

Scaled data based on original data using
LM-79-2019 Approved Method: Electrical and Photometric Measurements of Solid-
State Lighting Products

Test Report Prepared for
Cooper Lighting Solutions

Brand: FAIL-SAFE

Report Number: P590747

Luminaire Tested: FSR-24-2-LD4-4HI-40-UNV-80-96-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590747
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-1)
Test Lab: INNOVATION CENTER
Issue Date: 12/8/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: FSR-24-2-LD4-4HI-40-UNV-80-96-EDD
Description: 2X2 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .250 CLEAR TEMPERED G ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

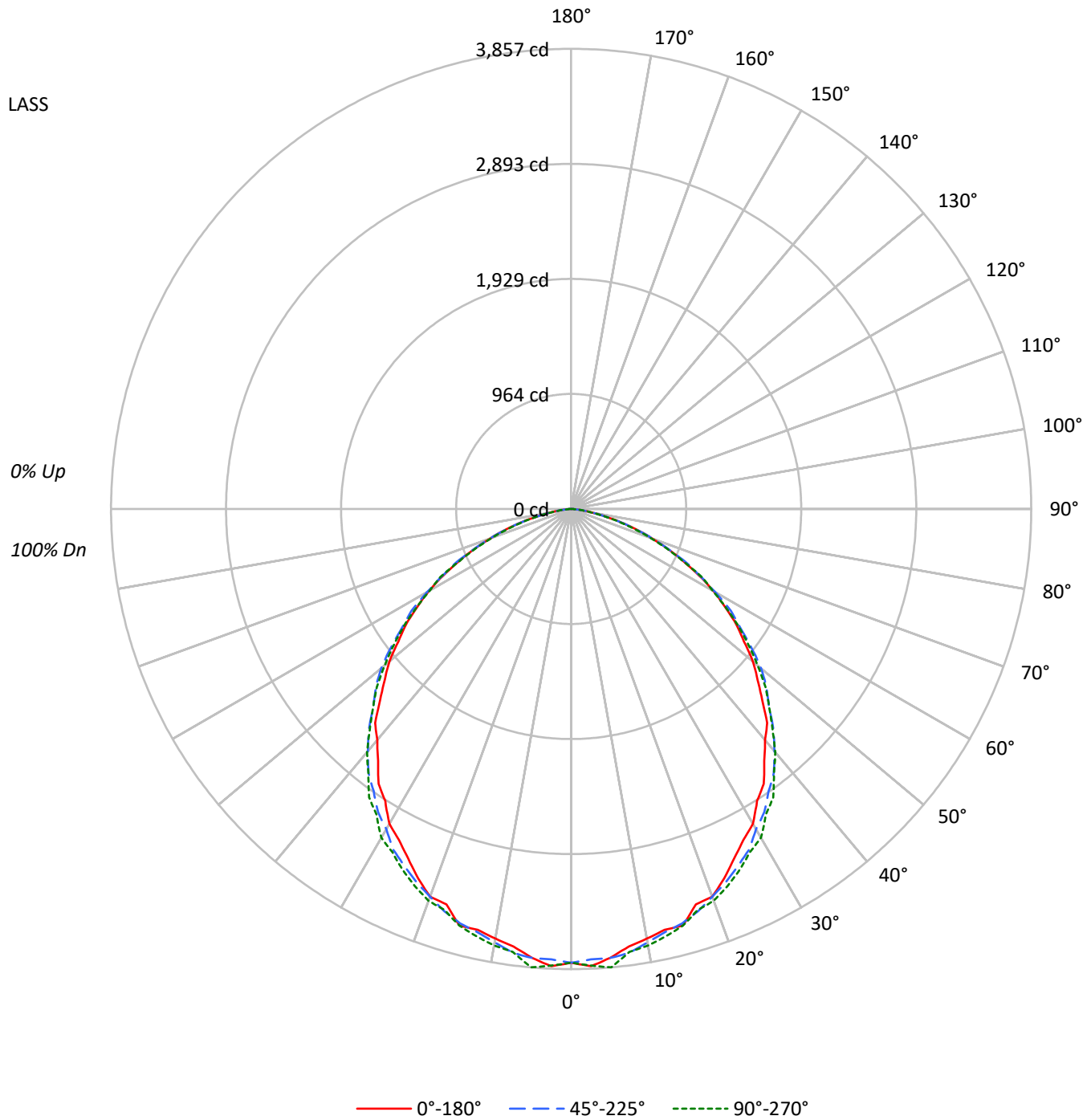
Lumens per Lamp: N/A
Luminaire Lumens: 9584.0 lumens
Efficiency: N/A
Efficacy: 110.9 lumens/watt
Spacing Criteria (0/90/45): 1.19 / 1.23 / 1.33
Luminous Opening: Rectangular (W 2' x L: 2' x H: 0')
CIE Type: Direct

Input Watts (W): 86.4
Input Voltage (V):
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: 24 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									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	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	105	101	98	107	103	100	96	99	96	93	95	93	90	91	90	88	86																												
2	100	93	86	81	98	91	85	80	87	82	78	84	80	76	81	78	75	73																												
3	92	82	74	68	89	80	73	67	77	71	66	75	69	65	72	68	64	62																												
4	84	73	64	58	82	71	64	58	69	62	57	67	61	56	65	59	55	53																												
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48	46																												
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	53	47	43	41																												
7	67	53	45	39	65	53	45	39	51	44	39	50	43	38	48	42	38	36																												
8	62	49	41	35	61	48	40	35	47	40	34	46	39	34	44	39	34	32																												
9	58	45	37	31	57	44	37	31	43	36	31	42	36	31	41	35	31	29																												
10	54	41	34	29	53	41	33	28	40	33	28	39	33	28	38	32	28	26																												

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	10233	10233	10233
5°	10199	10203	10418
10°	9992	10080	10151
15°	10071	10017	10073
20°	9901	9901	10007
25°	9597	9807	9915
30°	9465	9631	9888
35°	9242	9484	9697
40°	8883	9310	9351
45°	8614	8920	8933
50°	8331	8707	8540
55°	7938	8092	8035
60°	7423	7497	7362
65°	6618	6787	6572
70°	5678	5698	5540
75°	4498	4487	4314
80°	3013	2929	2816
85°	1636	1621	1516

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 9150 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	357.7	3.7
10°-20°	1013.8	10.6
20°-30°	1518.8	15.8
30°-40°	1800.1	18.8
40°-50°	1803.5	18.8
50°-60°	1530.8	16.0
60°-70°	1032.1	10.8
70°-80°	453.5	4.7
80°-90°	73.7	0.8
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°	2890.3	30.2
0°-40°	4690.4	48.9
0°-60°	8024.7	83.7
0°-90°	9584.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9584.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3803	3803	3803	3803	3803	
5°	3776	3767	3777	3766	3857	356
15°	3615	3573	3596	3614	3616	1007
25°	3232	3250	3303	3346	3339	1494
35°	2813	2822	2887	2954	2952	1747
45°	2263	2306	2344	2404	2347	1751
55°	1692	1681	1725	1713	1713	1505
65°	1039	1026	1066	1025	1032	1034
75°	433	424	432	401	415	464
85°	53	52	52	51	49	77
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3802.7	3802.7	3802.7	3802.7	3802.7
2.5°	3835.6	3806.6	3779.6	3811.0	3830.2
5°	3775.7	3766.8	3777.2	3765.9	3856.7
7.5°	3698.1	3732.0	3751.6	3739.4	3744.8
10°	3656.9	3645.1	3688.8	3719.2	3714.8
12.5°	3612.7	3630.4	3632.8	3665.7	3668.6
15°	3615.1	3573.4	3595.5	3614.2	3615.6
17.5°	3474.7	3519.9	3535.1	3577.8	3524.8
20°	3457.5	3424.6	3457.5	3501.2	3494.3
22.5°	3352.0	3315.1	3385.8	3424.6	3422.2
25°	3232.2	3249.8	3302.9	3346.1	3339.2
27.5°	3127.1	3147.7	3223.3	3282.7	3244.4
30°	3046.1	3035.8	3099.6	3152.6	3182.1
32.5°	2901.2	2938.6	3013.2	3065.7	3037.7
35°	2813.4	2821.7	2887.0	2953.8	2951.8
37.5°	2659.7	2698.5	2790.3	2808.9	2791.7
40°	2528.6	2567.4	2650.3	2670.5	2662.1
42.5°	2431.9	2438.7	2509.9	2533.0	2496.2
45°	2263.4	2305.7	2344.0	2404.4	2347.4
47.5°	2120.1	2139.7	2222.2	2238.4	2208.5
50°	1990.0	1996.8	2079.8	2059.7	2040.0
52.5°	1826.5	1855.4	1902.1	1898.2	1875.1
55°	1691.9	1680.6	1724.8	1713.1	1712.6
57.5°	1530.4	1550.0	1586.4	1567.7	1537.8
60°	1379.2	1379.7	1392.9	1371.8	1367.9
62.5°	1210.8	1216.7	1219.6	1193.6	1235.8
65°	1039.4	1025.7	1065.9	1025.2	1032.1
67.5°	881.8	888.7	884.8	859.2	869.0
70°	721.7	730.6	724.2	695.2	704.1
72.5°	575.4	564.6	571.5	535.2	551.9
75°	432.6	423.7	431.6	401.1	414.9
77.5°	294.6	301.5	296.6	280.4	289.7
80°	194.4	189.0	189.0	179.7	181.7
82.5°	113.4	108.0	106.5	103.6	108.0
85°	53.0	51.6	52.5	51.1	49.1
87.5°	19.1	19.6	19.6	18.7	17.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)