

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: P561836

Luminaire Tested: FSR-12-4-LD4-2STD-40-UNV-93-96-EDD-90

Issue Date: 7/20/2021

Test Information

Test Method: LM-79-2019
Report Number: P561836
TEST IS SCALED FROM IESNA LM-79-08 TEST DATA (G3-2102-135-5)
Test Lab: INNOVATION CENTER
Issue Date: 7/20/2021
Manufacturer: COOPER LIGHTING SOLUTIONS
Product Line: FAIL-SAFE
Catalog Number: FSR-12-4-LD4-2STD-40-UNV-93-96-EDD-90
Description: 1X4 FSR TROFFER WITH .156 CLEAR TEMPERED GLASS FIXTURE SIDE AND .250 CLEAR TEMPER
GLASS ENVIRONMENTAL SIDE LENSES WITH, 90 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 5599.0 lumens
Efficiency: N/A
Efficacy: 84.1 lumens/watt
Spacing Criteria (0/90/45): 1.1 / 1 / 1.15
Luminous Opening: Rectangular (W 1' x L: 4' x H: 0')
CIE Type: Direct

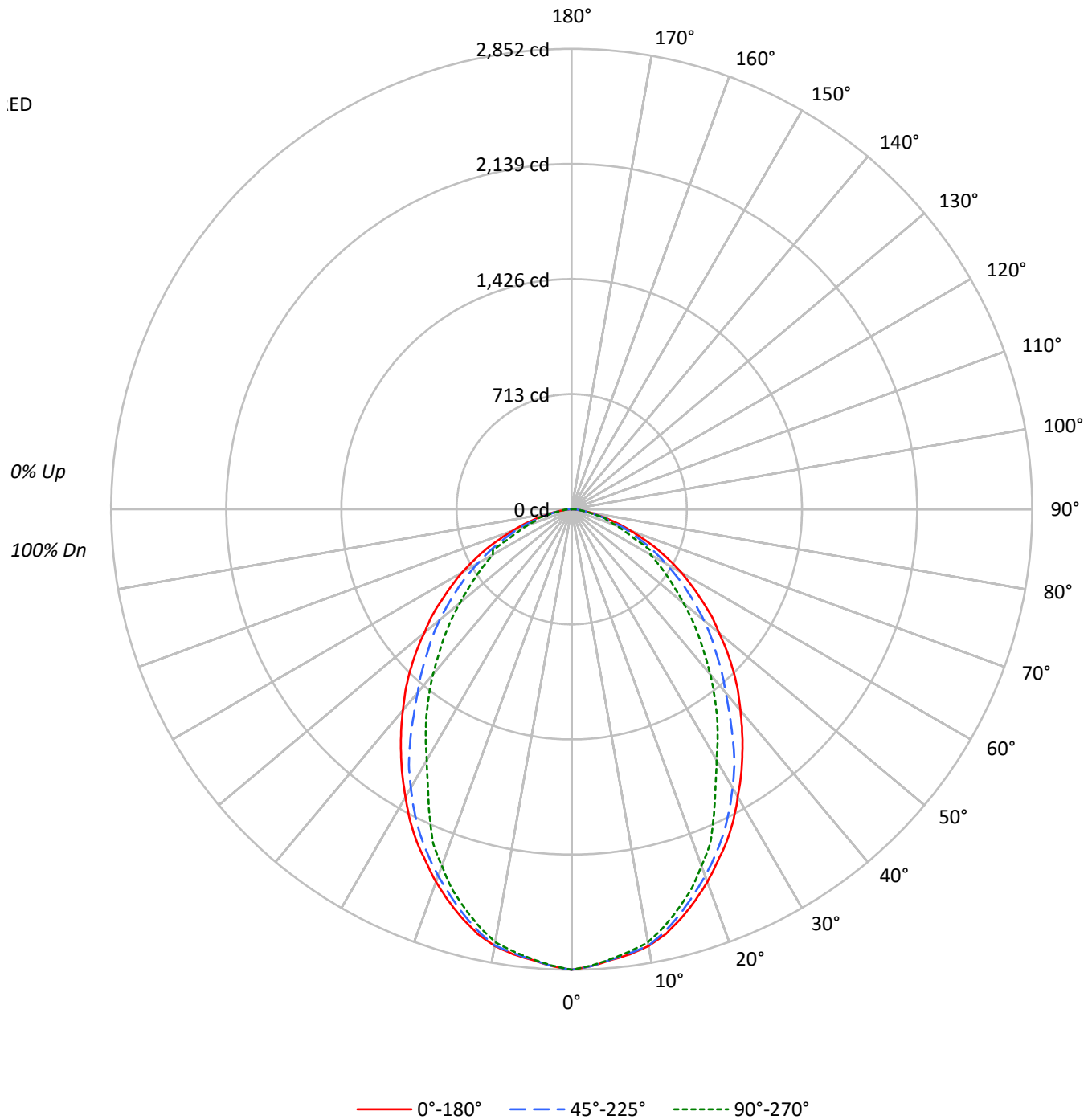
Input Watts (W): 66.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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	106	102	99	108	104	100	97	100	97	94	96	94	91	92	90	89	87																												
2	101	94	88	83	99	92	87	82	89	84	80	86	82	78	83	79	77	75																												
3	93	84	77	71	91	82	76	70	79	74	69	77	72	68	74	70	67	65																												
4	86	75	67	61	84	74	66	61	72	65	60	69	64	59	67	62	58	56																												
5	80	68	60	54	78	67	59	53	65	58	53	63	57	52	61	56	52	50																												
6	74	62	53	48	72	61	53	47	59	52	47	57	51	47	56	50	46	44																												
7	69	56	48	43	67	56	48	42	54	47	42	53	46	42	51	46	42	40																												
8	65	52	44	38	63	51	44	38	50	43	38	49	42	38	48	42	38	36																												
9	61	48	40	35	59	47	40	35	46	39	35	45	39	34	44	38	34	33																												
10	57	44	37	32	56	44	37	32	43	36	32	42	36	32	41	36	32	30																												

AVERAGE LUMINANCE (cd/sqm):

	0°	45°	90°
0°	7675	7675	7675
5°	7571	7562	7553
10°	7505	7496	7442
15°	7303	7229	7128
20°	7034	6921	6732
25°	6745	6598	6187
30°	6393	6188	5574
35°	6055	5719	5156
40°	5710	5212	4691
45°	5383	4818	4241
50°	4983	4472	3782
55°	4610	4053	3388
60°	4223	3620	3034
65°	3716	3170	2687
70°	3061	2776	2283
75°	2434	2125	2228
80°	1635	1533	1430
85°	1019	1223	1426

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 0°
 Vertical Angle: 45°
 Luminance: 5383 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	265.5	4.7
10°-20°	728.6	13.0
20°-30°	1008.7	18.0
30°-40°	1075.6	19.2
40°-50°	981.2	17.5
50°-60°	768.7	13.7
60°-70°	501.0	8.9
70°-80°	222.0	4.0
80°-90°	47.7	0.9
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°	2002.8	35.8
0°-40°	3078.4	55.0
0°-60°	4828.4	86.2
0°-90°	5599.0	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	5599.0	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	2852	2852	2852	2852	2852	
5°	2803	2799	2799	2796	2796	266
15°	2621	2621	2595	2568	2559	737
25°	2272	2259	2222	2143	2084	1043
35°	1843	1830	1741	1609	1570	1152
45°	1414	1385	1266	1161	1114	1090
55°	983	953	864	762	722	881
65°	584	551	498	508	422	575
75°	234	218	204	194	214	251
85°	33	36	40	43	46	46
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	2852.1	2852.1	2852.1	2852.1	2852.1
2.5°	2832.3	2832.3	2832.3	2829.0	2829.0
5°	2802.6	2799.3	2799.3	2796.0	2796.0
7.5°	2779.5	2776.2	2772.9	2769.6	2763.0
10°	2746.5	2746.5	2743.2	2726.8	2723.5
12.5°	2693.8	2690.5	2677.3	2654.2	2647.6
15°	2621.3	2621.3	2594.9	2568.5	2558.6
17.5°	2542.1	2538.8	2505.9	2479.5	2466.3
20°	2456.4	2449.8	2416.8	2374.0	2350.9
22.5°	2360.8	2360.8	2321.2	2265.2	2242.1
25°	2271.8	2258.6	2222.3	2143.2	2083.8
27.5°	2169.5	2149.8	2110.2	1998.1	1928.8
30°	2057.4	2047.5	1991.5	1846.4	1793.7
32.5°	1951.9	1935.4	1876.1	1724.4	1681.6
35°	1843.1	1829.9	1740.9	1609.0	1569.5
37.5°	1734.3	1717.8	1605.7	1500.2	1450.8
40°	1625.5	1605.7	1483.7	1388.1	1335.4
42.5°	1523.3	1496.9	1378.2	1276.0	1216.7
45°	1414.5	1384.8	1266.1	1160.6	1114.4
47.5°	1305.7	1279.3	1170.5	1061.7	1008.9
50°	1190.3	1167.2	1068.3	959.5	903.4
52.5°	1094.7	1058.4	962.8	854.0	807.8
55°	982.6	952.9	863.9	761.6	722.1
57.5°	880.3	850.7	768.2	672.6	639.7
60°	784.7	741.9	672.6	590.2	563.8
62.5°	679.2	646.2	586.9	517.7	550.6
65°	583.6	550.6	497.9	507.8	422.0
67.5°	478.1	461.6	415.4	369.3	356.1
70°	389.1	369.3	352.8	303.3	290.2
72.5°	309.9	290.2	267.1	240.7	230.8
75°	234.1	217.6	204.4	194.5	214.3
77.5°	161.6	155.0	145.1	135.2	131.9
80°	105.5	102.2	98.9	95.6	92.3
82.5°	62.6	62.6	62.6	62.6	62.6
85°	33.0	36.3	39.6	42.9	46.2
87.5°	19.8	19.8	23.1	26.4	29.7
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)