

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: P590737

Luminaire Tested: FSR-24-2-LD4-4HI-35-UNV-93-88-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590737
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-93-88-EDD
Description: 2X2 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8099.0 lumens
Efficiency: N/A
Efficacy: 93.7 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

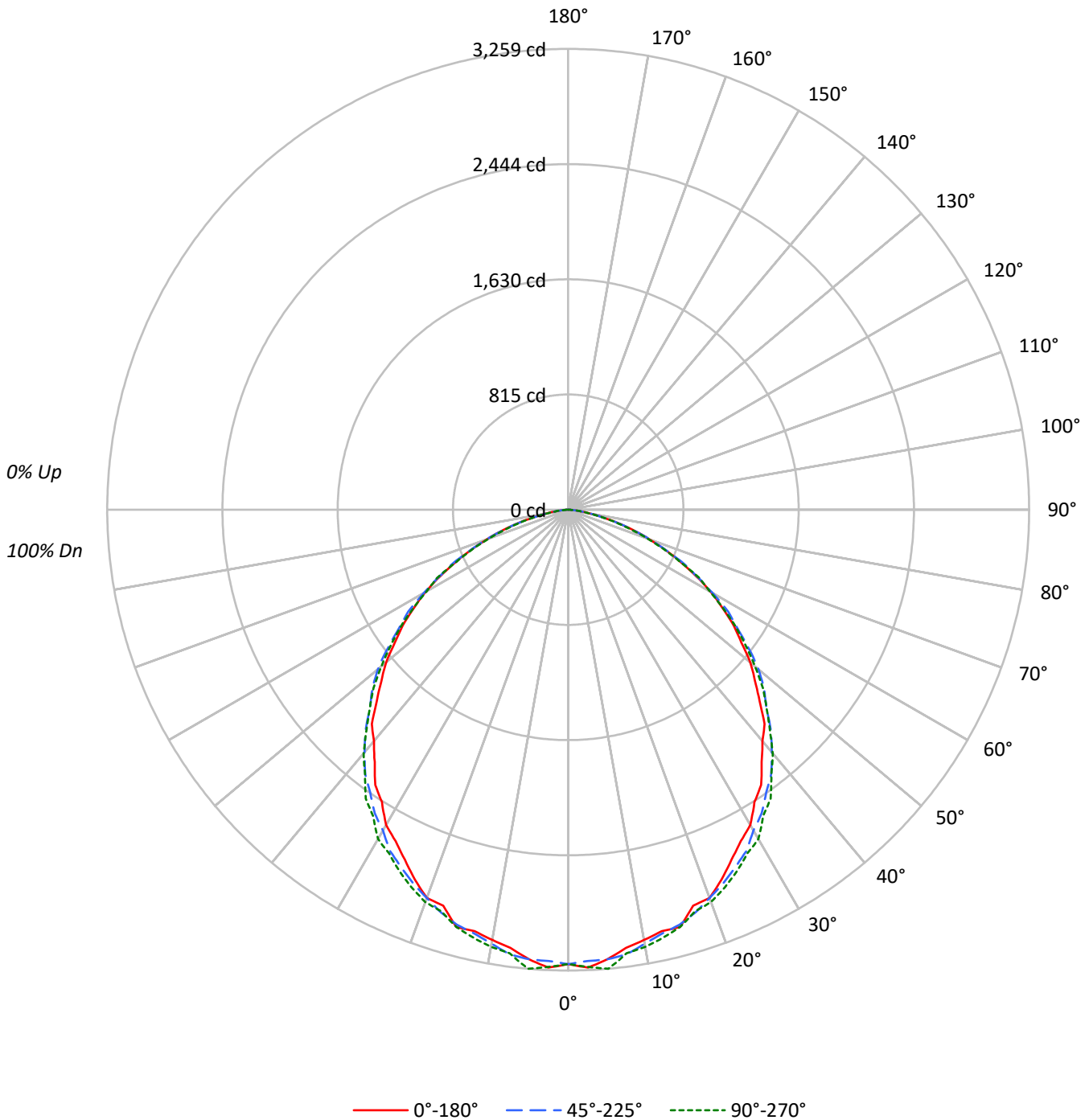
Input Watts (W): 86.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	8647	8647	8647
5°	8619	8622	8804
10°	8444	8518	8578
15°	8511	8465	8512
20°	8367	8367	8456
25°	8110	8287	8378
30°	7998	8139	8355
35°	7810	8015	8194
40°	7506	7868	7902
45°	7279	7538	7549
50°	7040	7358	7217
55°	6708	6838	6790
60°	6273	6335	6221
65°	5593	5736	5553
70°	4799	4815	4681
75°	3800	3792	3645
80°	2546	2475	2379
85°	1383	1371	1281

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 7732 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	302.3	3.7
10°-20°	856.7	10.6
20°-30°	1283.5	15.8
30°-40°	1521.2	18.8
40°-50°	1524.0	18.8
50°-60°	1293.6	16.0
60°-70°	872.2	10.8
70°-80°	383.2	4.7
80°-90°	62.3	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°	2442.5	30.2
0°-40°	3963.7	48.9
0°-60°	6781.3	83.7
0°-90°	8099.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8099.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3214	3214	3214	3214	3214	
5°	3191	3183	3192	3182	3259	301
15°	3055	3020	3038	3054	3055	851
25°	2731	2746	2791	2828	2822	1263
35°	2377	2384	2440	2496	2494	1476
45°	1913	1948	1981	2032	1984	1480
55°	1430	1420	1458	1448	1447	1272
65°	878	867	901	866	872	874
75°	366	358	365	339	351	392
85°	45	44	44	43	42	65
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3213.5	3213.5	3213.5	3213.5	3213.5
2.5°	3241.3	3216.8	3194.0	3220.5	3236.7
5°	3190.7	3183.2	3191.9	3182.4	3259.1
7.5°	3125.1	3153.7	3170.3	3160.0	3164.5
10°	3090.3	3080.3	3117.2	3142.9	3139.2
12.5°	3052.9	3067.8	3069.9	3097.7	3100.2
15°	3055.0	3019.7	3038.4	3054.2	3055.4
17.5°	2936.3	2974.5	2987.4	3023.4	2978.6
20°	2921.8	2894.0	2921.8	2958.7	2952.9
22.5°	2832.6	2801.5	2861.2	2894.0	2891.9
25°	2731.4	2746.3	2791.1	2827.6	2821.8
27.5°	2642.6	2660.0	2723.9	2774.1	2741.7
30°	2574.1	2565.4	2619.3	2664.1	2689.0
32.5°	2451.7	2483.2	2546.3	2590.7	2567.0
35°	2377.4	2384.5	2439.7	2496.1	2494.4
37.5°	2247.6	2280.3	2357.9	2373.7	2359.2
40°	2136.8	2169.6	2239.7	2256.7	2249.6
42.5°	2055.0	2060.9	2121.0	2140.5	2109.4
45°	1912.7	1948.4	1980.8	2031.8	1983.7
47.5°	1791.6	1808.2	1877.9	1891.6	1866.3
50°	1681.6	1687.4	1757.6	1740.5	1724.0
52.5°	1543.5	1567.9	1607.4	1604.0	1584.5
55°	1429.8	1420.2	1457.6	1447.6	1447.2
57.5°	1293.3	1309.9	1340.6	1324.8	1299.5
60°	1165.5	1165.9	1177.1	1159.3	1155.9
62.5°	1023.2	1028.1	1030.6	1008.6	1044.3
65°	878.4	866.7	900.8	866.3	872.1
67.5°	745.2	751.0	747.7	726.1	734.4
70°	609.9	617.4	612.0	587.5	595.0
72.5°	486.3	477.1	483.0	452.3	466.4
75°	365.5	358.1	364.7	339.0	350.6
77.5°	248.9	254.8	250.6	236.9	244.8
80°	164.3	159.7	159.7	151.9	153.5
82.5°	95.8	91.3	90.0	87.5	91.3
85°	44.8	43.6	44.4	43.2	41.5
87.5°	16.2	16.6	16.6	15.8	14.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)