

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: P590786

Luminaire Tested: FSR-24-2-LD4-4HI-50-UNV-81-94-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590786
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-81-94-EDD
Description: 2X2 FSR TROFFER WITH .156 CLEAR PC FIXTURE SIDE AND .187 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: 9363.0 lumens
Efficiency: N/A
Efficacy: 108.4 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

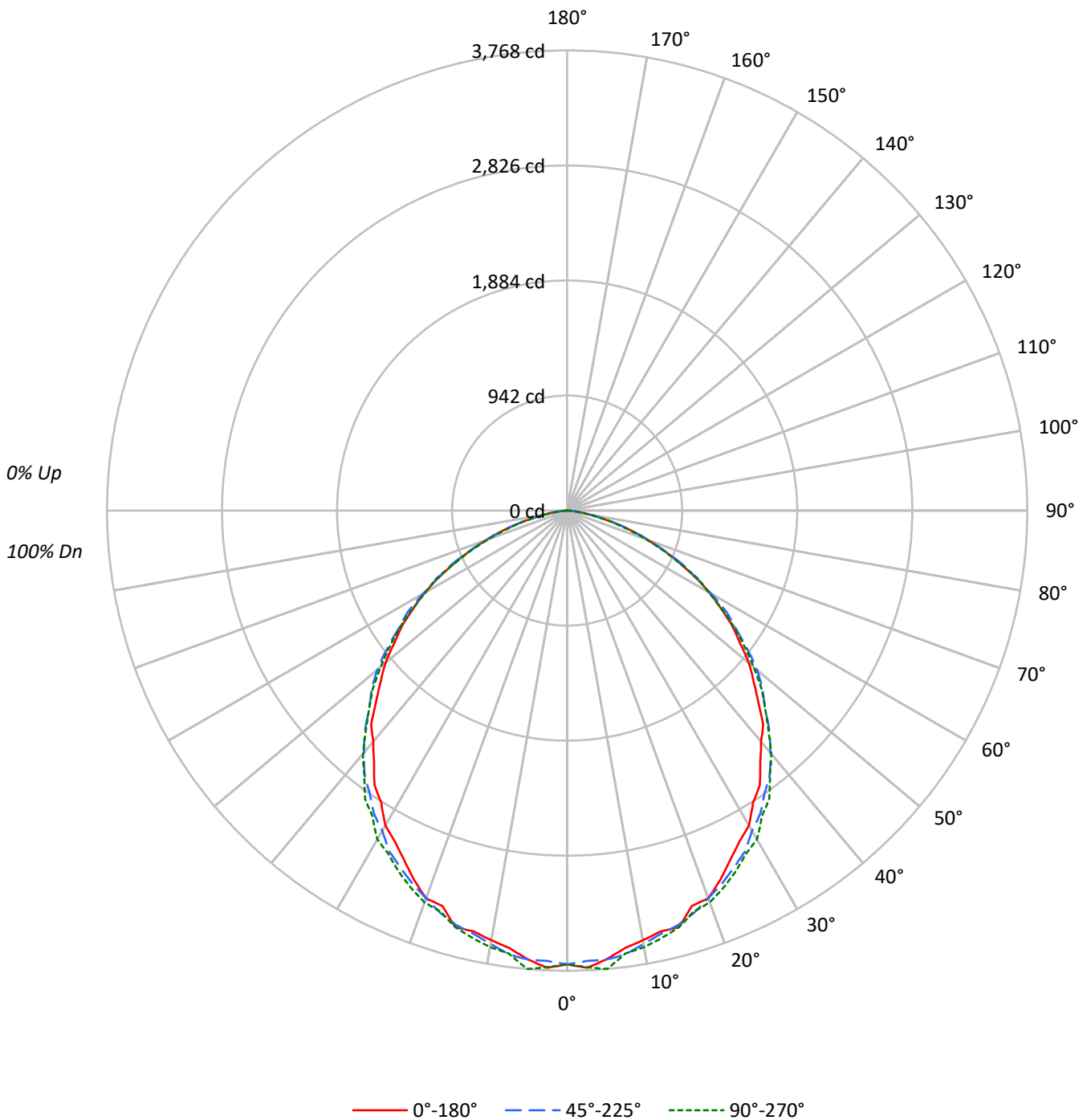
Input Watts (W): 86.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	9997	9997	9997
5°	9964	9968	10178
10°	9762	9847	9916
15°	9839	9786	9840
20°	9673	9673	9776
25°	9375	9581	9686
30°	9247	9409	9660
35°	9029	9265	9473
40°	8678	9095	9136
45°	8415	8714	8727
50°	8139	8506	8344
55°	7755	7906	7849
60°	7252	7324	7192
65°	6465	6631	6420
70°	5548	5567	5412
75°	4394	4383	4214
80°	2943	2862	2751
85°	1599	1584	1482

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 8939 cd/sqm

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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	349.4	3.7
10°-20°	990.4	10.6
20°-30°	1483.8	15.8
30°-40°	1758.6	18.8
40°-50°	1761.9	18.8
50°-60°	1495.5	16.0
60°-70°	1008.3	10.8
70°-80°	443.0	4.7
80°-90°	72.0	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°	2823.7	30.2
0°-40°	4582.3	48.9
0°-60°	7839.7	83.7
0°-90°	9363.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9363.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3715	3715	3715	3715	3715	
5°	3689	3680	3690	3679	3768	348
15°	3532	3491	3513	3531	3532	984
25°	3158	3175	3227	3269	3262	1460
35°	2748	2757	2820	2886	2884	1706
45°	2211	2252	2290	2349	2293	1711
55°	1653	1642	1685	1674	1673	1470
65°	1015	1002	1041	1002	1008	1010
75°	423	414	422	392	405	453
85°	52	50	51	50	48	75
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3715.0	3715.0	3715.0	3715.0	3715.0
2.5°	3747.1	3718.8	3692.5	3723.2	3741.9
5°	3688.6	3680.0	3690.1	3679.0	3767.8
7.5°	3612.8	3645.9	3665.1	3653.1	3658.4
10°	3572.5	3561.0	3603.7	3633.5	3629.1
12.5°	3529.4	3546.6	3549.0	3581.2	3584.1
15°	3531.8	3491.0	3512.6	3530.8	3532.2
17.5°	3394.6	3438.7	3453.6	3495.3	3443.5
20°	3377.8	3345.7	3377.8	3420.5	3413.8
22.5°	3274.7	3238.7	3307.8	3345.7	3343.3
25°	3157.6	3174.9	3226.7	3268.9	3262.2
27.5°	3055.0	3075.1	3149.0	3207.0	3169.6
30°	2975.8	2965.8	3028.1	3079.9	3108.7
32.5°	2834.3	2870.8	2943.7	2995.0	2967.7
35°	2748.5	2756.6	2820.4	2885.7	2883.7
37.5°	2598.3	2636.2	2725.9	2744.2	2727.4
40°	2470.3	2508.2	2589.2	2608.9	2600.7
42.5°	2375.8	2382.5	2452.0	2474.6	2438.6
45°	2211.3	2252.5	2289.9	2348.9	2293.3
47.5°	2071.2	2090.4	2171.0	2186.8	2157.5
50°	1944.1	1950.8	2031.9	2012.2	1993.0
52.5°	1784.4	1812.7	1858.2	1854.4	1831.8
55°	1652.9	1641.9	1685.1	1673.5	1673.1
57.5°	1495.1	1514.3	1549.8	1531.6	1502.3
60°	1347.4	1347.9	1360.8	1340.2	1336.3
62.5°	1182.9	1188.6	1191.5	1166.1	1207.3
65°	1015.4	1002.0	1041.4	1001.5	1008.3
67.5°	861.5	868.2	864.4	839.4	849.0
70°	705.1	713.7	707.5	679.2	687.8
72.5°	562.2	551.6	558.3	522.8	539.1
75°	422.6	414.0	421.6	391.9	405.3
77.5°	287.8	294.5	289.7	273.9	283.0
80°	189.9	184.7	184.7	175.6	177.5
82.5°	110.8	105.5	104.1	101.2	105.5
85°	51.8	50.4	51.3	49.9	48.0
87.5°	18.7	19.2	19.2	18.2	17.3
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)