

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: P546707

Luminaire Tested: **FMR-24-4-LD4-2HI-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: P546707
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-LD4-2HI-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

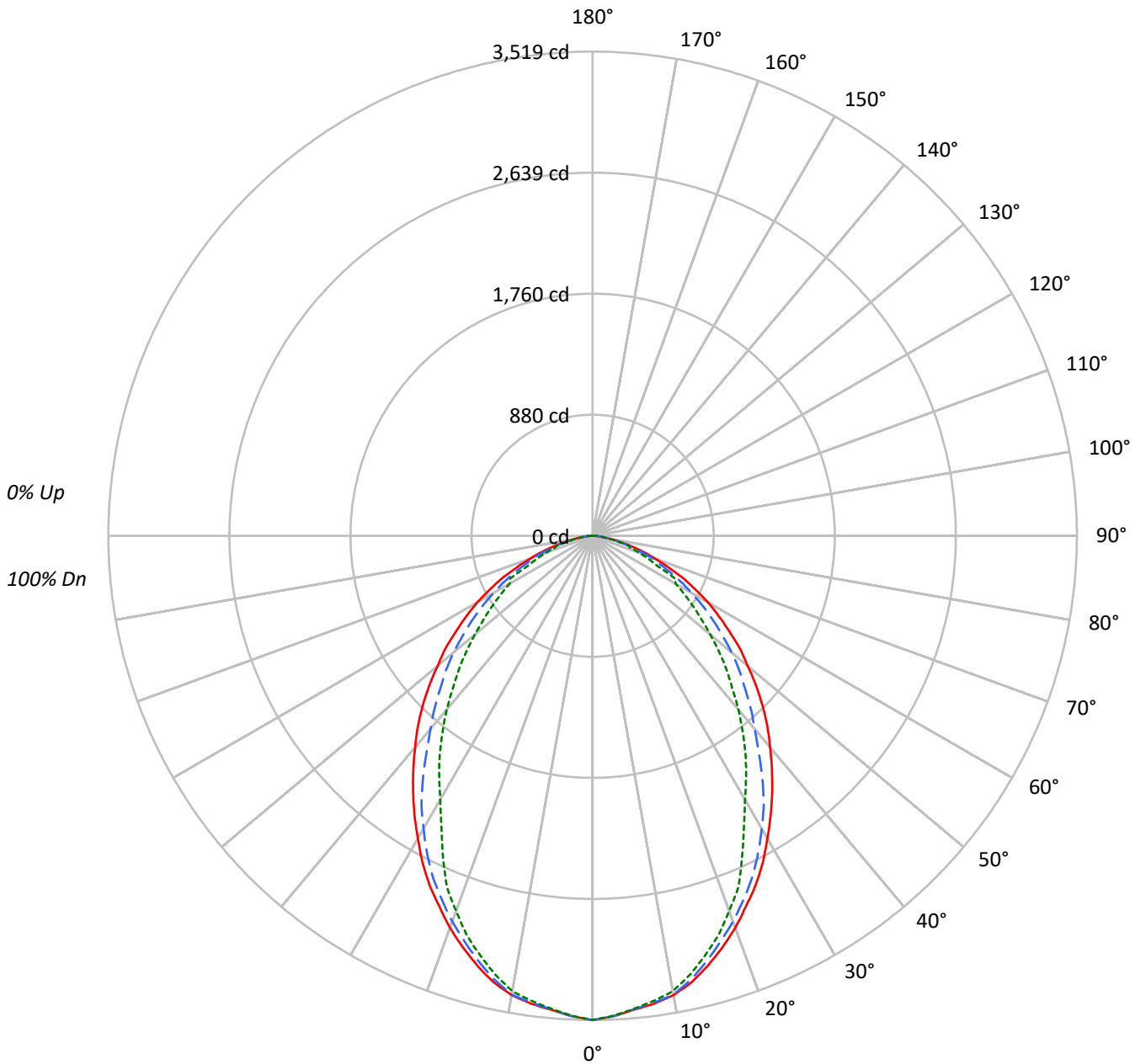
Lumens per Lamp: N/A
Luminaire Lumens: 6909.0 lumens
Efficiency: N/A
Efficacy: 80.0 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 2' x L: 4' x H: 0')
CIE Type: Direct

Input Watts (W): 86.4
Input Voltage (V): NR
Input Current (A_{in}): 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°	4735	4735	4735
5°	4671	4665	4660
10°	4630	4625	4592
15°	4506	4460	4398
20°	4340	4270	4154
25°	4162	4071	3817
30°	3944	3818	3439
35°	3736	3529	3181
40°	3523	3216	2894
45°	3321	2973	2617
50°	3075	2759	2334
55°	2844	2501	2090
60°	2606	2234	1872
65°	2293	1956	1658
70°	1889	1712	1408
75°	1502	1312	1375
80°	1009	946	883
85°	628	753	880



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	327.6	4.7
10°-20°	899.1	13.0
20°-30°	1244.7	18.0
30°-40°	1327.2	19.2
40°-50°	1210.8	17.5
50°-60°	948.6	13.7
60°-70°	618.2	8.9
70°-80°	273.9	4.0
80°-90°	58.8	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°	2471.4	35.8
0°-40°	3798.6	55.0
0°-60°	5958.0	86.2
0°-90°	6909.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6909.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3519	3519	3519	3519	3519	
5°	3458	3454	3454	3450	3450	328
15°	3234	3234	3202	3170	3157	909
25°	2803	2787	2742	2645	2571	1287
35°	2274	2258	2148	1986	1937	1422
45°	1745	1709	1562	1432	1375	1344
55°	1212	1176	1066	940	891	1087
65°	720	680	614	627	521	710
75°	289	268	252	240	264	310
85°	41	45	49	53	57	56
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3519.4	3519.4	3519.4	3519.4	3519.4
2.5°	3494.9	3494.9	3494.9	3490.9	3490.9
5°	3458.3	3454.3	3454.3	3450.2	3450.2
7.5°	3429.8	3425.8	3421.7	3417.6	3409.5
10°	3389.2	3389.2	3385.1	3364.7	3360.7
12.5°	3324.1	3320.0	3303.7	3275.2	3267.1
15°	3234.5	3234.5	3202.0	3169.5	3157.2
17.5°	3136.9	3132.8	3092.1	3059.6	3043.3
20°	3031.1	3023.0	2982.3	2929.4	2900.9
22.5°	2913.1	2913.1	2864.3	2795.1	2766.7
25°	2803.3	2787.0	2742.2	2644.6	2571.4
27.5°	2677.1	2652.7	2603.9	2465.6	2380.1
30°	2538.8	2526.6	2457.4	2278.4	2213.3
32.5°	2408.6	2388.3	2315.0	2127.9	2075.0
35°	2274.4	2258.1	2148.2	1985.5	1936.7
37.5°	2140.1	2119.7	1981.4	1851.2	1790.2
40°	2005.8	1981.4	1830.9	1712.9	1647.8
42.5°	1879.7	1847.2	1700.7	1574.6	1501.3
45°	1745.4	1708.8	1562.3	1432.2	1375.2
47.5°	1611.2	1578.6	1444.4	1310.1	1245.0
50°	1468.8	1440.3	1318.2	1184.0	1114.8
52.5°	1350.8	1306.0	1188.0	1053.8	996.8
55°	1212.4	1175.8	1066.0	939.9	891.0
57.5°	1086.3	1049.7	948.0	830.0	789.3
60°	968.3	915.4	830.0	728.3	695.7
62.5°	838.1	797.4	724.2	638.8	679.5
65°	720.1	679.5	614.4	626.6	520.8
67.5°	589.9	569.6	512.6	455.7	439.4
70°	480.1	455.7	435.3	374.3	358.0
72.5°	382.4	358.0	329.6	297.0	284.8
75°	288.9	268.5	252.3	240.0	264.5
77.5°	199.4	191.2	179.0	166.8	162.7
80°	130.2	126.1	122.1	118.0	113.9
82.5°	77.3	77.3	77.3	77.3	77.3
85°	40.7	44.8	48.8	52.9	57.0
87.5°	24.4	24.4	28.5	32.5	36.6
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)