

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: P546629

Luminaire Tested: **FMR-24-4-LD4-1STD-40-UNV-81-96-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: P546629
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-LD4-1STD-40-UNV-81-96-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR PC 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

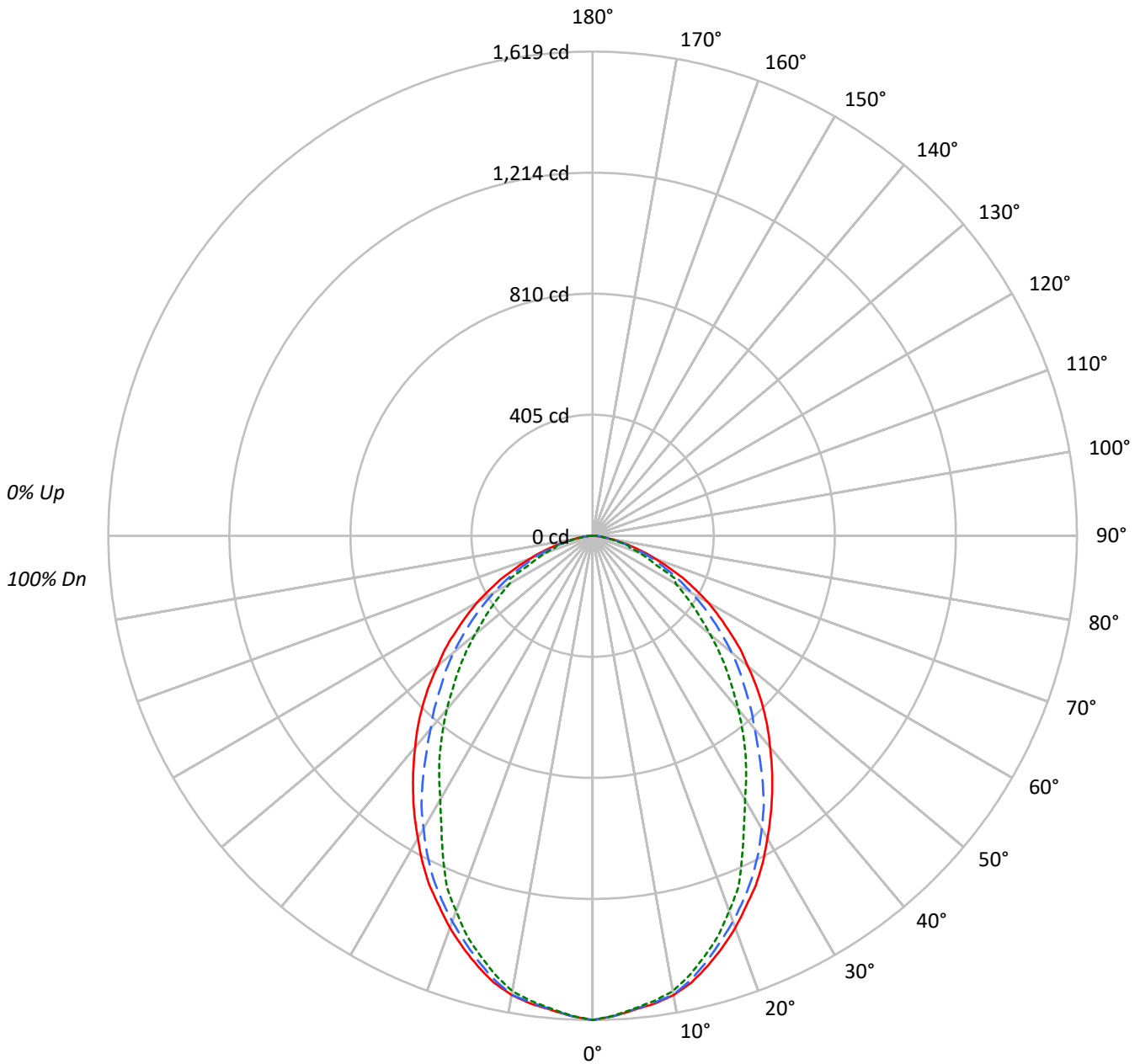
Lumens per Lamp: N/A
Luminaire Lumens: 3179.0 lumens
Efficiency: N/A
Efficacy: 95.5 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 33.3
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°	2179	2179	2179
5°	2149	2147	2144
10°	2131	2128	2113
15°	2073	2052	2024
20°	1997	1965	1911
25°	1915	1873	1756
30°	1815	1757	1582
35°	1719	1624	1464
40°	1621	1480	1332
45°	1528	1368	1204
50°	1415	1270	1074
55°	1309	1151	962
60°	1199	1028	861
65°	1055	900	763
70°	869	788	648
75°	691	604	633
80°	464	435	406
85°	289	347	404



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	150.7	4.7
10°-20°	413.7	13.0
20°-30°	572.7	18.0
30°-40°	610.7	19.2
40°-50°	557.1	17.5
50°-60°	436.5	13.7
60°-70°	284.5	8.9
70°-80°	126.0	4.0
80°-90°	27.1	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°	1137.2	35.8
0°-40°	1747.8	55.0
0°-60°	2741.4	86.2
0°-90°	3179.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	3179.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	1619	1619	1619	1619	1619	
5°	1591	1589	1589	1588	1588	151
15°	1488	1488	1473	1458	1453	418
25°	1290	1282	1262	1217	1183	592
35°	1046	1039	988	914	891	654
45°	803	786	719	659	633	619
55°	558	541	490	432	410	500
65°	331	313	283	288	240	327
75°	133	124	116	110	122	142
85°	19	21	22	24	26	26
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	1619.3	1619.3	1619.3	1619.3	1619.3
2.5°	1608.1	1608.1	1608.1	1606.2	1606.2
5°	1591.3	1589.4	1589.4	1587.5	1587.5
7.5°	1578.2	1576.3	1574.4	1572.5	1568.8
10°	1559.4	1559.4	1557.6	1548.2	1546.3
12.5°	1529.5	1527.6	1520.1	1507.0	1503.3
15°	1488.3	1488.3	1473.3	1458.3	1452.7
17.5°	1443.4	1441.5	1422.8	1407.8	1400.3
20°	1394.7	1390.9	1372.2	1347.9	1334.8
22.5°	1340.4	1340.4	1317.9	1286.1	1273.0
25°	1289.9	1282.4	1261.8	1216.8	1183.1
27.5°	1231.8	1220.6	1198.1	1134.5	1095.2
30°	1168.2	1162.6	1130.7	1048.4	1018.4
32.5°	1108.3	1098.9	1065.2	979.1	954.8
35°	1046.5	1039.0	988.5	913.6	891.1
37.5°	984.7	975.3	911.7	851.8	823.7
40°	922.9	911.7	842.4	788.1	758.2
42.5°	864.9	849.9	782.5	724.5	690.8
45°	803.1	786.3	718.9	659.0	632.8
47.5°	741.3	726.4	664.6	602.8	572.9
50°	675.8	662.7	606.6	544.8	512.9
52.5°	621.5	600.9	546.6	484.9	458.7
55°	557.9	541.0	490.5	432.4	410.0
57.5°	499.8	483.0	436.2	381.9	363.2
60°	445.6	421.2	381.9	335.1	320.1
62.5°	385.6	366.9	333.2	293.9	312.6
65°	331.4	312.6	282.7	288.3	239.6
67.5°	271.5	262.1	235.9	209.7	202.2
70°	220.9	209.7	200.3	172.2	164.7
72.5°	176.0	164.7	151.6	136.7	131.0
75°	132.9	123.6	116.1	110.5	121.7
77.5°	91.7	88.0	82.4	76.8	74.9
80°	59.9	58.0	56.2	54.3	52.4
82.5°	35.6	35.6	35.6	35.6	35.6
85°	18.7	20.6	22.5	24.3	26.2
87.5°	11.2	11.2	13.1	15.0	16.8
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)