

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: P547235

Luminaire Tested: **FMR-24-4-LD4-3STD-50-UNV-81-88-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: P547235
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-LD4-3STD-50-UNV-81-88-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

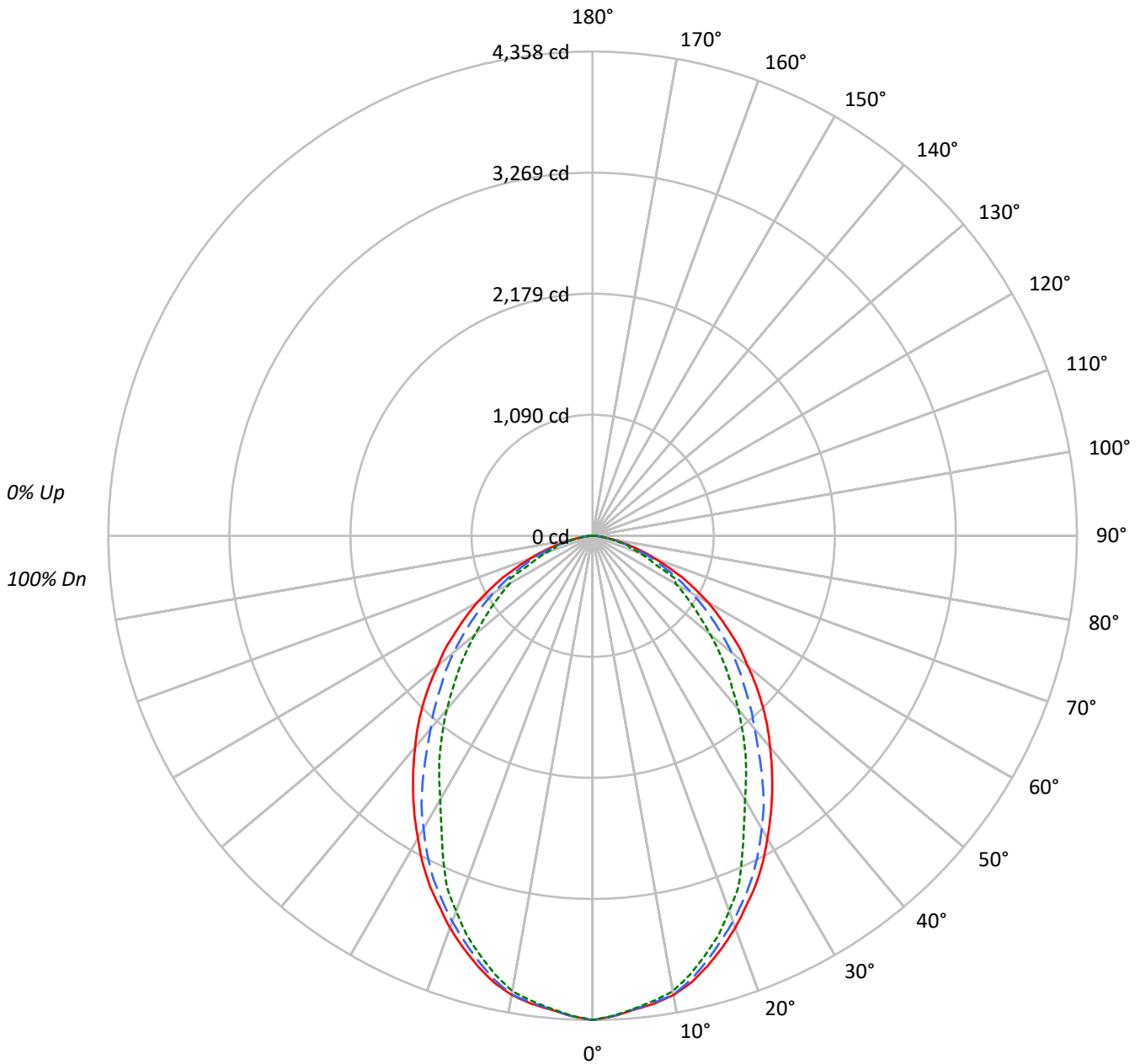
Lumens per Lamp: N/A
Luminaire Lumens: 8556.0 lumens
Efficiency: N/A
Efficacy: 85.6 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 99.9
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°	5864	5864	5864
5°	5784	5778	5771
10°	5734	5727	5686
15°	5580	5523	5446
20°	5375	5288	5144
25°	5154	5042	4727
30°	4885	4728	4259
35°	4626	4370	3939
40°	4363	3982	3584
45°	4113	3682	3240
50°	3807	3417	2890
55°	3522	3097	2588
60°	3227	2766	2319
65°	2839	2422	2053
70°	2339	2121	1744
75°	1860	1624	1703
80°	1249	1172	1093
85°	778	934	1088



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	405.7	4.7
10°-20°	1113.4	13.0
20°-30°	1541.4	18.0
30°-40°	1643.6	19.2
40°-50°	1499.5	17.5
50°-60°	1174.7	13.7
60°-70°	765.6	8.9
70°-80°	339.2	4.0
80°-90°	72.8	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°	3060.6	35.8
0°-40°	4704.2	55.0
0°-60°	7378.4	86.2
0°-90°	8556.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8556.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4358	4358	4358	4358	4358	
5°	4283	4278	4278	4273	4273	407
15°	4006	4006	3965	3925	3910	1126
25°	3472	3451	3396	3275	3184	1594
35°	2816	2796	2660	2459	2398	1761
45°	2162	2116	1935	1774	1703	1665
55°	1502	1456	1320	1164	1103	1347
65°	892	841	761	776	645	879
75°	358	332	312	297	328	383
85°	50	55	60	66	70	70
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4358.3	4358.3	4358.3	4358.3	4358.3
2.5°	4328.1	4328.1	4328.1	4323.0	4323.0
5°	4282.7	4277.7	4277.7	4272.7	4272.7
7.5°	4247.5	4242.4	4237.4	4232.3	4222.3
10°	4197.1	4197.1	4192.0	4166.8	4161.8
12.5°	4116.5	4111.4	4091.3	4056.0	4045.9
15°	4005.6	4005.6	3965.3	3925.0	3909.9
17.5°	3884.7	3879.7	3829.3	3789.0	3768.8
20°	3753.7	3743.6	3693.2	3627.7	3592.5
22.5°	3607.6	3607.6	3547.1	3461.5	3426.2
25°	3471.5	3451.4	3396.0	3275.0	3184.3
27.5°	3315.3	3285.1	3224.6	3053.3	2947.5
30°	3144.0	3128.9	3043.3	2821.6	2741.0
32.5°	2982.8	2957.6	2866.9	2635.1	2569.6
35°	2816.5	2796.4	2660.3	2458.8	2398.3
37.5°	2650.3	2625.1	2453.8	2292.5	2216.9
40°	2484.0	2453.8	2267.3	2121.2	2040.6
42.5°	2327.8	2287.5	2106.1	1949.9	1859.2
45°	2161.5	2116.2	1934.8	1773.6	1703.0
47.5°	1995.3	1954.9	1788.7	1622.4	1541.8
50°	1818.9	1783.6	1632.5	1466.2	1380.6
52.5°	1672.8	1617.4	1471.2	1305.0	1234.4
55°	1501.5	1456.1	1320.1	1163.9	1103.4
57.5°	1345.3	1299.9	1174.0	1027.9	977.5
60°	1199.2	1133.7	1027.9	901.9	861.6
62.5°	1037.9	987.5	896.9	791.0	841.4
65°	891.8	841.4	760.8	775.9	644.9
67.5°	730.6	705.4	634.9	564.3	544.2
70°	594.5	564.3	539.1	463.5	443.4
72.5°	473.6	443.4	408.1	367.8	352.7
75°	357.7	332.5	312.4	297.3	327.5
77.5°	246.9	236.8	221.7	206.6	201.5
80°	161.2	156.2	151.2	146.1	141.1
82.5°	95.7	95.7	95.7	95.7	95.7
85°	50.4	55.4	60.5	65.5	70.5
87.5°	30.2	30.2	35.3	40.3	45.3
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)