

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: P590760

Luminaire Tested: FSR-24-2-LD4-4HI-40-UNV-82-87-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590760
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-82-87-EDD
Description: 2X2 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8431.0 lumens
Efficiency: N/A
Efficacy: 97.6 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

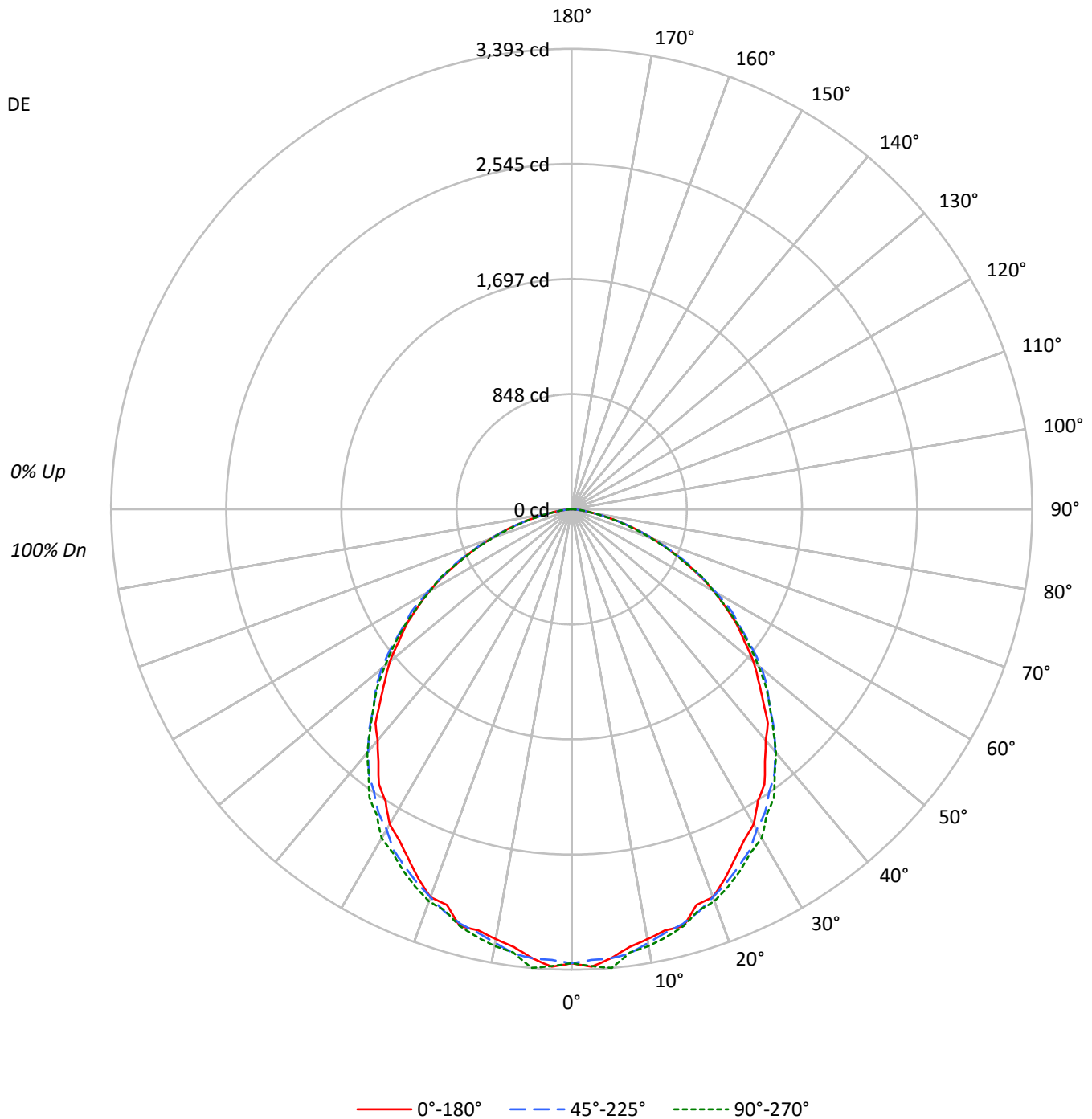
Input Watts (W): 86.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



TEST NUMBER: P590760

CATALOG NUMBER: FSR-24-2-LD4-4HI-40-UNV-82-87-EDD

Luminous Intensity Polar Plot





TEST NUMBER: P590760

CATALOG NUMBER: FSR-24-2-LD4-4HI-40-UNV-82-87-EDD

COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	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	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°	9002	9002	9002
5°	8972	8975	9165
10°	8790	8867	8930
15°	8860	8812	8861
20°	8710	8710	8803
25°	8442	8627	8722
30°	8326	8473	8698
35°	8130	8343	8530
40°	7814	8190	8227
45°	7577	7847	7859
50°	7329	7659	7513
55°	6983	7119	7068
60°	6530	6595	6476
65°	5822	5971	5781
70°	4995	5013	4873
75°	3956	3948	3795
80°	2650	2577	2476
85°	1439	1426	1334

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 8049 cd/sqm



TEST NUMBER: P590760

CATALOG NUMBER: FSR-24-2-LD4-4HI-40-UNV-82-87-EDD

ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	314.7	3.7
10°-20°	891.8	10.6
20°-30°	1336.1	15.8
30°-40°	1583.6	18.8
40°-50°	1586.5	18.8
50°-60°	1346.7	16.0
60°-70°	907.9	10.8
70°-80°	399.0	4.7
80°-90°	64.8	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°	2542.6	30.2
0°-40°	4126.1	48.9
0°-60°	7059.3	83.7
0°-90°	8431.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8431.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3345	3345	3345	3345	3345	
5°	3322	3314	3323	3313	3393	313
15°	3180	3144	3163	3179	3181	886
25°	2843	2859	2906	2944	2938	1314
35°	2475	2482	2540	2598	2597	1537
45°	1991	2028	2062	2115	2065	1540
55°	1488	1478	1517	1507	1506	1324
65°	914	902	938	902	908	909
75°	380	373	380	353	365	408
85°	47	45	46	45	43	68
90°	0	0	0	0	0	



TEST NUMBER: P590760

CATALOG NUMBER: FSR-24-2-LD4-4HI-40-UNV-82-87-EDD

CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3345.2	3345.2	3345.2	3345.2	3345.2
2.5°	3374.1	3348.7	3324.9	3352.6	3369.4
5°	3321.5	3313.7	3322.7	3312.8	3392.7
7.5°	3253.2	3283.0	3300.3	3289.5	3294.2
10°	3216.9	3206.6	3245.0	3271.8	3267.9
12.5°	3178.1	3193.6	3195.8	3224.7	3227.3
15°	3180.2	3143.5	3162.9	3179.4	3180.6
17.5°	3056.7	3096.4	3109.8	3147.4	3100.7
20°	3041.6	3012.6	3041.6	3080.0	3074.0
22.5°	2948.7	2916.3	2978.5	3012.6	3010.5
25°	2843.3	2858.9	2905.5	2943.5	2937.5
27.5°	2750.9	2769.0	2835.5	2887.8	2854.1
30°	2679.6	2670.6	2726.7	2773.3	2799.3
32.5°	2552.2	2585.0	2650.7	2696.9	2672.3
35°	2474.9	2482.2	2539.7	2598.4	2596.7
37.5°	2339.7	2373.8	2454.6	2471.0	2455.9
40°	2224.4	2258.5	2331.5	2349.2	2341.9
42.5°	2139.3	2145.3	2208.0	2228.3	2195.9
45°	1991.1	2028.3	2062.0	2115.1	2065.0
47.5°	1865.0	1882.3	1954.9	1969.1	1942.8
50°	1750.6	1756.6	1829.6	1811.9	1794.6
52.5°	1606.7	1632.2	1673.3	1669.8	1649.5
55°	1488.4	1478.5	1517.3	1507.0	1506.5
57.5°	1346.3	1363.6	1395.5	1379.1	1352.8
60°	1213.3	1213.7	1225.4	1206.8	1203.3
62.5°	1065.1	1070.3	1072.9	1050.0	1087.1
65°	914.4	902.3	937.7	901.8	907.9
67.5°	775.7	781.8	778.3	755.9	764.5
70°	634.9	642.7	637.1	611.6	619.4
72.5°	506.2	496.7	502.8	470.8	485.5
75°	380.5	372.7	379.7	352.9	365.0
77.5°	259.2	265.2	260.9	246.6	254.8
80°	171.0	166.3	166.3	158.1	159.8
82.5°	99.8	95.0	93.7	91.1	95.0
85°	46.6	45.4	46.2	44.9	43.2
87.5°	16.8	17.3	17.3	16.4	15.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)