

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: P547379

Luminaire Tested: **FMR-24-4-LD4-4LO-35-UNV-93-88-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: P547379
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-LD4-4LO-35-UNV-93-88-EDD
Description: 2X4 FMR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Luminaire Equipment: Sample No. Condition Description

Summary

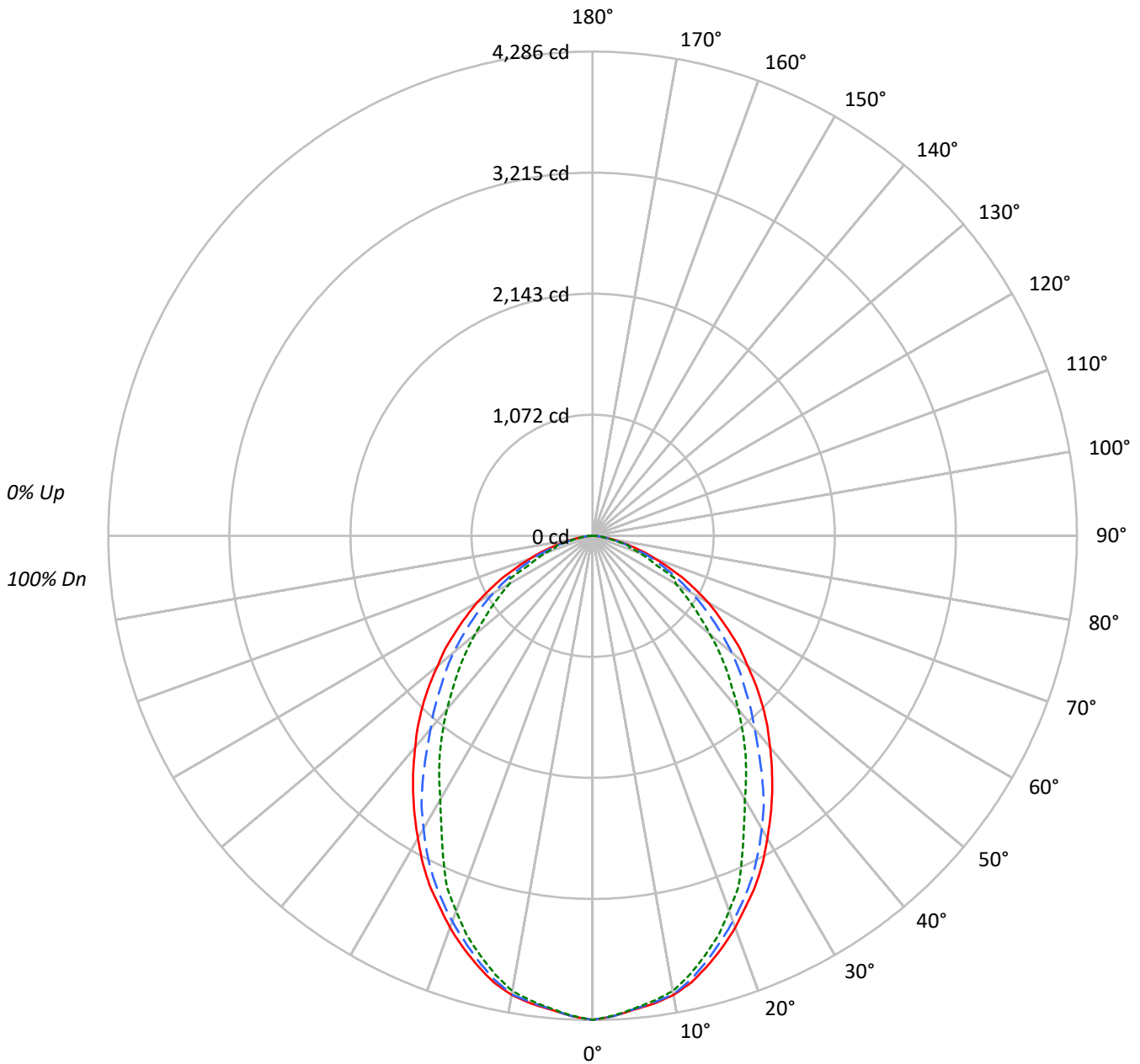
Lumens per Lamp: N/A
Luminaire Lumens: 8413.0 lumens
Efficiency: N/A
Efficacy: 89.9 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 93.6
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

TEST NUMBER: P547379

CATALOG NUMBER: FMR-24-4-LD4-4LO-35-UNV-93-88-EDD

Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				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
1	110	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87				87
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75				75
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65				65
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56				56
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50				50
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44				44
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40				40
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36				36
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33				33
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30				30

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	5766	5766	5766
5°	5688	5681	5674
10°	5638	5632	5591
15°	5486	5431	5355
20°	5285	5200	5058
25°	5068	4957	4648
30°	4803	4649	4187
35°	4549	4297	3873
40°	4290	3916	3524
45°	4044	3620	3186
50°	3744	3360	2842
55°	3463	3045	2545
60°	3173	2720	2280
65°	2792	2382	2019
70°	2300	2085	1715
75°	1829	1597	1674
80°	1228	1151	1075
85°	764	919	1071



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	398.9	4.7
10°-20°	1094.8	13.0
20°-30°	1515.7	18.0
30°-40°	1616.2	19.2
40°-50°	1474.4	17.5
50°-60°	1155.1	13.7
60°-70°	752.8	8.9
70°-80°	333.5	4.0
80°-90°	71.6	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°	3009.4	35.8
0°-40°	4625.6	55.0
0°-60°	7255.0	86.2
0°-90°	8413.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8413.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	4286	4286	4286	4286	4286	
5°	4211	4206	4206	4201	4201	400
15°	3939	3939	3899	3859	3844	1107
25°	3414	3394	3339	3220	3131	1567
35°	2770	2750	2616	2418	2358	1731
45°	2125	2081	1902	1744	1675	1637
55°	1476	1432	1298	1144	1085	1324
65°	877	827	748	763	634	864
75°	352	327	307	292	322	377
85°	50	54	60	64	69	69
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	4285.5	4285.5	4285.5	4285.5	4285.5
2.5°	4255.7	4255.7	4255.7	4250.8	4250.8
5°	4211.2	4206.2	4206.2	4201.2	4201.2
7.5°	4176.5	4171.5	4166.6	4161.6	4151.7
10°	4126.9	4126.9	4122.0	4097.2	4092.3
12.5°	4047.7	4042.7	4022.9	3988.2	3978.3
15°	3938.7	3938.7	3899.0	3859.4	3844.5
17.5°	3819.8	3814.8	3765.3	3725.6	3705.8
20°	3691.0	3681.0	3631.5	3567.1	3532.4
22.5°	3547.3	3547.3	3487.8	3403.6	3368.9
25°	3413.5	3393.7	3339.2	3220.3	3131.1
27.5°	3259.9	3230.2	3170.8	3002.3	2898.3
30°	3091.5	3076.6	2992.4	2774.4	2695.1
32.5°	2932.9	2908.2	2819.0	2591.1	2526.7
35°	2769.5	2749.6	2615.9	2417.7	2358.2
37.5°	2606.0	2581.2	2412.7	2254.2	2179.9
40°	2442.5	2412.7	2229.4	2085.8	2006.5
42.5°	2288.9	2249.3	2070.9	1917.3	1828.1
45°	2125.4	2080.8	1902.5	1743.9	1674.6
47.5°	1961.9	1922.3	1758.8	1595.3	1516.0
50°	1788.5	1753.8	1605.2	1441.7	1357.5
52.5°	1644.8	1590.3	1446.7	1283.2	1213.8
55°	1476.4	1431.8	1298.0	1144.4	1085.0
57.5°	1322.8	1278.2	1154.4	1010.7	961.1
60°	1179.1	1114.7	1010.7	886.8	847.2
62.5°	1020.6	971.0	881.9	777.8	827.4
65°	876.9	827.4	748.1	763.0	634.2
67.5°	718.4	693.6	624.2	554.9	535.1
70°	584.6	554.9	530.1	455.8	436.0
72.5°	465.7	436.0	401.3	361.7	346.8
75°	351.8	327.0	307.2	292.3	322.0
77.5°	242.8	232.9	218.0	203.1	198.2
80°	158.5	153.6	148.6	143.7	138.7
82.5°	94.1	94.1	94.1	94.1	94.1
85°	49.5	54.5	59.5	64.4	69.4
87.5°	29.7	29.7	34.7	39.6	44.6
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)