

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: P589938

Luminaire Tested: FSR-24-2-LD4-1HI-50-UNV-93-94-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P589938
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-LD4-1HI-50-UNV-93-94-EDD
Description: 2X2 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .187 CLEAR TEMPER
GLASS ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 5000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 2469.0 lumens
Efficiency: N/A
Efficacy: 114.3 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

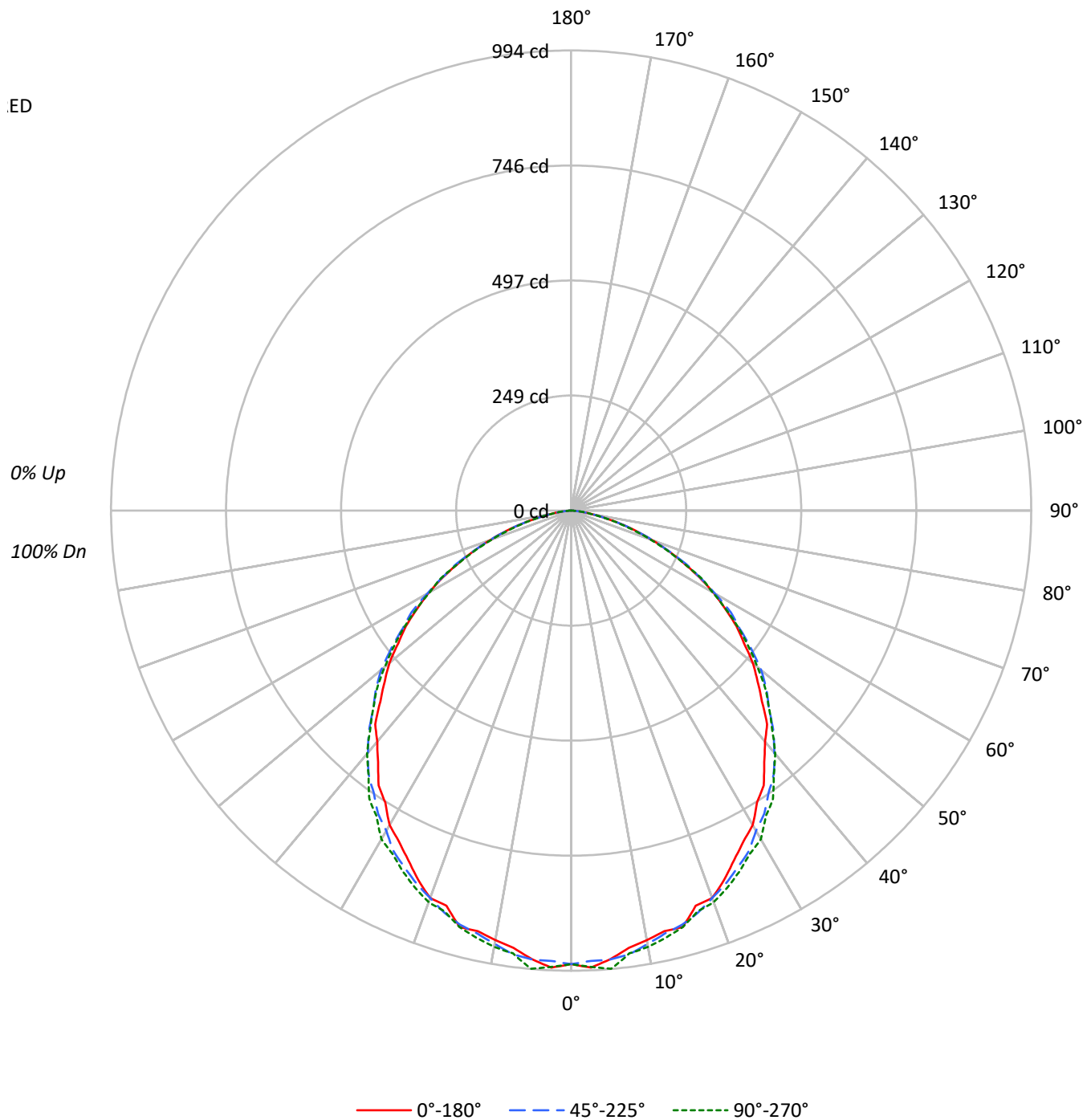
Input Watts (W): 21.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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					86			
2	100	93	86	81	98	91	85	80	87	82	78	84	80	76	81	78	75	73					73			
3	92	82	74	68	89	80	73	67	77	71	66	75	69	65	72	68	64	62					62			
4	84	73	64	58	82	71	64	58	69	62	57	67	61	56	65	59	55	53					53			
5	78	65	57	50	76	64	56	50	62	55	49	60	54	49	58	53	48	46					46			
6	72	59	50	44	70	58	50	44	56	49	43	54	48	43	53	47	43	41					41			
7	67	53	45	39	65	53	45	39	51	44	39	50	43	38	48	42	38	36					36			
8	62	49	41	35	61	48	40	35	47	40	34	46	39	34	44	39	34	32					32			
9	58	45	37	31	57	44	37	31	43	36	31	42	36	31	41	35	31	29					29			
10	54	41	34	29	53	41	33	28	40	33	28	39	33	28	38	32	28	26					26			

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	2636	2636	2636
5°	2628	2629	2684
10°	2574	2597	2615
15°	2595	2581	2595
20°	2551	2551	2578
25°	2472	2526	2554
30°	2438	2481	2547
35°	2381	2443	2498
40°	2288	2399	2409
45°	2219	2298	2301
50°	2146	2243	2200
55°	2045	2084	2070
60°	1912	1931	1897
65°	1705	1748	1693
70°	1463	1468	1427
75°	1158	1156	1111
80°	776	755	725
85°	423	417	389

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 2357 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	92.1	3.7
10°-20°	261.2	10.6
20°-30°	391.3	15.8
30°-40°	463.7	18.8
40°-50°	464.6	18.8
50°-60°	394.4	16.0
60°-70°	265.9	10.8
70°-80°	116.8	4.7
80°-90°	19.0	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°	744.6	30.2
0°-40°	1208.3	48.9
0°-60°	2067.3	83.7
0°-90°	2469.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	2469.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	980	980	980	980	980	
5°	973	970	973	970	994	92
15°	931	921	926	931	931	259
25°	833	837	851	862	860	385
35°	725	727	744	761	760	450
45°	583	594	604	619	605	451
55°	436	433	444	441	441	388
65°	268	264	275	264	266	266
75°	111	109	111	103	107	119
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°	979.6	979.6	979.6	979.6	979.6
2.5°	988.1	980.6	973.7	981.8	986.7
5°	972.7	970.4	973.1	970.2	993.6
7.5°	952.7	961.4	966.5	963.3	964.7
10°	942.1	939.0	950.3	958.1	957.0
12.5°	930.7	935.2	935.9	944.3	945.1
15°	931.3	920.6	926.3	931.1	931.4
17.5°	895.1	906.8	910.7	921.7	908.0
20°	890.7	882.2	890.7	902.0	900.2
22.5°	863.5	854.0	872.2	882.2	881.6
25°	832.7	837.2	850.9	862.0	860.2
27.5°	805.6	810.9	830.4	845.7	835.8
30°	784.7	782.1	798.5	812.2	819.8
32.5°	747.4	757.0	776.2	789.8	782.6
35°	724.8	726.9	743.7	760.9	760.4
37.5°	685.2	695.2	718.8	723.6	719.2
40°	651.4	661.4	682.8	688.0	685.8
42.5°	626.5	628.3	646.6	652.5	643.1
45°	583.1	594.0	603.8	619.4	604.7
47.5°	546.2	551.2	572.5	576.7	568.9
50°	512.6	514.4	535.8	530.6	525.6
52.5°	470.5	478.0	490.0	489.0	483.1
55°	435.9	433.0	444.3	441.3	441.2
57.5°	394.3	399.3	408.7	403.9	396.2
60°	355.3	355.4	358.8	353.4	352.4
62.5°	311.9	313.4	314.2	307.5	318.4
65°	267.8	264.2	274.6	264.1	265.9
67.5°	227.2	228.9	227.9	221.4	223.9
70°	185.9	188.2	186.6	179.1	181.4
72.5°	148.2	145.5	147.2	137.9	142.2
75°	111.4	109.2	111.2	103.3	106.9
77.5°	75.9	77.7	76.4	72.2	74.6
80°	50.1	48.7	48.7	46.3	46.8
82.5°	29.2	27.8	27.4	26.7	27.8
85°	13.7	13.3	13.5	13.2	12.6
87.5°	4.9	5.1	5.1	4.8	4.6
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)