

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: P590289

Luminaire Tested: FSR-24-2-LD4-2LO-40-UNV-93-88-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590289
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-LD4-2LO-40-UNV-93-88-EDD
Description: 2X2 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .500 CLEAR PC ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2490.0 lumens
Efficiency: N/A
Efficacy: 106.4 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

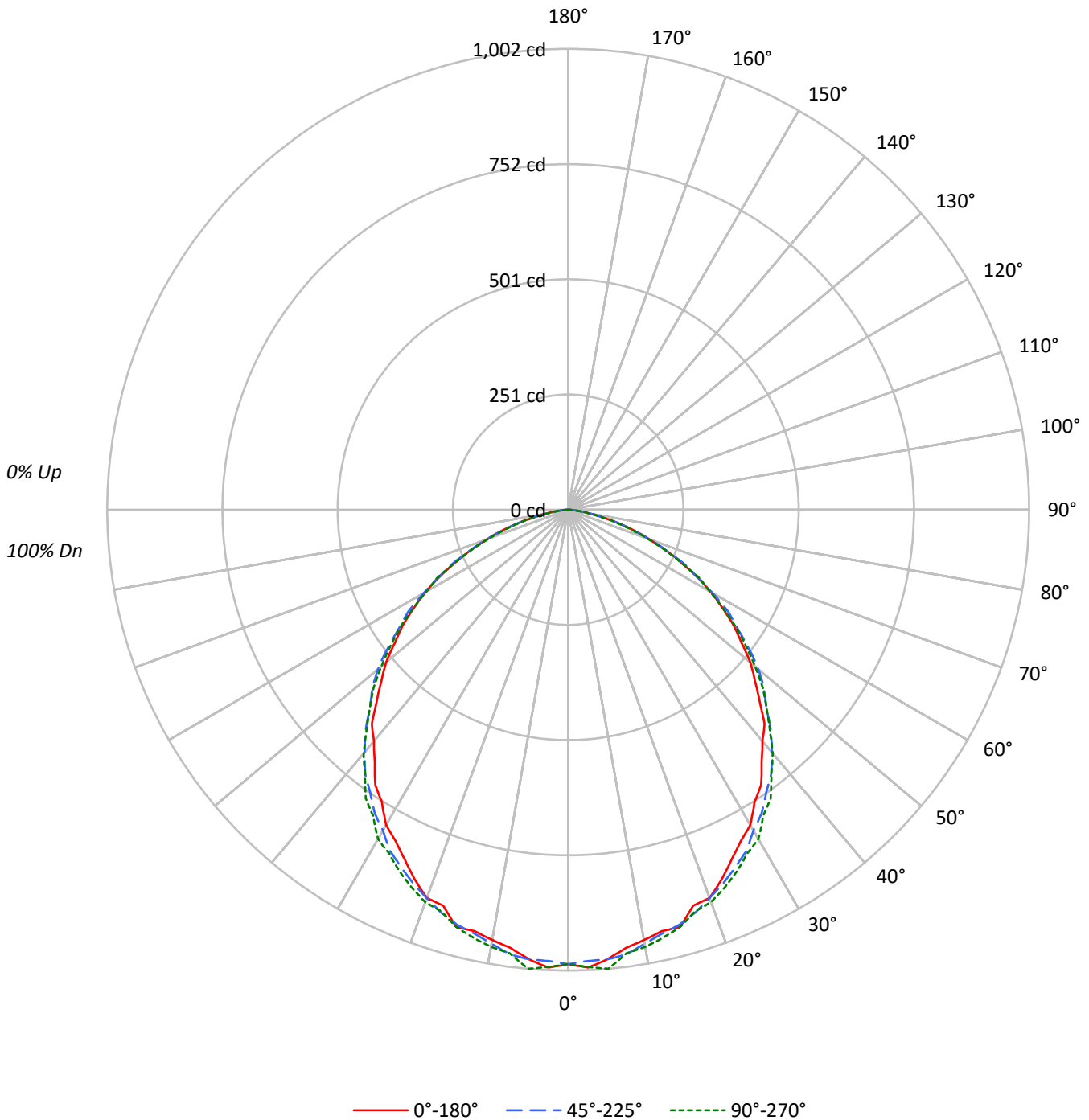
Input Watts (W): 23.4
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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Luminous Intensity Polar Plot





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COEFFICIENT OF UTILIZATION - ZONAL CAVITY METHOD:

RF	20									20									20									20																		
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	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°	2659	2659	2659
5°	2650	2651	2707
10°	2596	2619	2637
15°	2617	2602	2617
20°	2572	2572	2600
25°	2493	2548	2576
30°	2459	2502	2569
35°	2401	2464	2519
40°	2308	2419	2429
45°	2238	2318	2321
50°	2164	2262	2219
55°	2062	2102	2087
60°	1928	1948	1913
65°	1719	1763	1707
70°	1475	1481	1439
75°	1169	1166	1121
80°	783	761	731
85°	426	420	395

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 2377 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	92.9	3.7
10°-20°	263.4	10.6
20°-30°	394.6	15.8
30°-40°	467.7	18.8
40°-50°	468.6	18.8
50°-60°	397.7	16.0
60°-70°	268.1	10.8
70°-80°	117.8	4.7
80°-90°	19.2	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°	750.9	30.2
0°-40°	1218.6	48.9
0°-60°	2084.9	83.7
0°-90°	2490.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2490.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	988	988	988	988	988	
5°	981	979	981	978	1002	92
15°	939	928	934	939	939	262
25°	840	844	858	869	868	388
35°	731	733	750	767	767	454
45°	588	599	609	625	610	455
55°	440	437	448	445	445	391
65°	270	266	277	266	268	269
75°	112	110	112	104	108	120
85°	14	13	14	13	13	20
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	988.0	988.0	988.0	988.0	988.0
2.5°	996.5	989.0	982.0	990.1	995.1
5°	981.0	978.7	981.3	978.4	1002.0
7.5°	960.8	969.6	974.7	971.5	972.9
10°	950.1	947.0	958.4	966.3	965.1
12.5°	938.6	943.2	943.8	952.4	953.1
15°	939.2	928.4	934.1	939.0	939.4
17.5°	902.8	914.5	918.4	929.5	915.8
20°	898.3	889.7	898.3	909.6	907.9
22.5°	870.9	861.3	879.7	889.7	889.1
25°	839.7	844.3	858.1	869.3	867.6
27.5°	812.4	817.8	837.4	852.9	842.9
30°	791.4	788.7	805.3	819.1	826.7
32.5°	753.8	763.5	782.8	796.5	789.2
35°	730.9	733.1	750.1	767.4	766.9
37.5°	691.0	701.1	724.9	729.8	725.3
40°	656.9	667.0	688.6	693.8	691.6
42.5°	631.8	633.6	652.1	658.1	648.5
45°	588.1	599.0	609.0	624.7	609.9
47.5°	550.8	555.9	577.3	581.6	573.8
50°	517.0	518.8	540.4	535.1	530.0
52.5°	474.5	482.1	494.2	493.2	487.2
55°	439.6	436.6	448.1	445.1	444.9
57.5°	397.6	402.7	412.2	407.3	399.5
60°	358.3	358.4	361.9	356.4	355.4
62.5°	314.6	316.1	316.9	310.1	321.1
65°	270.0	266.5	276.9	266.3	268.1
67.5°	229.1	230.9	229.9	223.2	225.8
70°	187.5	189.8	188.2	180.6	182.9
72.5°	149.5	146.7	148.5	139.0	143.4
75°	112.4	110.1	112.1	104.2	107.8
77.5°	76.5	78.3	77.0	72.8	75.3
80°	50.5	49.1	49.1	46.7	47.2
82.5°	29.5	28.1	27.7	26.9	28.1
85°	13.8	13.4	13.6	13.3	12.8
87.5°	5.0	5.1	5.1	4.8	4.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)