

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: P590740

Luminaire Tested: FSR-24-2-LD4-4HI-35-UNV-93-97-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590740
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-35-UNV-93-97-EDD
Description: 2X2 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .375 CLEAR TEMPER
GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 3500K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 9167.0 lumens
Efficiency: N/A
Efficacy: 106.1 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

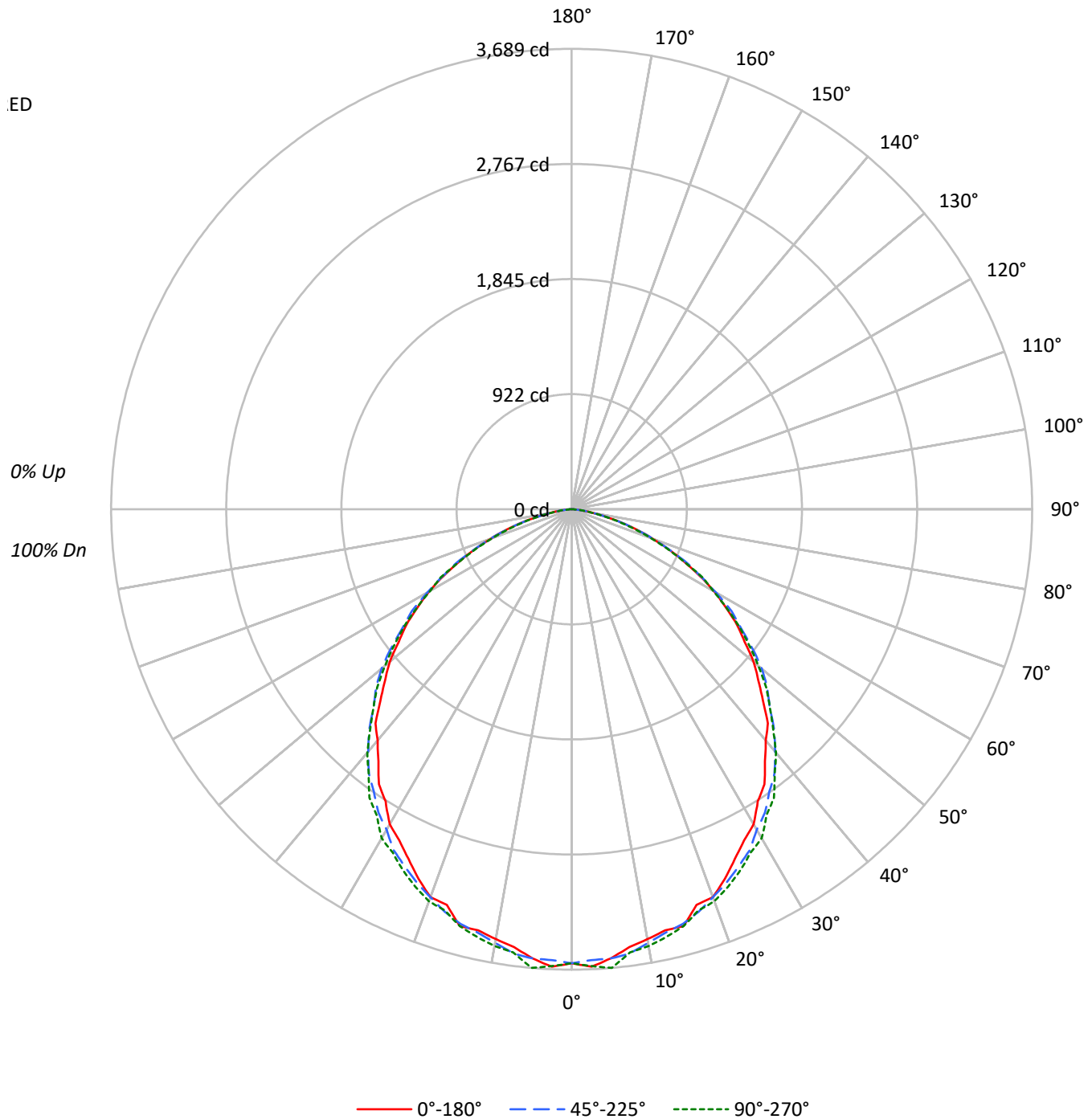
Input Watts (W): 86.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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°	9788	9788	9788
5°	9755	9759	9965
10°	9558	9641	9709
15°	9633	9581	9634
20°	9470	9470	9571
25°	9179	9380	9483
30°	9053	9212	9457
35°	8840	9071	9275
40°	8496	8905	8945
45°	8239	8532	8545
50°	7968	8328	8169
55°	7592	7740	7685
60°	7100	7170	7042
65°	6330	6492	6285
70°	5431	5450	5298
75°	4301	4292	4126
80°	2882	2802	2693
85°	1565	1550	1451

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 8752 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	342.1	3.7
10°-20°	969.7	10.6
20°-30°	1452.8	15.8
30°-40°	1721.8	18.8
40°-50°	1725.0	18.8
50°-60°	1464.2	16.0
60°-70°	987.2	10.8
70°-80°	433.8	4.7
80°-90°	70.5	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°	2764.5	30.2
0°-40°	4486.3	48.9
0°-60°	7675.6	83.7
0°-90°	9167.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	9167.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3637	3637	3637	3637	3637	
5°	3611	3603	3613	3602	3689	340
15°	3458	3418	3439	3457	3458	963
25°	3092	3108	3159	3200	3194	1429
35°	2691	2699	2761	2825	2823	1671
45°	2165	2205	2242	2300	2245	1675
55°	1618	1608	1650	1638	1638	1440
65°	994	981	1020	981	987	989
75°	414	405	413	384	397	443
85°	51	49	50	49	47	74
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3637.2	3637.2	3637.2	3637.2	3637.2
2.5°	3668.7	3641.0	3615.2	3645.2	3663.5
5°	3611.4	3603.0	3612.8	3602.0	3688.9
7.5°	3537.2	3569.6	3588.4	3576.7	3581.8
10°	3497.8	3486.5	3528.3	3557.4	3553.2
12.5°	3455.5	3472.4	3474.7	3506.2	3509.0
15°	3457.8	3417.9	3439.1	3456.9	3458.3
17.5°	3323.5	3366.7	3381.3	3422.1	3371.4
20°	3307.1	3275.6	3307.1	3348.9	3342.3
22.5°	3206.1	3170.9	3238.5	3275.6	3273.3
25°	3091.5	3108.4	3159.2	3200.5	3193.9
27.5°	2991.0	3010.8	3083.1	3139.9	3103.3
30°	2913.5	2903.7	2964.7	3015.5	3043.6
32.5°	2775.0	2810.7	2882.1	2932.3	2905.6
35°	2690.9	2698.9	2761.4	2825.3	2823.4
37.5°	2544.0	2581.1	2668.9	2686.7	2670.3
40°	2418.6	2455.7	2535.0	2554.3	2546.3
42.5°	2326.0	2332.6	2400.7	2422.8	2387.6
45°	2165.0	2205.4	2242.0	2299.7	2245.3
47.5°	2027.8	2046.6	2125.5	2141.0	2112.4
50°	1903.4	1910.0	1989.3	1970.1	1951.3
52.5°	1747.0	1774.7	1819.3	1815.6	1793.5
55°	1618.3	1607.5	1649.8	1638.5	1638.0
57.5°	1463.8	1482.6	1517.4	1499.5	1470.9
60°	1319.2	1319.6	1332.3	1312.1	1308.4
62.5°	1158.1	1163.7	1166.5	1141.7	1182.0
65°	994.2	981.0	1019.6	980.6	987.1
67.5°	843.4	850.0	846.3	821.8	831.2
70°	690.3	698.8	692.7	665.0	673.4
72.5°	550.4	540.1	546.6	511.9	527.9
75°	413.7	405.3	412.8	383.7	396.8
77.5°	281.8	288.3	283.7	268.2	277.1
80°	186.0	180.8	180.8	171.9	173.8
82.5°	108.5	103.3	101.9	99.1	103.3
85°	50.7	49.3	50.2	48.8	47.0
87.5°	18.3	18.8	18.8	17.8	16.9
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)