

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: P546497

Luminaire Tested: **FMR-24-4-LD4-1HI-50-UNV-81-86-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: P546497
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-LD4-1HI-50-UNV-81-86-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .250 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

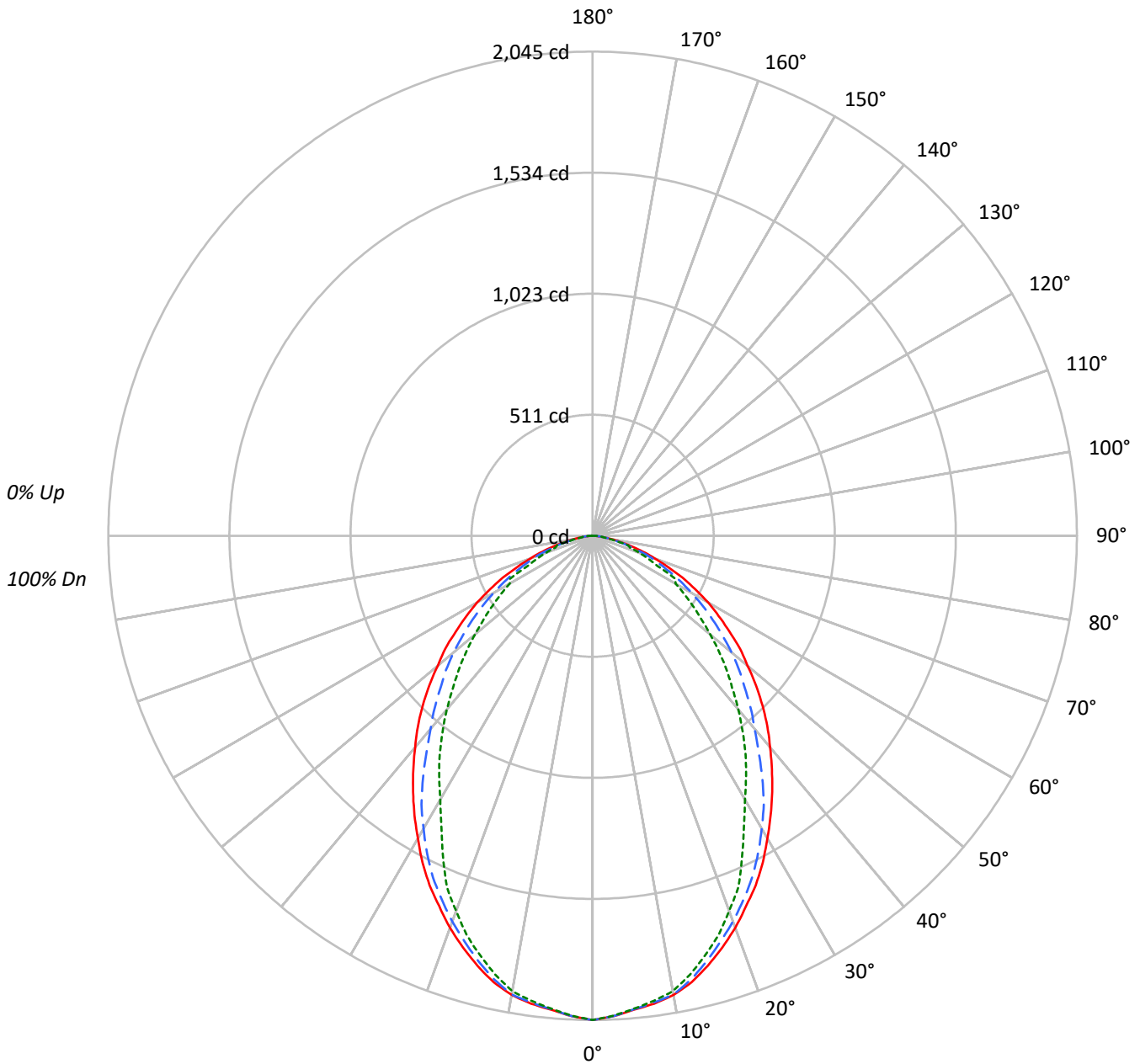
Lumens per Lamp: N/A
Luminaire Lumens: 4015.0 lumens
Efficiency: N/A
Efficacy: 92.9 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 43.2
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°	2752	2752	2752
5°	2714	2711	2708
10°	2691	2688	2668
15°	2618	2592	2556
20°	2522	2482	2414
25°	2419	2366	2218
30°	2292	2219	1998
35°	2171	2051	1849
40°	2047	1869	1682
45°	1930	1728	1521
50°	1787	1604	1356
55°	1653	1453	1215
60°	1514	1298	1088
65°	1332	1137	963
70°	1098	995	819
75°	873	762	799
80°	587	549	513
85°	364	438	511



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	190.4	4.7
10°-20°	522.5	13.0
20°-30°	723.3	18.0
30°-40°	771.3	19.2
40°-50°	703.6	17.5
50°-60°	551.3	13.7
60°-70°	359.3	8.9
70°-80°	159.2	4.0
80°-90°	34.2	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°	1436.2	35.8
0°-40°	2207.5	55.0
0°-60°	3462.4	86.2
0°-90°	4015.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4015.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2045	2045	2045	2045	2045	
5°	2010	2007	2007	2005	2005	191
15°	1880	1880	1861	1842	1835	528
25°	1629	1620	1594	1537	1494	748
35°	1322	1312	1248	1154	1125	826
45°	1014	993	908	832	799	781
55°	705	683	620	546	518	632
65°	418	395	357	364	303	412
75°	168	156	147	140	154	180
85°	24	26	28	31	33	33
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2045.2	2045.2	2045.2	2045.2	2045.2
2.5°	2031.0	2031.0	2031.0	2028.6	2028.6
5°	2009.7	2007.4	2007.4	2005.0	2005.0
7.5°	1993.2	1990.8	1988.4	1986.1	1981.3
10°	1969.5	1969.5	1967.2	1955.3	1953.0
12.5°	1931.7	1929.3	1919.9	1903.3	1898.6
15°	1879.7	1879.7	1860.8	1841.9	1834.8
17.5°	1822.9	1820.6	1796.9	1778.0	1768.6
20°	1761.5	1756.7	1733.1	1702.4	1685.8
22.5°	1692.9	1692.9	1664.5	1624.3	1607.8
25°	1629.1	1619.6	1593.6	1536.8	1494.3
27.5°	1555.8	1541.6	1513.2	1432.8	1383.2
30°	1475.4	1468.3	1428.1	1324.1	1286.2
32.5°	1399.7	1387.9	1345.3	1236.6	1205.8
35°	1321.7	1312.2	1248.4	1153.8	1125.4
37.5°	1243.7	1231.8	1151.5	1075.8	1040.3
40°	1165.6	1151.5	1064.0	995.4	957.6
42.5°	1092.3	1073.4	988.3	915.0	872.5
45°	1014.3	993.0	907.9	832.3	799.2
47.5°	936.3	917.4	839.4	761.3	723.5
50°	853.5	837.0	766.1	688.0	647.8
52.5°	785.0	759.0	690.4	612.4	579.3
55°	704.6	683.3	619.5	546.2	517.8
57.5°	631.3	610.0	550.9	482.3	458.7
60°	562.7	532.0	482.3	423.2	404.3
62.5°	487.1	463.4	420.9	371.2	394.9
65°	418.5	394.9	357.0	364.1	302.6
67.5°	342.8	331.0	297.9	264.8	255.4
70°	279.0	264.8	253.0	217.5	208.1
72.5°	222.3	208.1	191.5	172.6	165.5
75°	167.9	156.0	146.6	139.5	153.7
77.5°	115.9	111.1	104.0	96.9	94.6
80°	75.7	73.3	70.9	68.6	66.2
82.5°	44.9	44.9	44.9	44.9	44.9
85°	23.6	26.0	28.4	30.7	33.1
87.5°	14.2	14.2	16.6	18.9	21.3
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)