

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: P590725

Luminaire Tested: FSR-24-2-LD4-4HI-35-UNV-82-84-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590725
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-35-UNV-82-84-EDD
Description: 2X2 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8903.0 lumens
Efficiency: N/A
Efficacy: 103.0 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

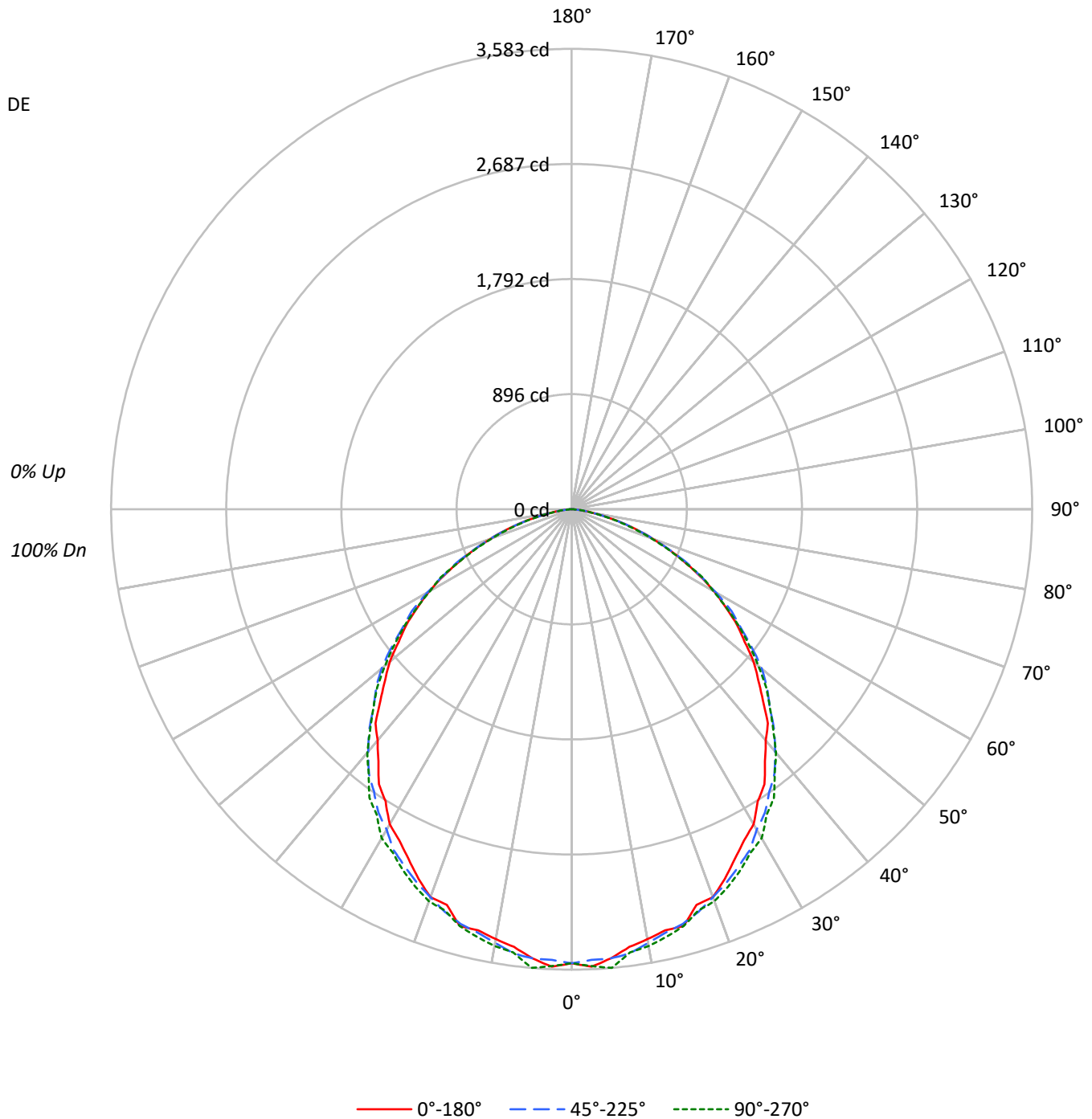
Input Watts (W): 86.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	9506	9506	9506
5°	9474	9478	9678
10°	9282	9363	9429
15°	9356	9305	9357
20°	9198	9198	9296
25°	8915	9110	9210
30°	8792	8947	9185
35°	8585	8810	9008
40°	8251	8649	8687
45°	8002	8286	8299
50°	7739	8088	7934
55°	7374	7517	7464
60°	6895	6964	6839
65°	6148	6305	6104
70°	5275	5293	5146
75°	4178	4168	4007
80°	2799	2721	2616
85°	1522	1507	1408

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 8500 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	332.3	3.7
10°-20°	941.7	10.6
20°-30°	1410.9	15.8
30°-40°	1672.2	18.8
40°-50°	1675.3	18.8
50°-60°	1422.1	16.0
60°-70°	958.7	10.8
70°-80°	421.3	4.7
80°-90°	68.4	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°	2684.9	30.2
0°-40°	4357.1	48.9
0°-60°	7454.5	83.7
0°-90°	8903.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8903.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3532	3532	3532	3532	3532	
5°	3507	3499	3509	3498	3583	331
15°	3358	3320	3340	3357	3359	936
25°	3002	3019	3068	3108	3102	1388
35°	2613	2621	2682	2744	2742	1623
45°	2103	2142	2177	2234	2181	1626
55°	1572	1561	1602	1591	1591	1398
65°	966	953	990	952	959	960
75°	402	394	401	373	385	431
85°	49	48	49	47	46	71
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3532.5	3532.5	3532.5	3532.5	3532.5
2.5°	3563.0	3536.1	3511.0	3540.2	3558.0
5°	3507.4	3499.2	3508.8	3498.3	3582.7
7.5°	3435.3	3466.8	3485.1	3473.6	3478.7
10°	3397.0	3386.1	3426.7	3454.9	3450.8
12.5°	3356.0	3372.4	3374.7	3405.2	3408.0
15°	3358.3	3319.5	3340.0	3357.3	3358.7
17.5°	3227.8	3269.8	3283.9	3323.6	3274.3
20°	3211.8	3181.3	3211.8	3252.4	3246.1
22.5°	3113.8	3079.6	3145.3	3181.3	3179.0
25°	3002.5	3018.9	3068.2	3108.3	3101.9
27.5°	2904.9	2924.0	2994.3	3049.5	3013.9
30°	2829.6	2820.1	2879.4	2928.6	2956.0
32.5°	2695.1	2729.8	2799.1	2847.9	2821.9
35°	2613.4	2621.2	2681.9	2743.9	2742.1
37.5°	2470.7	2506.7	2592.0	2609.3	2593.4
40°	2348.9	2384.9	2462.0	2480.7	2473.0
42.5°	2259.1	2265.4	2331.6	2353.0	2318.8
45°	2102.6	2141.8	2177.4	2233.5	2180.6
47.5°	1969.4	1987.7	2064.3	2079.4	2051.5
50°	1848.6	1855.0	1932.0	1913.3	1895.1
52.5°	1696.7	1723.6	1766.9	1763.3	1741.8
55°	1571.7	1561.2	1602.3	1591.3	1590.9
57.5°	1421.7	1439.9	1473.7	1456.3	1428.5
60°	1281.2	1281.6	1294.0	1274.3	1270.7
62.5°	1124.7	1130.2	1132.9	1108.8	1148.0
65°	965.6	952.8	990.2	952.3	958.7
67.5°	819.2	825.5	821.9	798.2	807.3
70°	670.5	678.7	672.7	645.8	654.0
72.5°	534.5	524.5	530.9	497.1	512.7
75°	401.8	393.6	400.9	372.6	385.4
77.5°	273.7	280.0	275.5	260.4	269.1
80°	180.6	175.6	175.6	166.9	168.8
82.5°	105.4	100.3	99.0	96.2	100.3
85°	49.3	47.9	48.8	47.4	45.6
87.5°	17.8	18.2	18.2	17.3	16.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)