2
22.5°	1188.2	1188.2	1168.3	1140.1	1128.4
25°	1143.4	1136.7	1118.5	1078.7	1048.8
27.5°	1091.9	1082.0	1062.1	1005.6	970.8
30°	1035.5	1030.5	1002.3	929.3	902.8
32.5°	982.4	974.1	944.2	867.9	846.3
35°	927.7	921.0	876.2	809.8	789.9
37.5°	872.9	864.6	808.2	755.1	730.2
40°	818.1	808.2	746.8	698.6	672.1
42.5°	766.7	753.4	693.7	642.2	612.3
45°	711.9	697.0	637.2	584.1	560.9
47.5°	657.2	643.9	589.1	534.4	507.8
50°	599.1	587.5	537.7	482.9	454.7
52.5°	550.9	532.7	484.6	429.8	406.6
55°	494.5	479.6	434.8	383.3	363.4
57.5°	443.1	428.1	386.7	338.5	321.9
60°	395.0	373.4	338.5	297.0	283.8
62.5°	341.9	325.3	295.4	260.5	277.1
65°	293.7	277.1	250.6	255.6	212.4
67.5°	240.6	232.3	209.1	185.9	179.2
70°	195.8	185.9	177.6	152.7	146.0
72.5°	156.0	146.0	134.4	121.1	116.2
75°	117.8	109.5	102.9	97.9	107.9
77.5°	81.3	78.0	73.0	68.0	66.4
80°	53.1	51.4	49.8	48.1	46.5
82.5°	31.5	31.5	31.5	31.5	31.5
85°	16.6	18.3	19.9	21.6	23.2
87.5°	10.0	10.0	11.6	13.3	14.9
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)