

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: P546495

Luminaire Tested: **FMR-24-4-LD4-1HI-50-UNV-81-84-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: P546495
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-81-84-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

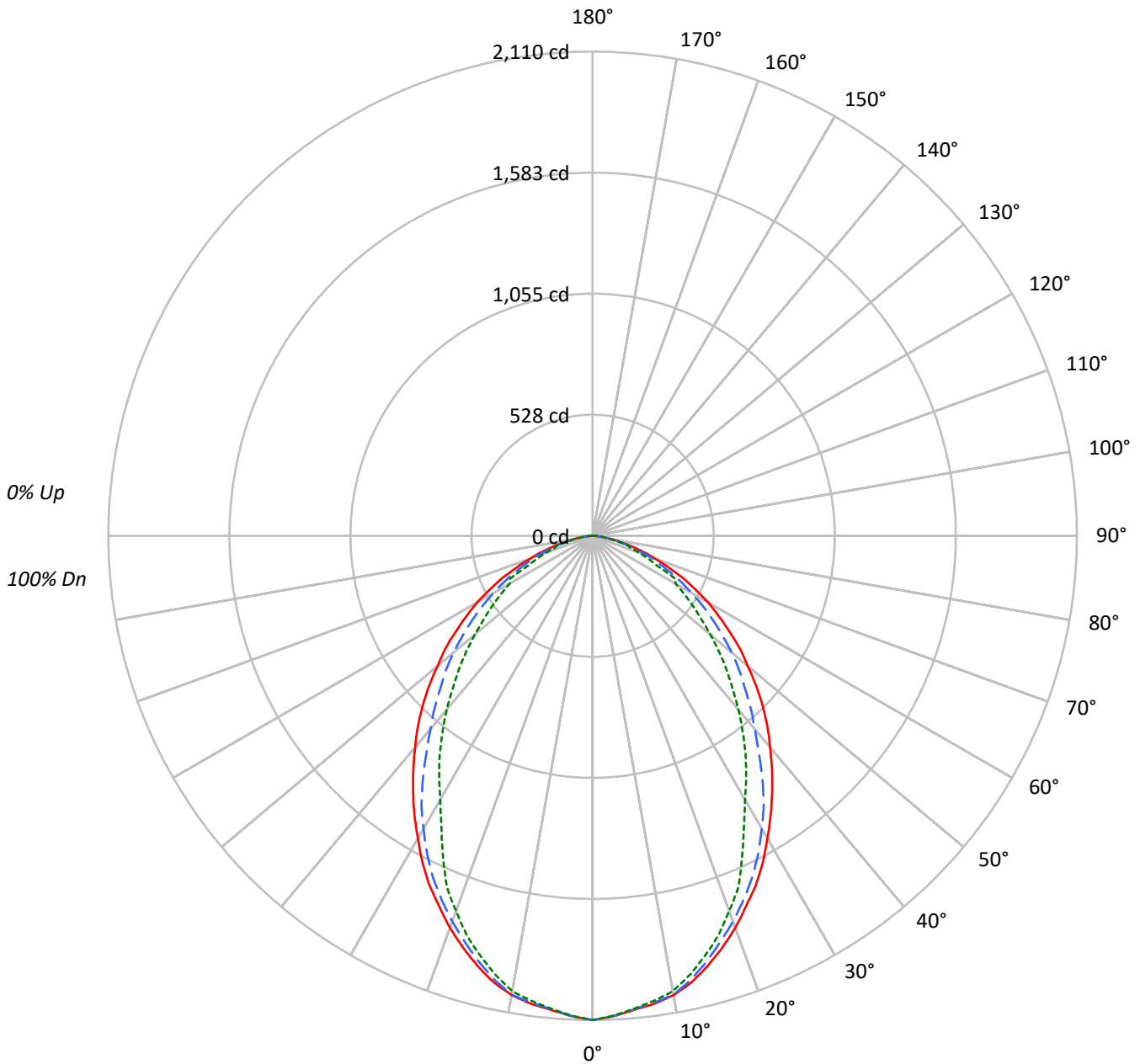
Lumens per Lamp: N/A
Luminaire Lumens: 4143.0 lumens
Efficiency: N/A
Efficacy: 95.9 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

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				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	100	100
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87	87	87	87
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75	75	75	75
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65	65	65	65
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56	56	56	56
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50	50	50	50
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44	44	44	44
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40	40	40	40
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36	36	36	36
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33	33	33	33
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30	30	30	30

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2840	2840	2840
5°	2801	2798	2794
10°	2777	2773	2753
15°	2702	2675	2637
20°	2603	2561	2491
25°	2496	2441	2289
30°	2365	2289	2062
35°	2240	2116	1907
40°	2113	1928	1736
45°	1992	1783	1569
50°	1844	1655	1399
55°	1705	1499	1253
60°	1563	1339	1123
65°	1375	1173	994
70°	1133	1027	845
75°	900	787	824
80°	605	567	529
85°	377	452	528



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	196.4	4.7
10°-20°	539.1	13.0
20°-30°	746.4	18.0
30°-40°	795.9	19.2
40°-50°	726.1	17.5
50°-60°	568.8	13.7
60°-70°	370.7	8.9
70°-80°	164.2	4.0
80°-90°	35.3	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°	1482.0	35.8
0°-40°	2277.9	55.0
0°-60°	3572.8	86.2
0°-90°	4143.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4143.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2110	2110	2110	2110	2110	
5°	2074	2071	2071	2069	2069	197
15°	1940	1940	1920	1901	1893	545
25°	1681	1671	1644	1586	1542	772
35°	1364	1354	1288	1191	1161	853
45°	1047	1025	937	859	825	806
55°	727	705	639	564	534	652
65°	432	407	368	376	312	426
75°	173	161	151	144	159	186
85°	24	27	29	32	34	34
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2110.4	2110.4	2110.4	2110.4	2110.4
2.5°	2095.8	2095.8	2095.8	2093.3	2093.3
5°	2073.8	2071.4	2071.4	2068.9	2068.9
7.5°	2056.7	2054.3	2051.8	2049.4	2044.5
10°	2032.3	2032.3	2029.9	2017.7	2015.2
12.5°	1993.3	1990.8	1981.1	1964.0	1959.1
15°	1939.6	1939.6	1920.1	1900.6	1893.3
17.5°	1881.1	1878.6	1854.2	1834.7	1824.9
20°	1817.6	1812.7	1788.3	1756.6	1739.5
22.5°	1746.9	1746.9	1717.6	1676.1	1659.0
25°	1681.0	1671.2	1644.4	1585.8	1541.9
27.5°	1605.4	1590.7	1561.4	1478.5	1427.3
30°	1522.4	1515.1	1473.6	1366.3	1327.2
32.5°	1444.3	1432.1	1388.2	1276.0	1244.3
35°	1363.8	1354.1	1288.2	1190.6	1161.3
37.5°	1283.3	1271.1	1188.2	1110.1	1073.5
40°	1202.8	1188.2	1097.9	1027.1	988.1
42.5°	1127.2	1107.6	1019.8	944.2	900.3
45°	1046.7	1024.7	936.9	858.8	824.6
47.5°	966.1	946.6	866.1	785.6	746.6
50°	880.8	863.7	790.5	710.0	668.5
52.5°	810.0	783.2	712.4	631.9	597.7
55°	727.0	705.1	639.2	563.6	534.3
57.5°	651.4	629.5	568.5	497.7	473.3
60°	580.7	548.9	497.7	436.7	417.2
62.5°	502.6	478.2	434.3	383.0	407.4
65°	431.8	407.4	368.4	375.7	312.3
67.5°	353.8	341.6	307.4	273.3	263.5
70°	287.9	273.3	261.1	224.5	214.7
72.5°	229.3	214.7	197.6	178.1	170.8
75°	173.2	161.0	151.3	143.9	158.6
77.5°	119.5	114.7	107.3	100.0	97.6
80°	78.1	75.6	73.2	70.8	68.3
82.5°	46.4	46.4	46.4	46.4	46.4
85°	24.4	26.8	29.3	31.7	34.2
87.5°	14.6	14.6	17.1	19.5	22.0
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)