

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: P590796

Luminaire Tested: FSR-24-2-LD4-4HI-50-UNV-82-97-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590796
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-50-UNV-82-97-EDD
Description: 2X2 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .375 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8927.0 lumens
Efficiency: N/A
Efficacy: 103.3 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

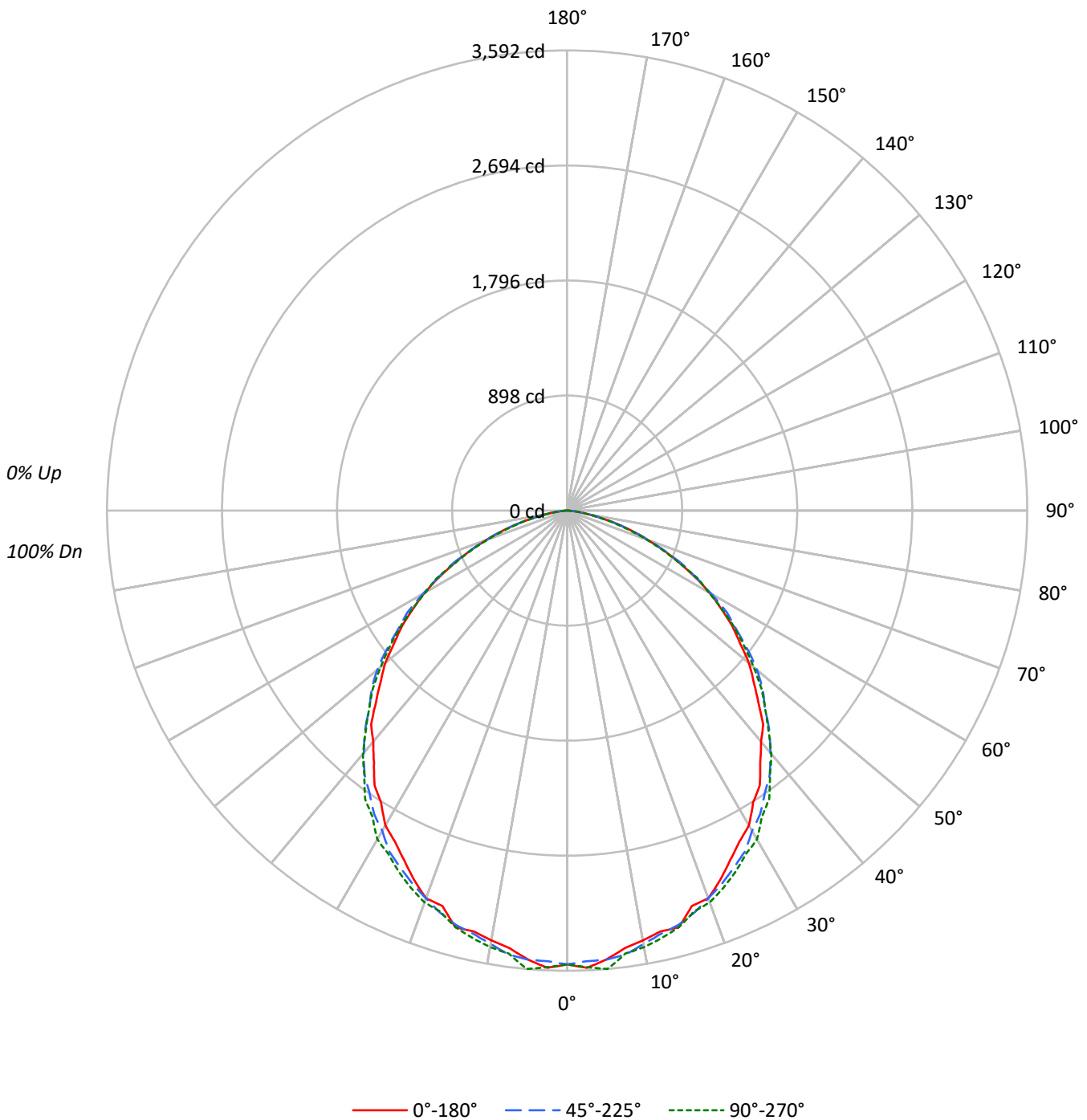
Input Watts (W): 86.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20				20				20				20				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°	9531	9531	9531
5°	9500	9504	9704
10°	9307	9389	9455
15°	9381	9330	9382
20°	9222	9222	9321
25°	8939	9134	9235
30°	8816	8971	9210
35°	8609	8834	9032
40°	8273	8672	8710
45°	8023	8309	8321
50°	7760	8110	7955
55°	7394	7537	7484
60°	6914	6983	6857
65°	6165	6322	6121
70°	5290	5308	5160
75°	4189	4180	4017
80°	2806	2729	2622
85°	1525	1510	1411

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 8523 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	333.2	3.7
10°-20°	944.3	10.6
20°-30°	1414.7	15.8
30°-40°	1676.7	18.8
40°-50°	1679.8	18.8
50°-60°	1425.9	16.0
60°-70°	961.4	10.8
70°-80°	422.4	4.7
80°-90°	68.6	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°	2692.2	30.2
0°-40°	4368.9	48.9
0°-60°	7474.6	83.7
0°-90°	8927.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8927.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3542	3542	3542	3542	3542	
5°	3517	3509	3518	3508	3592	332
15°	3367	3328	3349	3366	3368	938
25°	3011	3027	3076	3117	3110	1392
35°	2620	2628	2689	2751	2750	1627
45°	2108	2148	2183	2240	2186	1631
55°	1576	1565	1607	1596	1595	1402
65°	968	955	993	955	961	963
75°	403	395	402	374	386	432
85°	49	48	49	48	46	72
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3542.0	3542.0	3542.0	3542.0	3542.0
2.5°	3572.6	3545.7	3520.5	3549.8	3567.6
5°	3516.9	3508.6	3518.2	3507.7	3592.3
7.5°	3444.6	3476.2	3494.4	3483.0	3488.0
10°	3406.2	3395.2	3435.9	3464.3	3460.1
12.5°	3365.0	3381.5	3383.8	3414.4	3417.2
15°	3367.3	3328.4	3349.0	3366.4	3367.8
17.5°	3236.5	3278.6	3292.8	3332.6	3283.2
20°	3220.5	3189.9	3220.5	3261.2	3254.8
22.5°	3122.2	3087.9	3153.7	3189.9	3187.6
25°	3010.6	3027.1	3076.4	3116.7	3110.3
27.5°	2912.7	2931.9	3002.4	3057.7	3022.0
30°	2837.3	2827.7	2887.1	2936.5	2963.9
32.5°	2702.4	2737.1	2806.6	2855.6	2829.5
35°	2620.5	2628.3	2689.1	2751.3	2749.5
37.5°	2477.3	2513.5	2599.0	2616.4	2600.4
40°	2355.2	2391.4	2468.7	2487.4	2479.6
42.5°	2265.1	2271.5	2337.9	2359.4	2325.1
45°	2108.3	2147.6	2183.3	2239.5	2186.5
47.5°	1974.7	1993.0	2069.9	2085.0	2057.1
50°	1853.6	1860.0	1937.2	1918.5	1900.2
52.5°	1701.3	1728.2	1771.7	1768.0	1746.5
55°	1576.0	1565.4	1606.6	1595.6	1595.2
57.5°	1425.5	1443.8	1477.6	1460.2	1432.4
60°	1284.6	1285.1	1297.4	1277.8	1274.1
62.5°	1127.8	1133.3	1136.0	1111.8	1151.1
65°	968.2	955.4	992.9	954.9	961.3
67.5°	821.4	827.8	824.1	800.3	809.5
70°	672.3	680.5	674.6	647.6	655.8
72.5°	536.0	525.9	532.3	498.5	514.0
75°	402.9	394.7	402.0	373.6	386.4
77.5°	274.4	280.8	276.2	261.1	269.8
80°	181.1	176.1	176.1	167.4	169.2
82.5°	105.6	100.6	99.2	96.5	100.6
85°	49.4	48.0	48.9	47.6	45.7
87.5°	17.8	18.3	18.3	17.4	16.5
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)