

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: P546532

Luminaire Tested: **FMR-24-4-LD4-1LO-40-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: P546532
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-24-4-LD4-1LO-40-UNV-81-94-EDD
Description: 2X4 FMR TROFFER WITH .156 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

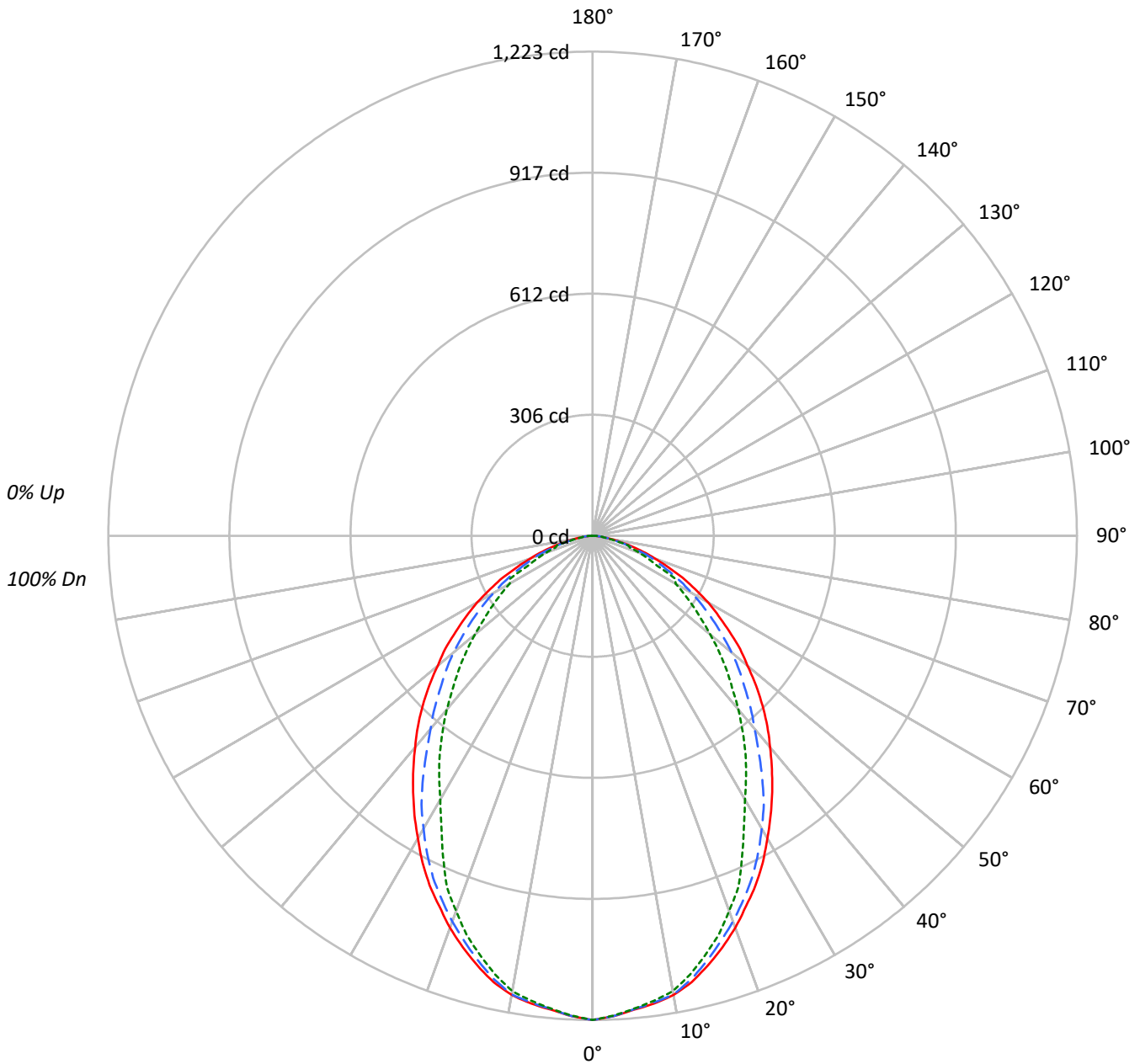
Lumens per Lamp: N/A
Luminaire Lumens: 2401.0 lumens
Efficiency: N/A
Efficacy: 102.6 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 23.4
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

TEST NUMBER: P546532

CATALOG NUMBER: FMR-24-4-LD4-1LO-40-UNV-81-94-EDD

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°	1646	1646	1646
5°	1623	1621	1619
10°	1609	1607	1596
15°	1566	1550	1528
20°	1508	1484	1443
25°	1446	1415	1327
30°	1371	1327	1195
35°	1298	1226	1105
40°	1224	1118	1006
45°	1154	1033	909
50°	1068	959	811
55°	988	869	726
60°	906	776	651
65°	797	680	576
70°	656	595	489
75°	522	456	478
80°	350	329	307
85°	218	262	306



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	113.8	4.7
10°-20°	312.4	13.0
20°-30°	432.6	18.0
30°-40°	461.2	19.2
40°-50°	420.8	17.5
50°-60°	329.6	13.7
60°-70°	214.8	8.9
70°-80°	95.2	4.0
80°-90°	20.5	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°	858.9	35.8
0°-40°	1320.1	55.0
0°-60°	2070.5	86.2
0°-90°	2401.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2401.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1223	1223	1223	1223	1223	
5°	1202	1200	1200	1199	1199	114
15°	1124	1124	1113	1101	1097	316
25°	974	968	953	919	894	447
35°	790	785	746	690	673	494
45°	607	594	543	498	478	467
55°	421	409	370	327	310	378
65°	250	236	214	218	181	247
75°	100	93	88	83	92	108
85°	14	16	17	18	20	20
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1223.0	1223.0	1223.0	1223.0	1223.0
2.5°	1214.6	1214.6	1214.6	1213.1	1213.1
5°	1201.8	1200.4	1200.4	1199.0	1199.0
7.5°	1191.9	1190.5	1189.1	1187.7	1184.9
10°	1177.8	1177.8	1176.4	1169.3	1167.9
12.5°	1155.2	1153.8	1148.1	1138.2	1135.4
15°	1124.1	1124.1	1112.8	1101.4	1097.2
17.5°	1090.1	1088.7	1074.6	1063.3	1057.6
20°	1053.4	1050.5	1036.4	1018.0	1008.1
22.5°	1012.4	1012.4	995.4	971.4	961.5
25°	974.2	968.5	953.0	919.0	893.6
27.5°	930.4	921.9	904.9	856.8	827.1
30°	882.3	878.0	854.0	791.8	769.2
32.5°	837.0	830.0	804.5	739.5	721.1
35°	790.4	784.7	746.5	690.0	673.0
37.5°	743.7	736.7	688.6	643.3	622.1
40°	697.1	688.6	636.3	595.3	572.6
42.5°	653.2	641.9	591.0	547.2	521.7
45°	606.6	593.8	542.9	497.7	477.9
47.5°	559.9	548.6	501.9	455.3	432.7
50°	510.4	500.5	458.1	411.4	387.4
52.5°	469.4	453.9	412.9	366.2	346.4
55°	421.3	408.6	370.4	326.6	309.6
57.5°	377.5	364.8	329.4	288.4	274.3
60°	336.5	318.1	288.4	253.1	241.8
62.5°	291.3	277.1	251.7	222.0	236.1
65°	250.3	236.1	213.5	217.7	181.0
67.5°	205.0	197.9	178.2	158.4	152.7
70°	166.8	158.4	151.3	130.1	124.4
72.5°	132.9	124.4	114.5	103.2	99.0
75°	100.4	93.3	87.7	83.4	91.9
77.5°	69.3	66.5	62.2	58.0	56.6
80°	45.2	43.8	42.4	41.0	39.6
82.5°	26.9	26.9	26.9	26.9	26.9
85°	14.1	15.6	17.0	18.4	19.8
87.5°	8.5	8.5	9.9	11.3	12.7
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)