

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: P590950

Luminaire Tested: FSR-24-2-LD4-4STD-40-UNV-82-85-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590950
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-82-85-EDD
Description: 2X2 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7186.0 lumens
Efficiency: N/A
Efficacy: 107.9 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

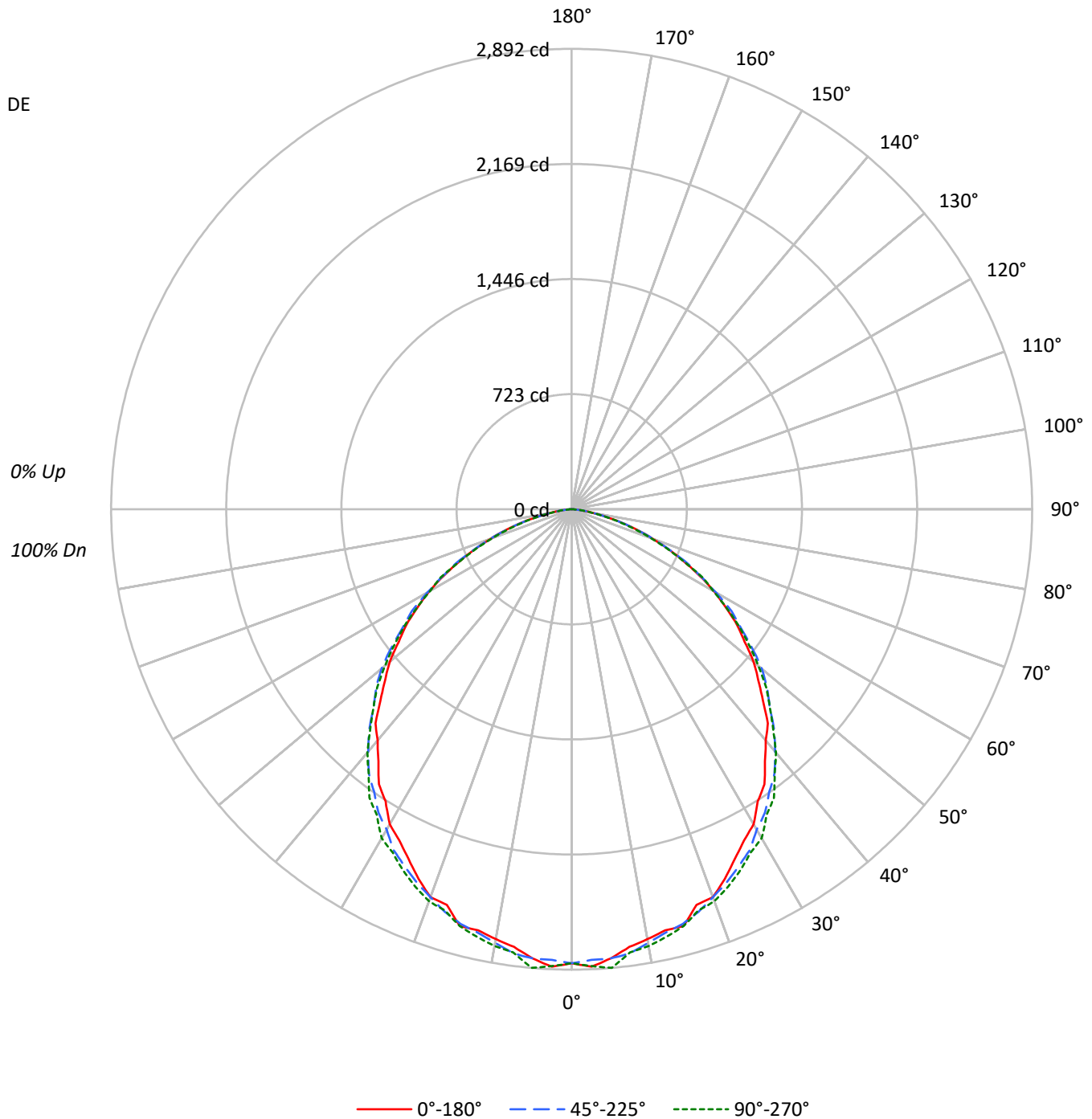
Input Watts (W): 66.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	7673	7673	7673
5°	7647	7650	7811
10°	7492	7558	7611
15°	7551	7511	7553
20°	7424	7424	7503
25°	7195	7353	7434
30°	7097	7222	7414
35°	6930	7111	7271
40°	6660	6981	7012
45°	6459	6688	6698
50°	6247	6528	6404
55°	5952	6068	6024
60°	5565	5621	5520
65°	4962	5089	4927
70°	4258	4272	4153
75°	3372	3365	3235
80°	2259	2196	2111
85°	1229	1216	1136

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 6861 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	268.2	3.7
10°-20°	760.1	10.6
20°-30°	1138.8	15.8
30°-40°	1349.7	18.8
40°-50°	1352.2	18.8
50°-60°	1147.8	16.0
60°-70°	773.8	10.8
70°-80°	340.0	4.7
80°-90°	55.3	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°	2167.1	30.2
0°-40°	3516.8	48.9
0°-60°	6016.9	83.7
0°-90°	7186.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7186.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2851	2851	2851	2851	2851	
5°	2831	2824	2832	2824	2892	267
15°	2711	2679	2696	2710	2711	755
25°	2423	2437	2476	2509	2504	1120
35°	2109	2116	2165	2215	2213	1310
45°	1697	1729	1758	1803	1760	1313
55°	1269	1260	1293	1284	1284	1128
65°	779	769	799	769	774	775
75°	324	318	324	301	311	348
85°	40	39	39	38	37	58
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2851.2	2851.2	2851.2	2851.2	2851.2
2.5°	2875.9	2854.2	2833.9	2857.5	2871.8
5°	2831.0	2824.3	2832.1	2823.6	2891.7
7.5°	2772.8	2798.2	2812.9	2803.7	2807.8
10°	2741.9	2733.1	2765.8	2788.6	2785.3
12.5°	2708.8	2722.0	2723.8	2748.5	2750.7
15°	2710.6	2679.3	2695.9	2709.9	2711.0
17.5°	2605.3	2639.2	2650.6	2682.6	2642.9
20°	2592.4	2567.8	2592.4	2625.2	2620.0
22.5°	2513.3	2485.7	2538.7	2567.8	2565.9
25°	2423.4	2436.7	2476.5	2508.9	2503.7
27.5°	2344.7	2360.1	2416.8	2461.4	2432.7
30°	2283.9	2276.2	2324.1	2363.8	2385.9
32.5°	2175.3	2203.3	2259.3	2298.6	2277.7
35°	2109.4	2115.7	2164.6	2214.7	2213.2
37.5°	1994.2	2023.3	2092.1	2106.1	2093.2
40°	1895.9	1925.0	1987.2	2002.3	1996.0
42.5°	1823.4	1828.5	1881.9	1899.2	1871.6
45°	1697.1	1728.8	1757.5	1802.8	1760.1
47.5°	1589.6	1604.3	1666.2	1678.3	1655.9
50°	1492.1	1497.2	1559.4	1544.3	1529.6
52.5°	1369.5	1391.2	1426.2	1423.2	1405.9
55°	1268.6	1260.1	1293.3	1284.4	1284.1
57.5°	1147.5	1162.2	1189.5	1175.5	1153.0
60°	1034.1	1034.5	1044.4	1028.6	1025.6
62.5°	907.8	912.2	914.5	894.9	926.6
65°	779.3	769.0	799.2	768.7	773.8
67.5°	661.2	666.3	663.4	644.2	651.6
70°	541.2	547.8	543.0	521.3	527.9
72.5°	431.5	423.4	428.5	401.3	413.8
75°	324.3	317.7	323.6	300.8	311.1
77.5°	220.9	226.0	222.4	210.2	217.2
80°	145.8	141.7	141.7	134.7	136.2
82.5°	85.0	81.0	79.9	77.7	81.0
85°	39.8	38.7	39.4	38.3	36.8
87.5°	14.4	14.7	14.7	14.0	13.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)