

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: P590939

Luminaire Tested: FSR-24-2-LD4-4STD-40-UNV-80-96-EDD

Issue Date: 12/8/2021

Test Information

Test Method: LM-79-2019
Report Number: P590939
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-LD4-4STD-40-UNV-80-96-EDD
Description: 2X2 FSR TROFFER WITH .125 PRISMATIC ACRYLIC FIXTURE SIDE AND .250 CLEAR TEMPERED G ENVIRONMENTAL SIDE LENSES WITH, 80 CRI AND 4000K CCT LEDS
Light Source: -
Ballast/Driver: -

Summary

Lumens per Lamp: N/A
Luminaire Lumens: 7814.1 lumens
Efficiency: N/A
Efficacy: 117.3 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

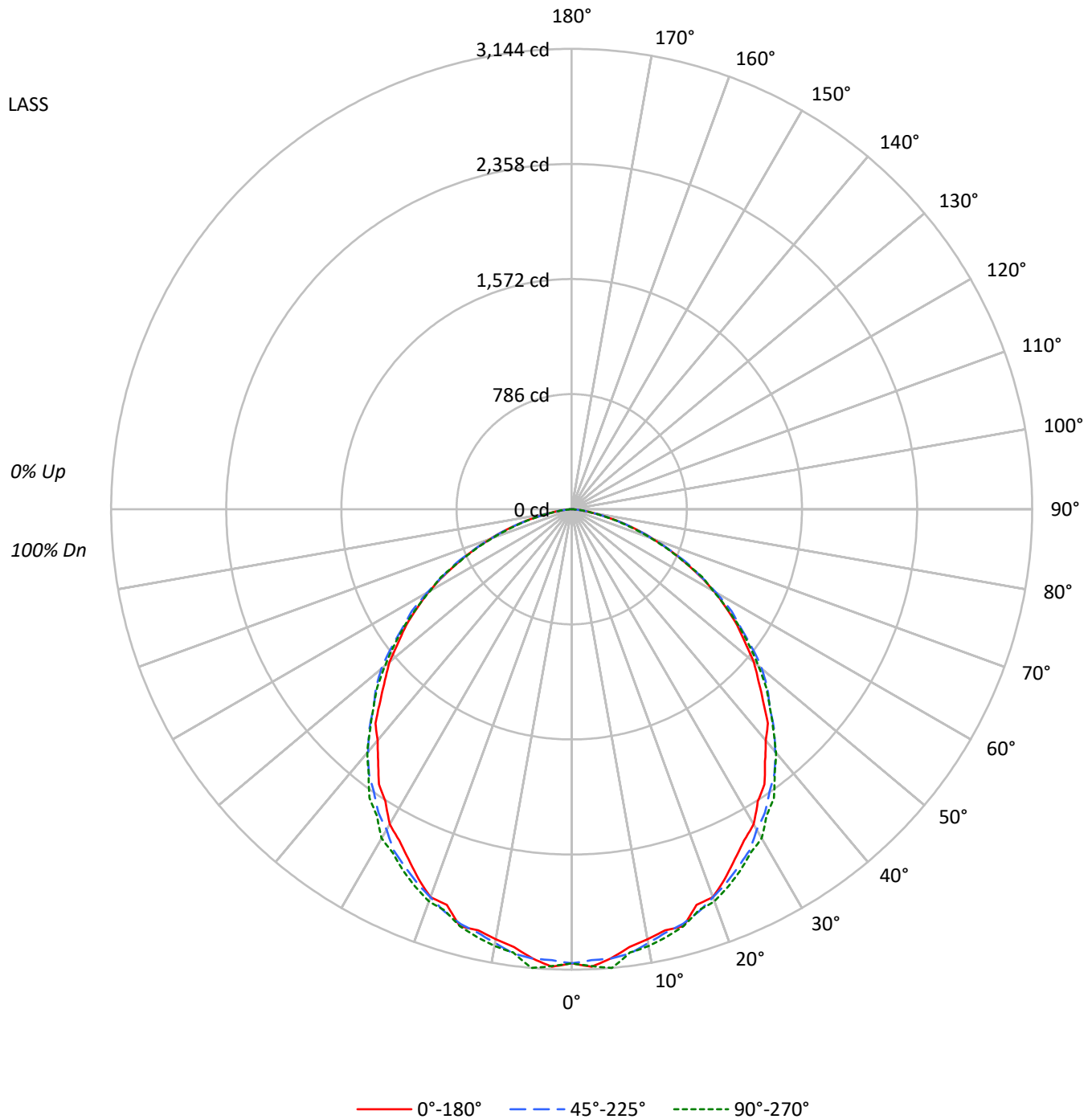
Input Watts (W): 66.6
Input Voltage (V):
Input Current (Ain): NR
Voltage Rise (V): NR
Power Factor: NR
Total Harmonic Distortion (THDi): NR
Frequency (hertz): 60
Stabilization Time: NR
Operation Time: NR
Ambient Temperature (°C): NR
Test Distance: 24 FT



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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	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°	8343	8343	8343
5°	8316	8319	8494
10°	8147	8218	8276
15°	8211	8167	8213
20°	8073	8073	8159
25°	7824	7996	8084
30°	7717	7853	8062
35°	7535	7732	7906
40°	7242	7591	7625
45°	7023	7273	7284
50°	6792	7099	6963
55°	6472	6598	6551
60°	6052	6112	6002
65°	5396	5534	5358
70°	4630	4646	4516
75°	3667	3659	3517
80°	2456	2388	2295
85°	1334	1321	1235

MAXIMUM LUMINANCE 45°-90°:

Horizontal Angle: 67.5°
 Vertical Angle: 45°
 Luminance: 7460 cd/sqm



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ZONAL LUMENS:

Zone	Lumens	% Fixture
0°-10°	291.6	3.7
10°-20°	826.5	10.6
20°-30°	1238.3	15.8
30°-40°	1467.7	18.8
40°-50°	1470.4	18.8
50°-60°	1248.1	16.0
60°-70°	841.5	10.8
70°-80°	369.8	4.7
80°-90°	60.1	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°	2356.5	30.2
0°-40°	3824.2	48.9
0°-60°	6542.7	83.7
0°-90°	7814.1	100.0
90°-120°	0.0	0.0
90°-150°	0.0	0.0
90°-180°	0.0	0.0
0°-180°	7814.1	100.0

CANDELA DISTRIBUTION:

	0°	22.5°	45°	67.5°	90°	Flux
0°	3100	3100	3100	3100	3100	
5°	3078	3071	3080	3070	3144	290
15°	2948	2914	2932	2947	2948	821
25°	2635	2650	2693	2728	2722	1218
35°	2294	2301	2354	2408	2407	1424
45°	1845	1880	1911	1960	1914	1428
55°	1380	1370	1406	1397	1396	1227
65°	848	836	869	836	842	843
75°	353	346	352	327	338	378
85°	43	42	43	42	40	63
90°	0	0	0	0	0	



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CANDELA DISTRIBUTION (FULL):

	0°	22.5°	45°	67.5°	90°
0°	3100.4	3100.4	3100.4	3100.4	3100.4
2.5°	3127.2	3103.6	3081.6	3107.2	3122.8
5°	3078.4	3071.2	3079.6	3070.4	3144.4
7.5°	3015.1	3042.8	3058.8	3048.8	3053.2
10°	2981.5	2971.9	3007.5	3032.3	3028.7
12.5°	2945.5	2959.9	2961.9	2988.7	2991.1
15°	2947.5	2913.5	2931.5	2946.7	2947.9
17.5°	2833.0	2869.8	2882.2	2917.1	2873.8
20°	2819.0	2792.2	2819.0	2854.6	2849.0
22.5°	2732.9	2702.9	2760.5	2792.2	2790.2
25°	2635.2	2649.6	2692.9	2728.1	2722.5
27.5°	2549.6	2566.4	2628.0	2676.5	2645.2
30°	2483.5	2475.1	2527.2	2570.4	2594.4
32.5°	2365.4	2395.9	2456.7	2499.5	2476.7
35°	2293.8	2300.6	2353.8	2408.3	2406.7
37.5°	2168.5	2200.1	2275.0	2290.2	2276.2
40°	2061.6	2093.2	2160.9	2177.3	2170.5
42.5°	1982.7	1988.3	2046.4	2065.2	2035.2
45°	1845.4	1879.9	1911.1	1960.3	1913.9
47.5°	1728.5	1744.5	1811.8	1825.0	1800.6
50°	1622.5	1628.1	1695.7	1679.3	1663.3
52.5°	1489.2	1512.8	1550.8	1547.6	1528.8
55°	1379.5	1370.3	1406.3	1396.7	1396.3
57.5°	1247.8	1263.8	1293.4	1278.2	1253.8
60°	1124.5	1124.9	1135.7	1118.5	1115.3
62.5°	987.2	992.0	994.4	973.2	1007.6
65°	847.5	836.2	869.1	835.8	841.5
67.5°	719.0	724.6	721.4	700.5	708.5
70°	588.5	595.7	590.5	566.8	574.0
72.5°	469.2	460.4	466.0	436.3	449.9
75°	352.7	345.5	351.9	327.1	338.3
77.5°	240.2	245.8	241.8	228.6	236.2
80°	158.5	154.1	154.1	146.5	148.1
82.5°	92.5	88.1	86.9	84.5	88.1
85°	43.2	42.0	42.8	41.6	40.0
87.5°	15.6	16.0	16.0	15.2	14.4
90°	0.0	0.0	0.0	0.0	0.0

(END OF REPORT)