

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: P590798

Luminaire Tested: FSR-24-2-LD4-4HI-50-UNV-93-85-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590798
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-LD4-4HI-50-UNV-93-85-EDD
Description: 2X2 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9657.0 lumens
Efficiency: N/A
Efficacy: 111.8 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

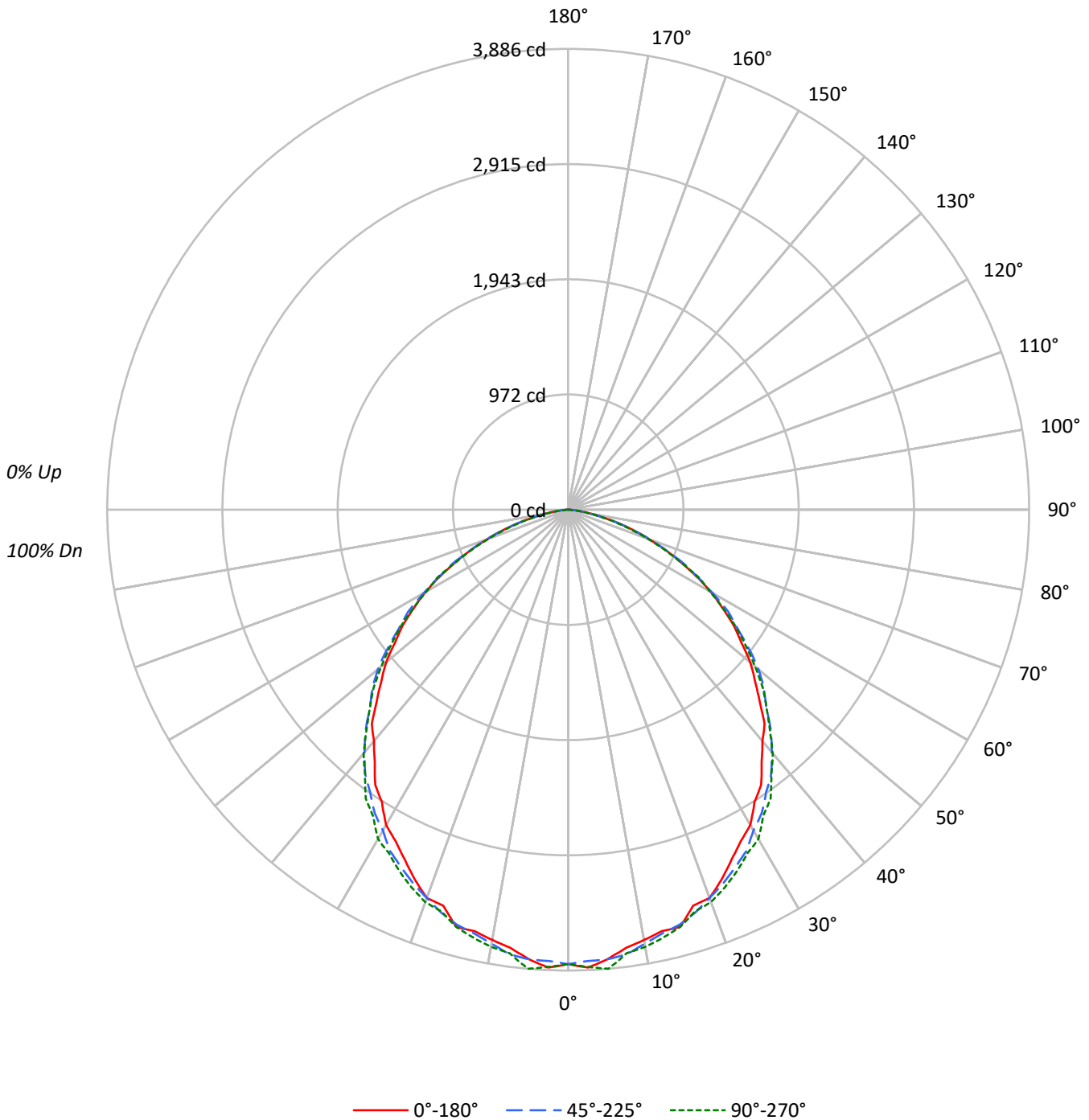
Input Watts (W): 86.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	10311	10311	10311
5°	10277	10281	10497
10°	10068	10156	10228
15°	10148	10093	10150
20°	9977	9977	10083
25°	9670	9881	9990
30°	9537	9705	9963
35°	9313	9556	9771
40°	8950	9381	9423
45°	8679	8988	9001
50°	8394	8773	8606
55°	7998	8154	8096
60°	7479	7554	7418
65°	6669	6839	6621
70°	5722	5741	5581
75°	4532	4522	4346
80°	3036	2952	2836
85°	1649	1633	1528

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 9220 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	360.4	3.7
10°-20°	1021.5	10.6
20°-30°	1530.4	15.8
30°-40°	1813.8	18.8
40°-50°	1817.2	18.8
50°-60°	1542.5	16.0
60°-70°	1040.0	10.8
70°-80°	457.0	4.7
80°-90°	74.3	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°	2912.3	30.2
0°-40°	4726.1	48.9
0°-60°	8085.8	83.7
0°-90°	9657.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9657.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3832	3832	3832	3832	3832	
5°	3804	3796	3806	3794	3886	359
15°	3643	3601	3623	3642	3643	1015
25°	3257	3275	3328	3372	3365	1506
35°	2835	2843	2909	2976	2974	1760
45°	2281	2323	2362	2423	2365	1764
55°	1705	1693	1738	1726	1726	1517
65°	1047	1034	1074	1033	1040	1042
75°	436	427	435	404	418	467
85°	53	52	53	52	50	77
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3831.7	3831.7	3831.7	3831.7	3831.7
2.5°	3864.8	3835.6	3808.4	3840.1	3859.4
5°	3804.4	3795.5	3805.9	3794.5	3886.1
7.5°	3726.3	3760.4	3780.2	3767.8	3773.3
10°	3684.7	3672.8	3716.9	3747.6	3743.1
12.5°	3640.2	3658.0	3660.5	3693.6	3696.6
15°	3642.7	3600.6	3622.9	3641.7	3643.2
17.5°	3501.2	3546.7	3562.0	3605.1	3551.6
20°	3483.9	3450.7	3483.9	3527.9	3521.0
22.5°	3377.5	3340.4	3411.6	3450.7	3448.2
25°	3256.8	3274.6	3328.0	3371.6	3364.6
27.5°	3150.9	3171.7	3247.9	3307.7	3269.2
30°	3069.3	3058.9	3123.2	3176.6	3206.3
32.5°	2923.3	2960.9	3036.1	3089.1	3060.9
35°	2834.8	2843.2	2909.0	2976.3	2974.3
37.5°	2679.9	2719.0	2811.5	2830.3	2813.0
40°	2547.8	2586.9	2670.5	2690.8	2682.4
42.5°	2450.4	2457.3	2529.0	2552.3	2515.2
45°	2280.7	2323.2	2361.8	2422.7	2365.3
47.5°	2136.2	2156.0	2239.1	2255.5	2225.3
50°	2005.1	2012.1	2095.7	2075.4	2055.6
52.5°	1840.4	1869.6	1916.6	1912.6	1889.4
55°	1704.8	1693.4	1738.0	1726.1	1725.6
57.5°	1542.1	1561.9	1598.5	1579.7	1549.5
60°	1389.7	1390.2	1403.5	1382.3	1378.3
62.5°	1220.0	1225.9	1228.9	1202.7	1245.2
65°	1047.3	1033.5	1074.1	1033.0	1039.9
67.5°	888.5	895.5	891.5	865.8	875.7
70°	727.2	736.2	729.7	700.5	709.4
72.5°	579.8	568.9	575.9	539.3	556.1
75°	435.9	426.9	434.9	404.2	418.0
77.5°	296.8	303.8	298.8	282.5	291.9
80°	195.9	190.5	190.5	181.1	183.0
82.5°	114.3	108.8	107.4	104.4	108.8
85°	53.4	51.9	52.9	51.5	49.5
87.5°	19.3	19.8	19.8	18.8	17.8
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)