

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: P545828

Luminaire Tested: **FMR-12-4-LD4-1HI-35-UNV-81-94-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: P545828
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-LD4-1HI-35-UNV-81-94-EDD
Description: 1X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR
TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

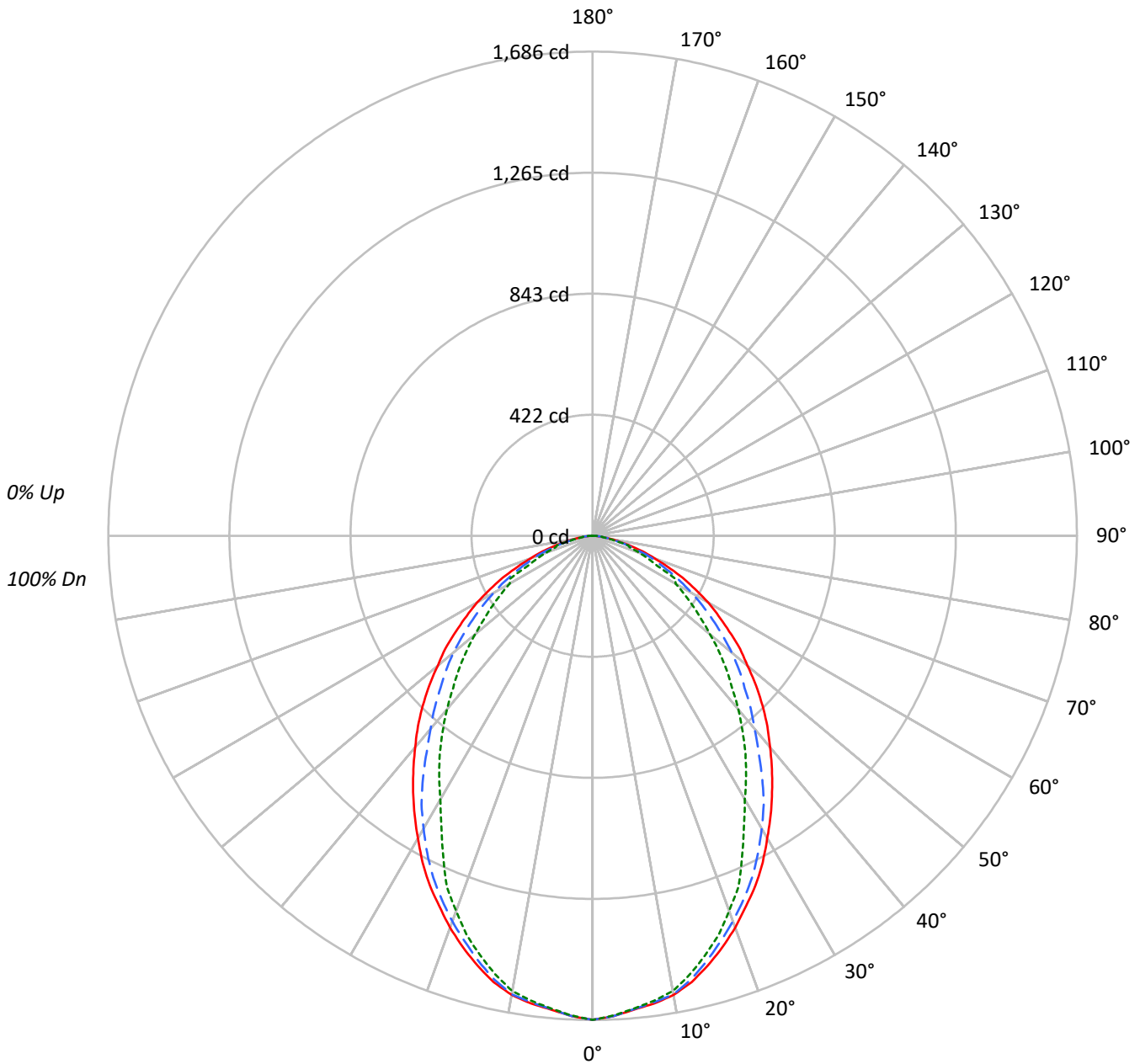
Lumens per Lamp: N/A
Luminaire Lumens: 3309.0 lumens
Efficiency: N/A
Efficacy: 76.6 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 43.2
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				
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°	4536	4536	4536
5°	4474	4469	4464
10°	4435	4430	4398
15°	4316	4272	4213
20°	4157	4090	3979
25°	3986	3900	3657
30°	3778	3657	3294
35°	3578	3380	3047
40°	3375	3080	2772
45°	3181	2848	2506
50°	2945	2643	2235
55°	2724	2395	2002
60°	2496	2139	1793
65°	2196	1873	1588
70°	1809	1640	1349
75°	1439	1256	1317
80°	967	907	846
85°	602	722	843



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	156.9	4.7
10°-20°	430.6	13.0
20°-30°	596.1	18.0
30°-40°	635.7	19.2
40°-50°	579.9	17.5
50°-60°	454.3	13.7
60°-70°	296.1	8.9
70°-80°	131.2	4.0
80°-90°	28.2	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°	1183.7	35.8
0°-40°	1819.3	55.0
0°-60°	2853.5	86.2
0°-90°	3309.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3309.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1686	1686	1686	1686	1686	
5°	1656	1654	1654	1652	1652	157
15°	1549	1549	1534	1518	1512	436
25°	1343	1335	1313	1267	1232	616
35°	1089	1082	1029	951	928	681
45°	836	818	748	686	659	644
55°	581	563	510	450	427	521
65°	345	325	294	300	249	340
75°	138	129	121	115	127	148
85°	20	21	23	25	27	27
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1685.6	1685.6	1685.6	1685.6	1685.6
2.5°	1673.9	1673.9	1673.9	1671.9	1671.9
5°	1656.3	1654.4	1654.4	1652.4	1652.4
7.5°	1642.7	1640.7	1638.8	1636.8	1632.9
10°	1623.2	1623.2	1621.3	1611.5	1609.6
12.5°	1592.0	1590.1	1582.3	1568.6	1564.7
15°	1549.2	1549.2	1533.6	1518.0	1512.1
17.5°	1502.4	1500.4	1481.0	1465.4	1457.6
20°	1451.7	1447.8	1428.3	1403.0	1389.4
22.5°	1395.2	1395.2	1371.8	1338.7	1325.1
25°	1342.6	1334.8	1313.4	1266.6	1231.5
27.5°	1282.2	1270.5	1247.1	1180.9	1139.9
30°	1215.9	1210.1	1177.0	1091.2	1060.1
32.5°	1153.6	1143.8	1108.8	1019.1	993.8
35°	1089.3	1081.5	1028.9	950.9	927.5
37.5°	1025.0	1015.2	949.0	886.6	857.4
40°	960.7	949.0	876.9	820.4	789.2
42.5°	900.3	884.7	814.5	754.1	719.0
45°	836.0	818.4	748.3	685.9	658.6
47.5°	771.7	756.1	691.8	627.5	596.3
50°	703.5	689.8	631.4	567.0	533.9
52.5°	646.9	625.5	569.0	504.7	477.4
55°	580.7	563.2	510.5	450.1	426.7
57.5°	520.3	502.7	454.0	397.5	378.0
60°	463.8	438.4	397.5	348.8	333.2
62.5°	401.4	381.9	346.9	305.9	325.4
65°	344.9	325.4	294.2	300.1	249.4
67.5°	282.6	272.8	245.5	218.2	210.5
70°	229.9	218.2	208.5	179.3	171.5
72.5°	183.2	171.5	157.8	142.2	136.4
75°	138.4	128.6	120.8	115.0	126.7
77.5°	95.5	91.6	85.7	79.9	77.9
80°	62.4	60.4	58.5	56.5	54.6
82.5°	37.0	37.0	37.0	37.0	37.0
85°	19.5	21.4	23.4	25.3	27.3
87.5°	11.7	11.7	13.6	15.6	17.5
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)