

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: P590480

Luminaire Tested: FSR-24-2-LD4-3HI-40-UNV-93-87-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590480
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-LD4-3HI-40-UNV-93-87-EDD
Description: 2X2 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 6813.0 lumens
Efficiency: N/A
Efficacy: 105.1 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

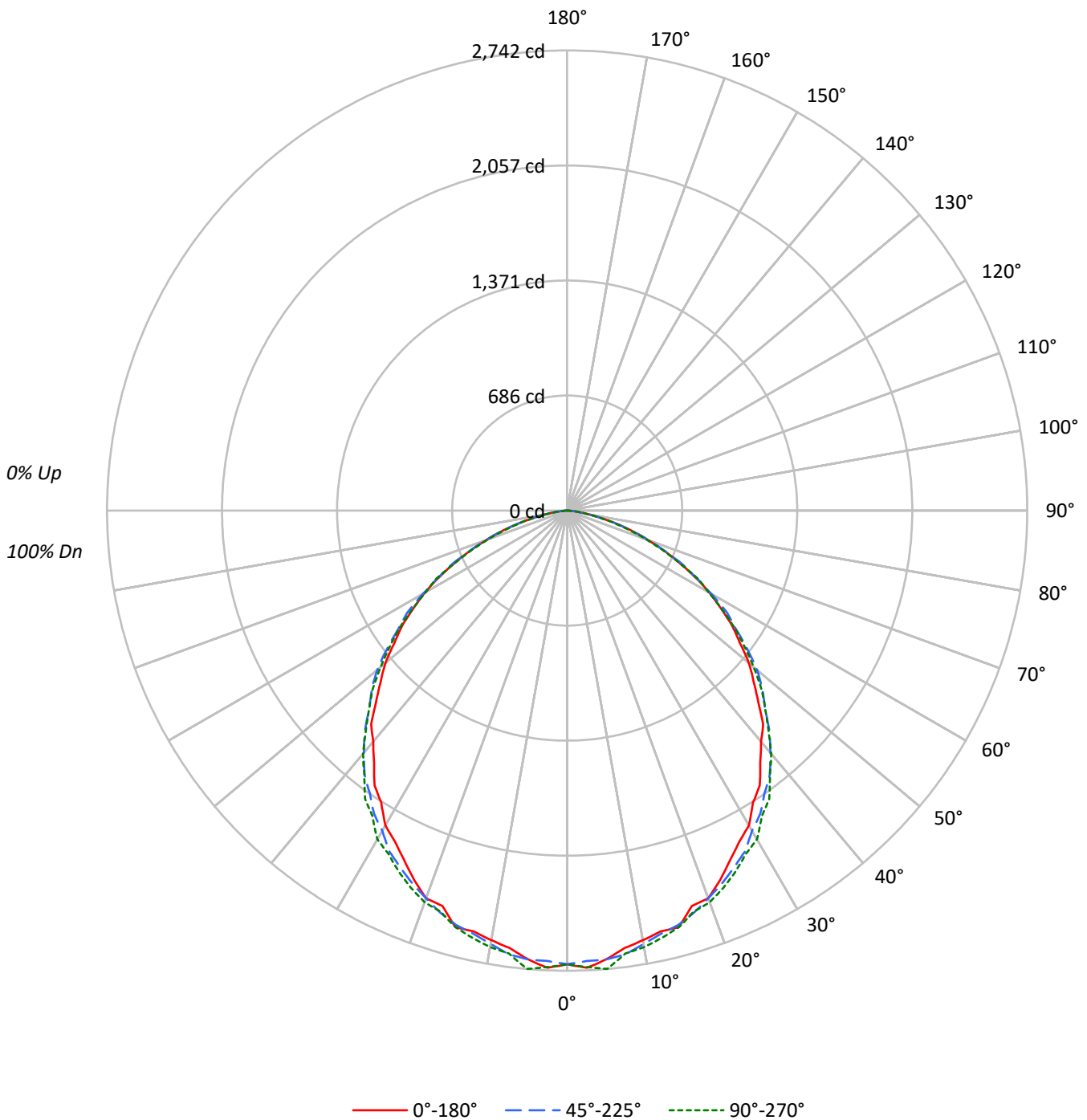
Input Watts (W): 64.8
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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									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	0													
RCR																																					
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100						100													
1	110	105	101	98	107	103	100	96	99	96	93	95	93	90	91	90	88	86						86													
2	100	93	86	81	98	91	85	80	87	82	78	84	80	76	81	78	75	73						73													
3	92	82	74	68	89	80	73	67	77	71	66	75	69	65	72	68	64	62						62													
4	84	73	64	58	82	71	64	58	69	62	57	67	61	56	65	59	55	53						53													
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48	46						46													
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	53	47	43	41						41													
7	67	53	45	39	65	53	45	39	51	44	39	50	43	38	48	42	38	36						36													
8	62	49	41	35	61	48	40	35	47	40	34	46	39	34	44	39	34	32						32													
9	58	45	37	31	57	44	37	31	43	36	31	42	36	31	41	35	31	29						29													
10	54	41	34	29	53	41	33	28	40	33	28	39	33	28	38	32	28	26						26													

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	7274	7274	7274
5°	7250	7253	7406
10°	7103	7165	7216
15°	7160	7120	7160
20°	7039	7039	7113
25°	6822	6971	7048
30°	6728	6847	7029
35°	6570	6742	6893
40°	6314	6619	6648
45°	6123	6341	6350
50°	5922	6190	6071
55°	5643	5752	5712
60°	5276	5329	5233
65°	4705	4825	4672
70°	4037	4050	3938
75°	3197	3190	3066
80°	2142	2083	2001
85°	1164	1152	1078

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 6505 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	254.3	3.7
10°-20°	720.7	10.6
20°-30°	1079.7	15.8
30°-40°	1279.7	18.8
40°-50°	1282.0	18.8
50°-60°	1088.2	16.0
60°-70°	733.7	10.8
70°-80°	322.4	4.7
80°-90°	52.4	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°	2054.6	30.2
0°-40°	3334.3	48.9
0°-60°	5704.5	83.7
0°-90°	6813.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	6813.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2703	2703	2703	2703	2703	
5°	2684	2678	2685	2677	2742	253
15°	2570	2540	2556	2569	2570	716
25°	2298	2310	2348	2379	2374	1062
35°	2000	2006	2052	2100	2098	1242
45°	1609	1639	1666	1709	1669	1245
55°	1203	1195	1226	1218	1217	1070
65°	739	729	758	729	734	735
75°	308	301	307	285	295	330
85°	38	37	37	36	35	55
90°	0	0	0	0	0	

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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2703.2	2703.2	2703.2	2703.2	2703.2
2.5°	2726.6	2706.0	2686.8	2709.2	2722.8
5°	2684.0	2677.7	2685.1	2677.0	2741.6
7.5°	2628.9	2653.0	2666.9	2658.2	2662.0
10°	2599.6	2591.2	2622.3	2643.9	2640.8
12.5°	2568.2	2580.7	2582.5	2605.8	2607.9
15°	2569.9	2540.2	2555.9	2569.2	2570.2
17.5°	2470.1	2502.2	2513.0	2543.4	2505.7
20°	2457.9	2434.5	2457.9	2488.9	2484.0
22.5°	2382.8	2356.6	2406.9	2434.5	2432.7
25°	2297.7	2310.2	2347.9	2378.6	2373.7
27.5°	2223.0	2237.6	2291.4	2333.6	2306.4
30°	2165.4	2158.0	2203.4	2241.1	2262.1
32.5°	2062.4	2088.9	2142.0	2179.3	2159.4
35°	1999.9	2005.9	2052.3	2099.8	2098.4
37.5°	1890.7	1918.3	1983.5	1996.8	1984.6
40°	1797.5	1825.1	1884.1	1898.4	1892.4
42.5°	1728.7	1733.6	1784.2	1800.6	1774.5
45°	1609.0	1639.0	1666.3	1709.2	1668.7
47.5°	1507.1	1521.1	1579.7	1591.2	1569.9
50°	1414.6	1419.5	1478.5	1464.2	1450.2
52.5°	1298.4	1319.0	1352.1	1349.3	1332.9
55°	1202.8	1194.7	1226.1	1217.8	1217.4
57.5°	1087.9	1101.9	1127.7	1114.4	1093.2
60°	980.4	980.8	990.2	975.2	972.4
62.5°	860.7	864.9	867.0	848.5	878.5
65°	738.9	729.1	757.7	728.8	733.7
67.5°	626.9	631.7	628.9	610.8	617.8
70°	513.1	519.4	514.8	494.2	500.5
72.5°	409.1	401.4	406.3	380.4	392.3
75°	307.5	301.2	306.8	285.2	294.9
77.5°	209.4	214.3	210.8	199.3	205.9
80°	138.2	134.4	134.4	127.7	129.1
82.5°	80.6	76.8	75.7	73.6	76.8
85°	37.7	36.6	37.3	36.3	34.9
87.5°	13.6	14.0	14.0	13.3	12.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)