

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: P590964

Luminaire Tested: FSR-24-2-LD4-4STD-40-UNV-93-97-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590964
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-LD4-4STD-40-UNV-93-97-EDD
Description: 2X2 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR TEMPER
GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7548.0 lumens
Efficiency: N/A
Efficacy: 113.3 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

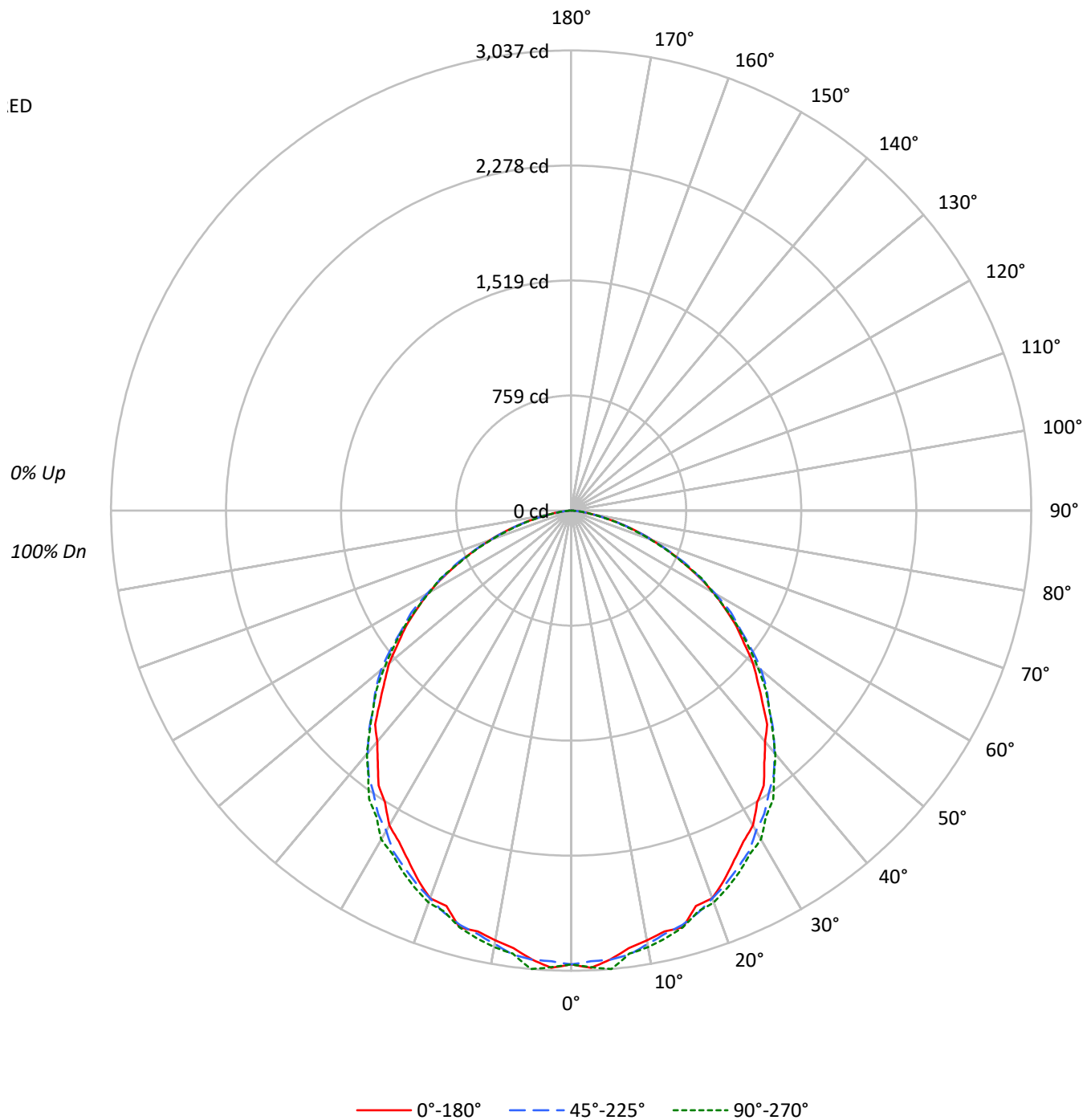
Input Watts (W): 66.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	8059	8059	8059
5°	8032	8035	8205
10°	7870	7938	7994
15°	7932	7889	7933
20°	7798	7798	7881
25°	7558	7723	7808
30°	7454	7585	7787
35°	7279	7469	7637
40°	6995	7332	7365
45°	6784	7025	7035
50°	6561	6857	6726
55°	6252	6373	6328
60°	5846	5904	5798
65°	5212	5345	5175
70°	4472	4488	4363
75°	3542	3534	3397
80°	2373	2307	2218
85°	1291	1278	1195

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 7206 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	281.7	3.7
10°-20°	798.4	10.6
20°-30°	1196.2	15.8
30°-40°	1417.7	18.8
40°-50°	1420.3	18.8
50°-60°	1205.6	16.0
60°-70°	812.8	10.8
70°-80°	357.2	4.7
80°-90°	58.1	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°	2276.3	30.2
0°-40°	3694.0	48.9
0°-60°	6320.0	83.7
0°-90°	7548.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7548.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2995	2995	2995	2995	2995	
5°	2974	2967	2975	2966	3037	280
15°	2847	2814	2832	2846	2848	793
25°	2546	2560	2601	2635	2630	1177
35°	2216	2222	2274	2326	2325	1376
45°	1783	1816	1846	1894	1849	1379
55°	1332	1324	1358	1349	1349	1185
65°	819	808	840	807	813	814
75°	341	334	340	316	327	365
85°	42	41	41	40	39	61
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2994.9	2994.9	2994.9	2994.9	2994.9
2.5°	3020.8	2997.9	2976.7	3001.4	3016.5
5°	2973.6	2966.6	2974.7	2965.9	3037.4
7.5°	2912.5	2939.2	2954.6	2945.0	2949.2
10°	2880.0	2870.7	2905.1	2929.1	2925.6
12.5°	2845.2	2859.1	2861.1	2887.0	2889.3
15°	2847.1	2814.3	2831.7	2846.4	2847.5
17.5°	2736.6	2772.1	2784.1	2817.8	2776.0
20°	2723.0	2697.1	2723.0	2757.4	2752.0
22.5°	2639.9	2610.9	2666.6	2697.1	2695.2
25°	2545.5	2559.5	2601.2	2635.2	2629.8
27.5°	2462.8	2479.0	2538.6	2585.4	2555.2
30°	2399.0	2390.9	2441.1	2482.9	2506.1
32.5°	2284.9	2314.3	2373.1	2414.4	2392.4
35°	2215.7	2222.3	2273.7	2326.3	2324.7
37.5°	2094.7	2125.2	2197.5	2212.2	2198.7
40°	1991.4	2022.0	2087.3	2103.2	2096.6
42.5°	1915.2	1920.7	1976.7	1994.9	1965.9
45°	1782.6	1815.9	1846.0	1893.6	1848.7
47.5°	1669.7	1685.2	1750.1	1762.9	1739.3
50°	1567.2	1572.6	1638.0	1622.1	1606.7
52.5°	1438.5	1461.3	1498.0	1494.9	1476.7
55°	1332.5	1323.6	1358.4	1349.1	1348.7
57.5°	1205.3	1220.8	1249.4	1234.7	1211.1
60°	1086.2	1086.6	1097.0	1080.4	1077.3
62.5°	953.6	958.2	960.5	940.0	973.3
65°	818.6	807.8	839.5	807.4	812.8
67.5°	694.5	699.9	696.8	676.7	684.4
70°	568.4	575.4	570.4	547.5	554.5
72.5°	453.2	444.7	450.1	421.5	434.6
75°	340.7	333.7	339.9	315.9	326.7
77.5°	232.0	237.4	233.6	220.8	228.1
80°	153.1	148.9	148.9	141.5	143.1
82.5°	89.3	85.1	83.9	81.6	85.1
85°	41.8	40.6	41.4	40.2	38.7
87.5°	15.1	15.5	15.5	14.7	13.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)