

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: P590910

Luminaire Tested: FSR-24-2-LD4-4STD-35-UNV-81-85-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590910
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-35-UNV-81-85-EDD
Description: 2X2 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SI
LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7267.0 lumens
Efficiency: N/A
Efficacy: 109.1 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

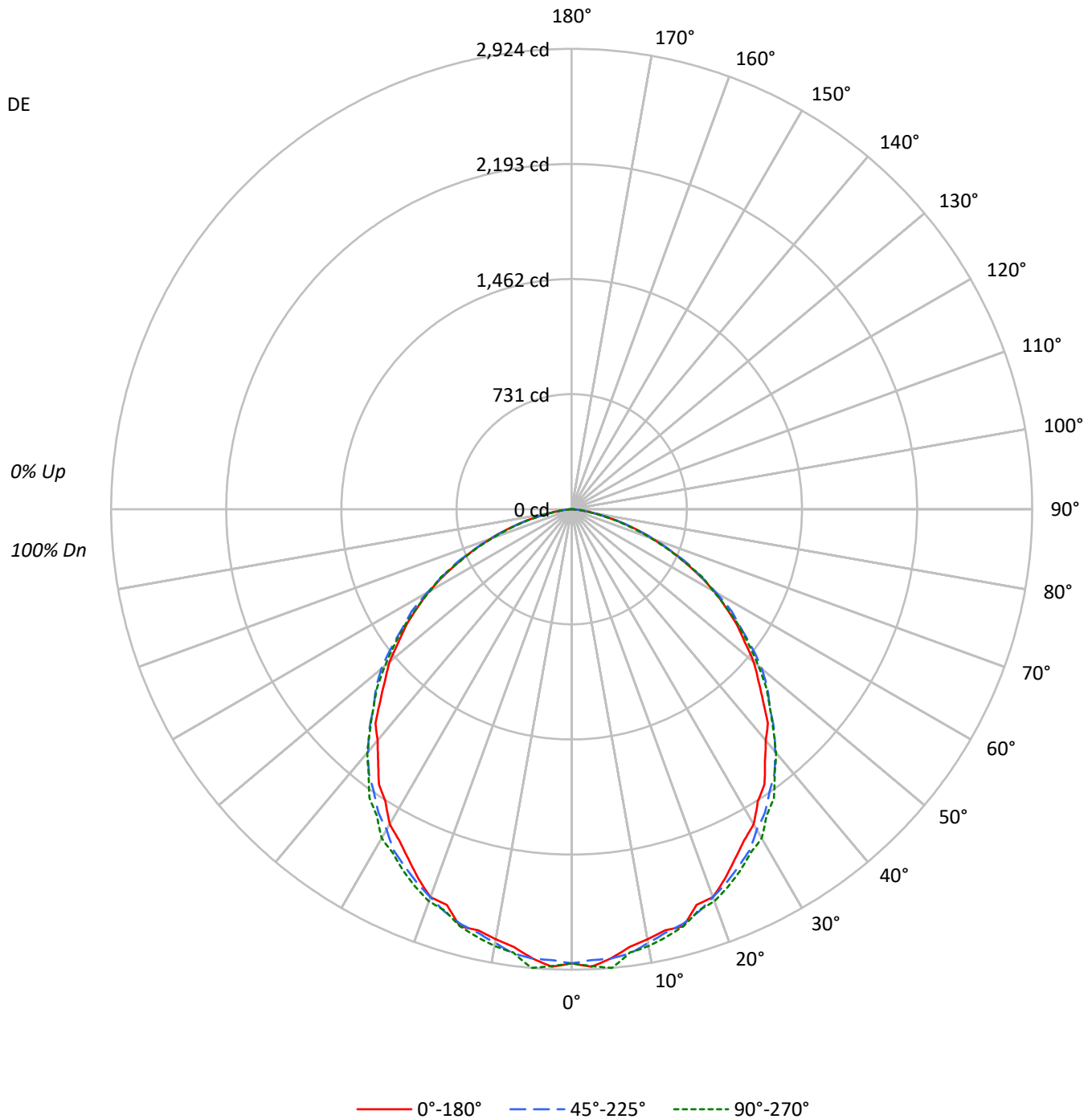
Input Watts (W): 66.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	7759	7759	7759
5°	7733	7736	7899
10°	7577	7643	7697
15°	7636	7595	7638
20°	7507	7507	7588
25°	7277	7436	7518
30°	7177	7303	7497
35°	7008	7191	7353
40°	6735	7059	7091
45°	6531	6764	6774
50°	6317	6602	6476
55°	6019	6136	6092
60°	5628	5684	5582
65°	5018	5146	4982
70°	4306	4320	4201
75°	3410	3402	3271
80°	2284	2221	2134
85°	1241	1229	1149

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 6938 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	271.2	3.7
10°-20°	768.7	10.6
20°-30°	1151.6	15.8
30°-40°	1364.9	18.8
40°-50°	1367.5	18.8
50°-60°	1160.7	16.0
60°-70°	782.6	10.8
70°-80°	343.9	4.7
80°-90°	55.9	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°	2191.6	30.2
0°-40°	3556.5	48.9
0°-60°	6084.7	83.7
0°-90°	7267.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7267.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2883	2883	2883	2883	2883	
5°	2863	2856	2864	2855	2924	270
15°	2741	2710	2726	2740	2742	764
25°	2451	2464	2504	2537	2532	1133
35°	2133	2140	2189	2240	2238	1324
45°	1716	1748	1777	1823	1780	1328
55°	1283	1274	1308	1299	1298	1141
65°	788	778	808	777	782	784
75°	328	321	327	304	315	351
85°	40	39	40	39	37	58
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2883.4	2883.4	2883.4	2883.4	2883.4
2.5°	2908.3	2886.3	2865.9	2889.7	2904.2
5°	2862.9	2856.2	2864.0	2855.4	2924.3
7.5°	2804.1	2829.8	2844.6	2835.3	2839.4
10°	2772.8	2763.9	2797.0	2820.1	2816.7
12.5°	2739.3	2752.7	2754.6	2779.5	2781.7
15°	2741.1	2709.5	2726.3	2740.4	2741.5
17.5°	2634.7	2668.9	2680.5	2712.9	2672.6
20°	2621.6	2596.7	2621.6	2654.8	2649.6
22.5°	2541.6	2513.7	2567.3	2596.7	2594.8
25°	2450.8	2464.2	2504.4	2537.1	2531.9
27.5°	2371.1	2386.7	2444.1	2489.1	2460.1
30°	2309.7	2301.8	2350.2	2390.5	2412.8
32.5°	2199.8	2228.1	2284.7	2324.6	2303.3
35°	2133.2	2139.5	2189.0	2239.7	2238.2
37.5°	2016.7	2046.1	2115.7	2129.9	2116.8
40°	1917.3	1946.7	2009.6	2024.9	2018.5
42.5°	1843.9	1849.1	1903.1	1920.6	1892.7
45°	1716.2	1748.3	1777.3	1823.1	1779.9
47.5°	1607.5	1622.4	1685.0	1697.3	1674.5
50°	1508.9	1514.1	1577.0	1561.7	1546.9
52.5°	1384.9	1406.9	1442.2	1439.3	1421.8
55°	1282.9	1274.3	1307.8	1298.9	1298.5
57.5°	1160.4	1175.3	1202.9	1188.7	1166.0
60°	1045.8	1046.1	1056.2	1040.2	1037.2
62.5°	918.1	922.5	924.8	905.0	937.0
65°	788.1	777.7	808.2	777.3	782.5
67.5°	668.6	673.8	670.9	651.5	658.9
70°	547.3	554.0	549.1	527.2	533.9
72.5°	436.3	428.1	433.3	405.8	418.5
75°	328.0	321.3	327.2	304.2	314.6
77.5°	223.4	228.6	224.9	212.6	219.6
80°	147.4	143.3	143.3	136.3	137.7
82.5°	86.0	81.9	80.8	78.6	81.9
85°	40.2	39.1	39.8	38.7	37.2
87.5°	14.5	14.9	14.9	14.1	13.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)