

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: P546549

Luminaire Tested: **FMR-24-4-LD4-1LO-40-UNV-93-96-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: P546549
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-93-96-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250
CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT
LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

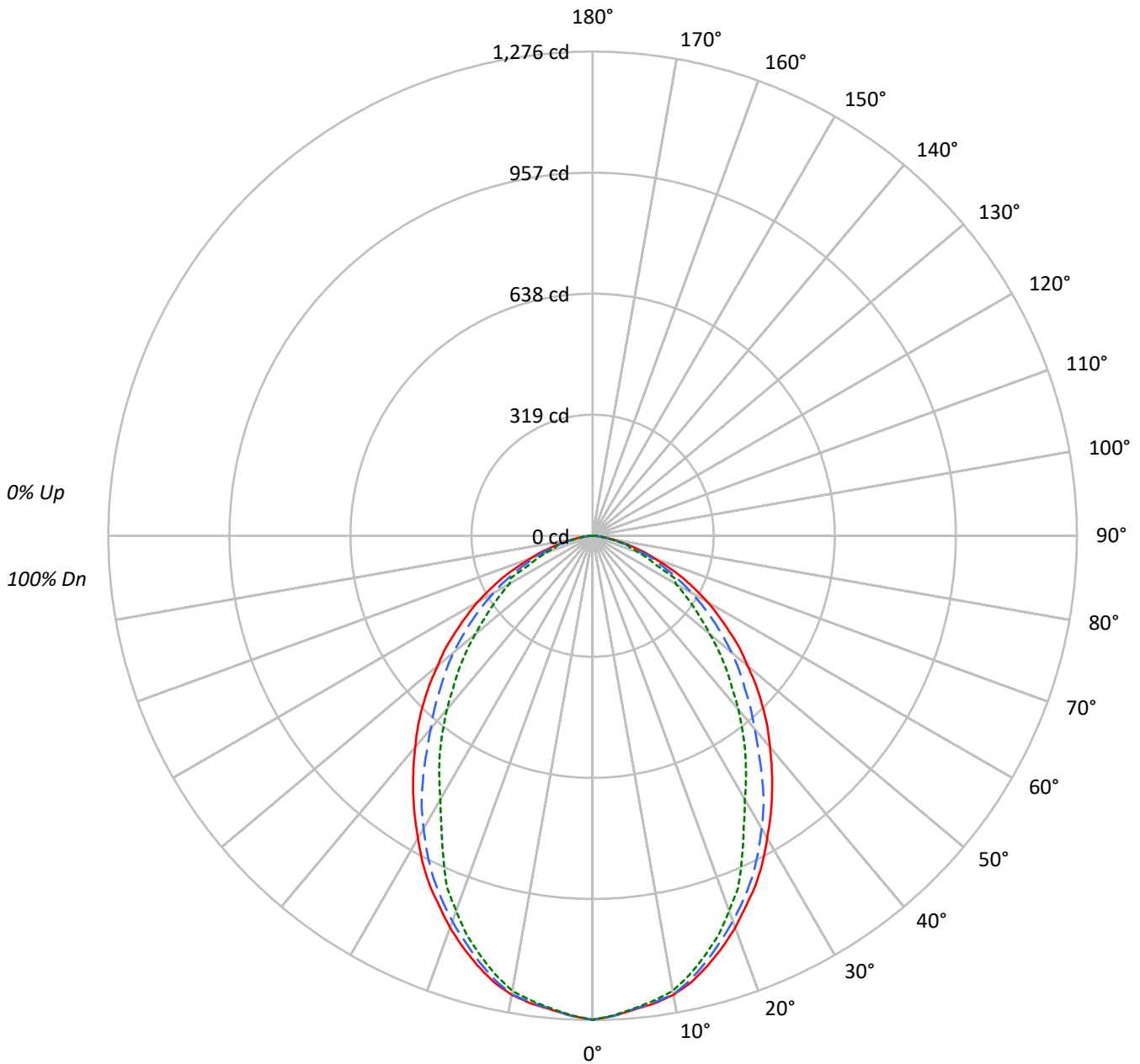
Lumens per Lamp: N/A
Luminaire Lumens: 2504.0 lumens
Efficiency: N/A
Efficacy: 107.0 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 23.4
Input Voltage (V): NR
Input Current (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°	1716	1716	1716
5°	1693	1691	1689
10°	1678	1676	1664
15°	1633	1617	1594
20°	1573	1548	1505
25°	1508	1476	1383
30°	1430	1384	1246
35°	1354	1279	1153
40°	1277	1166	1049
45°	1204	1077	948
50°	1114	1000	846
55°	1031	906	757
60°	944	809	679
65°	831	709	601
70°	685	621	511
75°	544	475	498
80°	366	342	320
85°	227	273	318



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	118.7	4.7
10°-20°	325.9	13.0
20°-30°	451.1	18.0
30°-40°	481.0	19.2
40°-50°	438.8	17.5
50°-60°	343.8	13.7
60°-70°	224.1	8.9
70°-80°	99.3	4.0
80°-90°	21.3	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°	895.7	35.8
0°-40°	1376.7	55.0
0°-60°	2159.4	86.2
0°-90°	2504.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2504.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1276	1276	1276	1276	1276	
5°	1253	1252	1252	1250	1250	119
15°	1172	1172	1160	1149	1144	330
25°	1016	1010	994	958	932	466
35°	824	818	779	720	702	515
45°	633	619	566	519	498	487
55°	439	426	386	341	323	394
65°	261	246	223	227	189	257
75°	105	97	91	87	96	112
85°	15	16	18	19	21	20
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1275.5	1275.5	1275.5	1275.5	1275.5
2.5°	1266.7	1266.7	1266.7	1265.2	1265.2
5°	1253.4	1251.9	1251.9	1250.4	1250.4
7.5°	1243.1	1241.6	1240.1	1238.6	1235.7
10°	1228.3	1228.3	1226.8	1219.5	1218.0
12.5°	1204.7	1203.3	1197.4	1187.0	1184.1
15°	1172.3	1172.3	1160.5	1148.7	1144.3
17.5°	1136.9	1135.4	1120.7	1108.9	1103.0
20°	1098.6	1095.6	1080.9	1061.7	1051.4
22.5°	1055.8	1055.8	1038.1	1013.0	1002.7
25°	1016.0	1010.1	993.9	958.5	931.9
27.5°	970.3	961.4	943.7	893.6	862.6
30°	920.1	915.7	890.6	825.8	802.2
32.5°	872.9	865.6	839.0	771.2	752.0
35°	824.3	818.4	778.6	719.6	701.9
37.5°	775.6	768.3	718.1	670.9	648.8
40°	727.0	718.1	663.6	620.8	597.2
42.5°	681.3	669.5	616.4	570.7	544.1
45°	632.6	619.3	566.2	519.0	498.4
47.5°	583.9	572.1	523.5	474.8	451.2
50°	532.3	522.0	477.8	429.1	404.0
52.5°	489.6	473.3	430.6	381.9	361.3
55°	439.4	426.2	386.3	340.6	322.9
57.5°	393.7	380.4	343.6	300.8	286.1
60°	350.9	331.8	300.8	263.9	252.2
62.5°	303.8	289.0	262.5	231.5	246.3
65°	261.0	246.3	222.7	227.1	188.7
67.5°	213.8	206.4	185.8	165.2	159.3
70°	174.0	165.2	157.8	135.7	129.8
72.5°	138.6	129.8	119.4	107.6	103.2
75°	104.7	97.3	91.4	87.0	95.8
77.5°	72.3	69.3	64.9	60.5	59.0
80°	47.2	45.7	44.2	42.8	41.3
82.5°	28.0	28.0	28.0	28.0	28.0
85°	14.7	16.2	17.7	19.2	20.6
87.5°	8.8	8.8	10.3	11.8	13.3
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)