

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: P590989

Luminaire Tested: FSR-24-2-LD4-4STD-50-UNV-93-84-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590989
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-50-UNV-93-84-EDD
Description: 2X2 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .125 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 8033.0 lumens
Efficiency: N/A
Efficacy: 120.6 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

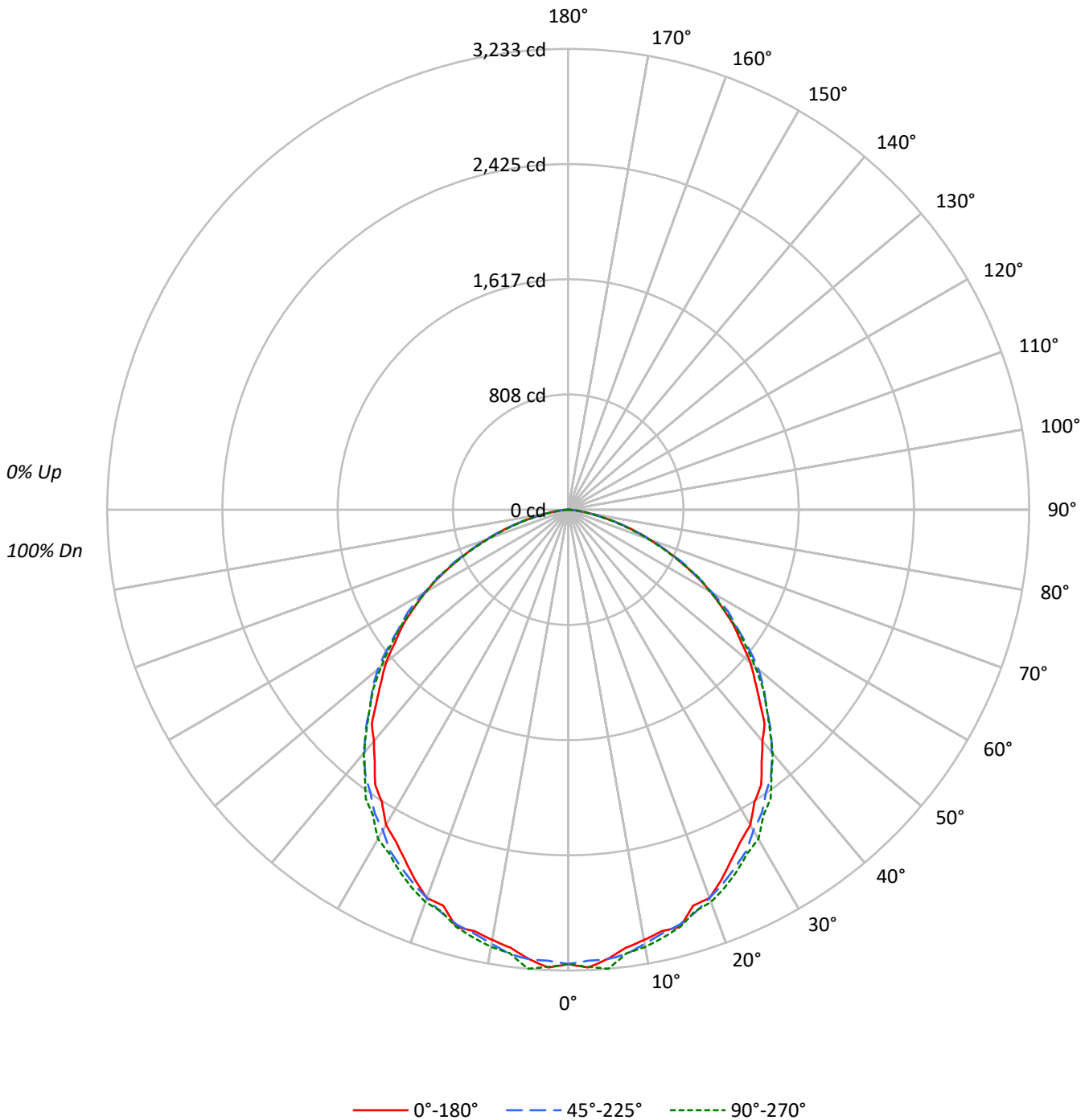
Input Watts (W): 66.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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				
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°	8577	8577	8577
5°	8549	8552	8732
10°	8375	8448	8508
15°	8442	8396	8443
20°	8299	8299	8387
25°	8044	8220	8310
30°	7933	8073	8287
35°	7747	7949	8128
40°	7445	7803	7838
45°	7220	7477	7488
50°	6983	7298	7158
55°	6653	6783	6734
60°	6222	6283	6170
65°	5547	5689	5508
70°	4759	4776	4643
75°	3770	3761	3615
80°	2526	2455	2360
85°	1371	1359	1272

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 7669 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	299.8	3.7
10°-20°	849.7	10.6
20°-30°	1273.0	15.8
30°-40°	1508.8	18.8
40°-50°	1511.6	18.8
50°-60°	1283.1	16.0
60°-70°	865.1	10.8
70°-80°	380.1	4.7
80°-90°	61.8	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°	2422.6	30.2
0°-40°	3931.4	48.9
0°-60°	6726.1	83.7
0°-90°	8033.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	8033.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3187	3187	3187	3187	3187	
5°	3165	3157	3166	3156	3233	298
15°	3030	2995	3014	3029	3030	844
25°	2709	2724	2768	2805	2799	1252
35°	2358	2365	2420	2476	2474	1464
45°	1897	1932	1965	2015	1968	1468
55°	1418	1409	1446	1436	1435	1261
65°	871	860	893	859	865	866
75°	363	355	362	336	348	389
85°	44	43	44	43	41	64
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3187.3	3187.3	3187.3	3187.3	3187.3
2.5°	3214.9	3190.6	3167.9	3194.3	3210.3
5°	3164.7	3157.2	3165.9	3156.4	3232.6
7.5°	3099.6	3128.0	3144.5	3134.2	3138.7
10°	3065.1	3055.2	3091.8	3117.3	3113.6
12.5°	3028.0	3042.8	3044.9	3072.5	3074.9
15°	3030.1	2995.1	3013.6	3029.3	3030.5
17.5°	2912.4	2950.3	2963.0	2998.8	2954.4
20°	2898.0	2870.4	2898.0	2934.6	2928.9
22.5°	2809.5	2778.6	2837.9	2870.4	2868.4
25°	2709.1	2723.9	2768.4	2804.6	2798.8
27.5°	2621.0	2638.3	2701.7	2751.5	2719.4
30°	2553.1	2544.5	2598.0	2642.4	2667.1
32.5°	2431.7	2463.0	2525.6	2569.6	2546.1
35°	2358.1	2365.1	2419.8	2475.8	2474.1
37.5°	2229.3	2261.8	2338.7	2354.4	2340.0
40°	2119.4	2151.9	2221.4	2238.3	2231.3
42.5°	2038.3	2044.1	2103.7	2123.1	2092.2
45°	1897.1	1932.5	1964.6	2015.3	1967.5
47.5°	1777.0	1793.4	1862.6	1876.2	1851.1
50°	1667.9	1673.7	1743.2	1726.4	1709.9
52.5°	1530.9	1555.2	1594.3	1591.0	1571.6
55°	1418.1	1408.7	1445.7	1435.8	1435.4
57.5°	1282.7	1299.2	1329.6	1314.0	1288.9
60°	1156.0	1156.4	1167.5	1149.8	1146.5
62.5°	1014.8	1019.8	1022.2	1000.4	1035.8
65°	871.2	859.7	893.4	859.3	865.0
67.5°	739.1	744.9	741.6	720.2	728.4
70°	604.9	612.4	607.0	582.7	590.1
72.5°	482.3	473.3	479.0	448.6	462.6
75°	362.6	355.1	361.7	336.2	347.7
77.5°	246.9	252.7	248.6	235.0	242.8
80°	163.0	158.4	158.4	150.6	152.3
82.5°	95.1	90.5	89.3	86.8	90.5
85°	44.4	43.2	44.0	42.8	41.2
87.5°	16.0	16.5	16.5	15.6	14.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)