

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: P546239

Luminaire Tested: **FMR-12-4-LD4-2LO-40-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: P546239
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-12-4-LD4-2LO-40-UNV-81-84-EDD
Description: 1X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

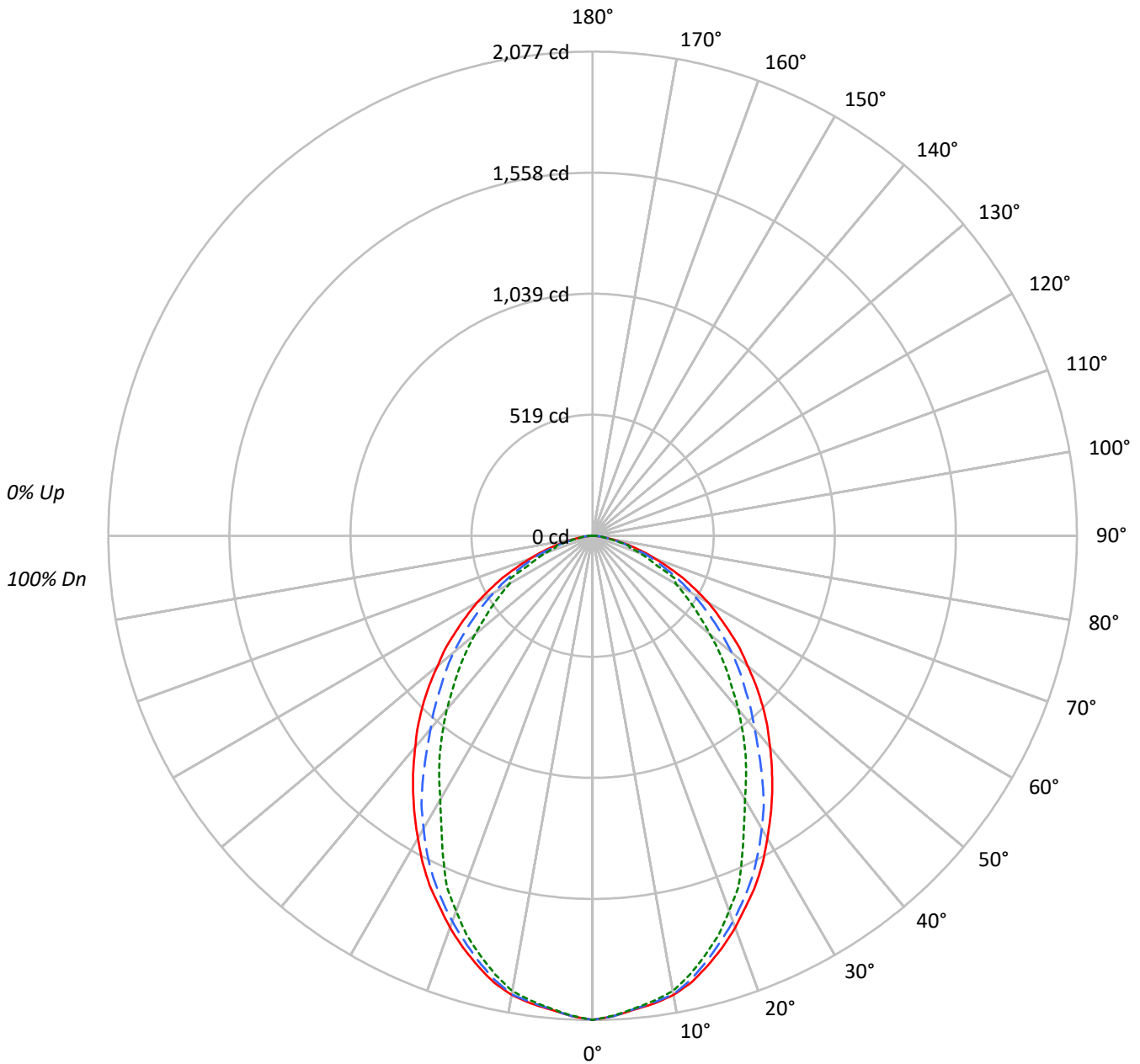
Lumens per Lamp: N/A
Luminaire Lumens: 4077.0 lumens
Efficiency: N/A
Efficacy: 87.1 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 46.8
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°	5589	5589	5589
5°	5513	5506	5500
10°	5465	5458	5419
15°	5317	5264	5190
20°	5122	5040	4902
25°	4912	4805	4505
30°	4655	4506	4058
35°	4409	4164	3754
40°	4158	3795	3416
45°	3920	3508	3088
50°	3628	3257	2754
55°	3357	2951	2467
60°	3075	2636	2210
65°	2706	2308	1957
70°	2229	2021	1662
75°	1773	1548	1623
80°	1190	1116	1041
85°	741	889	1037



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	193.3	4.7
10°-20°	530.5	13.0
20°-30°	734.5	18.0
30°-40°	783.2	19.2
40°-50°	714.5	17.5
50°-60°	559.8	13.7
60°-70°	364.8	8.9
70°-80°	161.6	4.0
80°-90°	34.7	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°	1458.4	35.8
0°-40°	2241.6	55.0
0°-60°	3515.8	86.2
0°-90°	4077.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	4077.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2077	2077	2077	2077	2077	
5°	2041	2038	2038	2036	2036	194
15°	1909	1909	1890	1870	1863	537
25°	1654	1645	1618	1561	1517	759
35°	1342	1332	1268	1172	1143	839
45°	1030	1008	922	845	812	793
55°	716	694	629	555	526	642
65°	425	401	362	370	307	419
75°	170	158	149	142	156	183
85°	24	26	29	31	34	33
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2076.8	2076.8	2076.8	2076.8	2076.8
2.5°	2062.4	2062.4	2062.4	2060.0	2060.0
5°	2040.8	2038.4	2038.4	2036.0	2036.0
7.5°	2023.9	2021.5	2019.1	2016.7	2011.9
10°	1999.9	1999.9	1997.5	1985.5	1983.1
12.5°	1961.5	1959.1	1949.5	1932.7	1927.9
15°	1908.7	1908.7	1889.5	1870.3	1863.1
17.5°	1851.1	1848.7	1824.7	1805.5	1795.9
20°	1788.7	1783.9	1759.9	1728.6	1711.8
22.5°	1719.0	1719.0	1690.2	1649.4	1632.6
25°	1654.2	1644.6	1618.2	1560.6	1517.4
27.5°	1579.8	1565.4	1536.6	1454.9	1404.5
30°	1498.2	1491.0	1450.1	1344.5	1306.1
32.5°	1421.3	1409.3	1366.1	1255.7	1224.5
35°	1342.1	1332.5	1267.7	1171.6	1142.8
37.5°	1262.9	1250.9	1169.2	1092.4	1056.4
40°	1183.6	1169.2	1080.4	1010.8	972.4
42.5°	1109.2	1090.0	1003.6	929.1	885.9
45°	1030.0	1008.4	921.9	845.1	811.5
47.5°	950.8	931.5	852.3	773.1	734.7
50°	866.7	849.9	777.9	698.7	657.8
52.5°	797.1	770.7	701.1	621.8	588.2
55°	715.5	693.9	629.0	554.6	525.8
57.5°	641.0	619.4	559.4	489.8	465.8
60°	571.4	540.2	489.8	429.8	410.6
62.5°	494.6	470.6	427.4	376.9	400.9
65°	425.0	400.9	362.5	369.7	307.3
67.5°	348.1	336.1	302.5	268.9	259.3
70°	283.3	268.9	256.9	220.9	211.3
72.5°	225.7	211.3	194.5	175.3	168.1
75°	170.5	158.5	148.9	141.7	156.1
77.5°	117.6	112.8	105.6	98.4	96.0
80°	76.8	74.4	72.0	69.6	67.2
82.5°	45.6	45.6	45.6	45.6	45.6
85°	24.0	26.4	28.8	31.2	33.6
87.5°	14.4	14.4	16.8	19.2	21.6
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)