

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: P590795

Luminaire Tested: FSR-24-2-LD4-4HI-50-UNV-82-96-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590795
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-82-96-EDD
Description: 2X2 FSR TROFFER WITH .187 CLEAR PC FIXTURE SIDE AND .250 CLEAR TEMPERED GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9064.0 lumens
Efficiency: N/A
Efficacy: 104.9 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

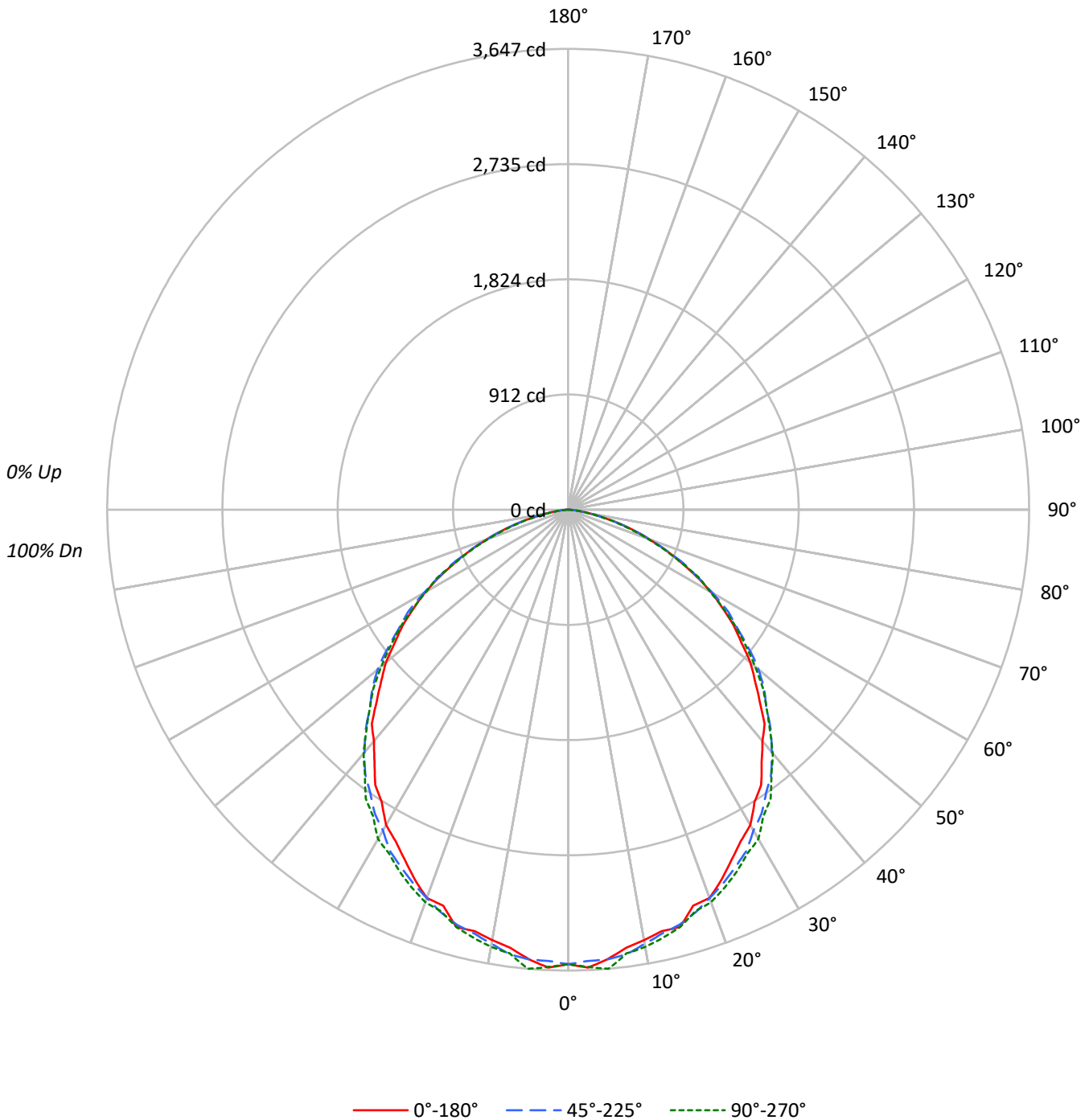
Input Watts (W): 86.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	9678	9678	9678
5°	9646	9649	9853
10°	9450	9533	9600
15°	9525	9473	9526
20°	9364	9364	9464
25°	9076	9275	9377
30°	8951	9109	9351
35°	8741	8970	9171
40°	8401	8805	8844
45°	8146	8436	8448
50°	7879	8235	8077
55°	7507	7653	7598
60°	7020	7090	6963
65°	6259	6419	6215
70°	5371	5389	5239
75°	4253	4244	4080
80°	2850	2771	2662
85°	1547	1535	1433

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 8654 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	338.3	3.7
10°-20°	958.8	10.6
20°-30°	1436.4	15.8
30°-40°	1702.5	18.8
40°-50°	1705.6	18.8
50°-60°	1447.8	16.0
60°-70°	976.1	10.8
70°-80°	428.9	4.7
80°-90°	69.7	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°	2733.5	30.2
0°-40°	4435.9	48.9
0°-60°	7589.3	83.7
0°-90°	9064.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9064.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3596	3596	3596	3596	3596	
5°	3571	3562	3572	3562	3647	337
15°	3419	3380	3400	3418	3420	953
25°	3057	3074	3124	3164	3158	1413
35°	2661	2669	2730	2794	2792	1652
45°	2141	2181	2217	2274	2220	1656
55°	1600	1590	1631	1620	1620	1423
65°	983	970	1008	970	976	978
75°	409	401	408	379	392	438
85°	50	49	50	48	46	73
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3596.4	3596.4	3596.4	3596.4	3596.4
2.5°	3627.5	3600.1	3574.5	3604.3	3622.4
5°	3570.8	3562.5	3572.2	3561.5	3647.4
7.5°	3497.5	3529.5	3548.1	3536.5	3541.6
10°	3458.5	3447.3	3488.6	3517.4	3513.2
12.5°	3416.7	3433.4	3435.7	3466.8	3469.6
15°	3419.0	3379.5	3400.4	3418.1	3419.5
17.5°	3286.2	3328.9	3343.3	3383.7	3333.5
20°	3269.9	3238.8	3269.9	3311.3	3304.8
22.5°	3170.1	3135.3	3202.1	3238.8	3236.5
25°	3056.8	3073.5	3123.7	3164.5	3158.0
27.5°	2957.4	2976.9	3048.4	3104.6	3068.4
30°	2880.8	2871.1	2931.4	2981.6	3009.4
32.5°	2743.8	2779.1	2849.7	2899.4	2872.9
35°	2660.7	2668.6	2730.4	2793.5	2791.7
37.5°	2515.4	2552.1	2638.9	2656.5	2640.3
40°	2391.4	2428.1	2506.5	2525.6	2517.7
42.5°	2299.9	2306.4	2373.7	2395.6	2360.7
45°	2140.6	2180.6	2216.8	2273.9	2220.0
47.5°	2005.0	2023.6	2101.6	2117.0	2088.6
50°	1882.0	1888.5	1967.0	1947.9	1929.4
52.5°	1727.4	1754.8	1798.9	1795.2	1773.3
55°	1600.1	1589.5	1631.3	1620.1	1619.6
57.5°	1447.4	1465.9	1500.3	1482.7	1454.3
60°	1304.4	1304.8	1317.4	1297.4	1293.7
62.5°	1145.1	1150.7	1153.4	1128.8	1168.8
65°	983.0	970.0	1008.1	969.6	976.1
67.5°	834.0	840.5	836.8	812.6	821.9
70°	682.6	690.9	684.9	657.5	665.9
72.5°	544.2	534.0	540.5	506.1	521.9
75°	409.1	400.7	408.2	379.4	392.4
77.5°	278.6	285.1	280.5	265.1	274.0
80°	183.9	178.8	178.8	170.0	171.8
82.5°	107.3	102.2	100.8	98.0	102.2
85°	50.1	48.8	49.7	48.3	46.4
87.5°	18.1	18.6	18.6	17.6	16.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)